Oracle Utilities Customer Care and Billing

Business Process Guide

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Customer Information

We use the term *customer information* to reference the demographic, geographic, and financial objects that form the core of your CIS system. In this section, we describe how to maintain these objects.

Contents

Understanding The V

The "V" is the shape of a diagram we use to illustrate the objects that form the core of the system: **Person**, **Account**, **Premise**, **Service Agreement**, and **Service Point**. These objects hold demographic, geographic, and financial information about your company's customers and properties. The following diagram illustrates the objects in the "V", as well as important objects related to the "V" objects (**bill**, **payment**, **meter**, **field activity**, **meter read**).
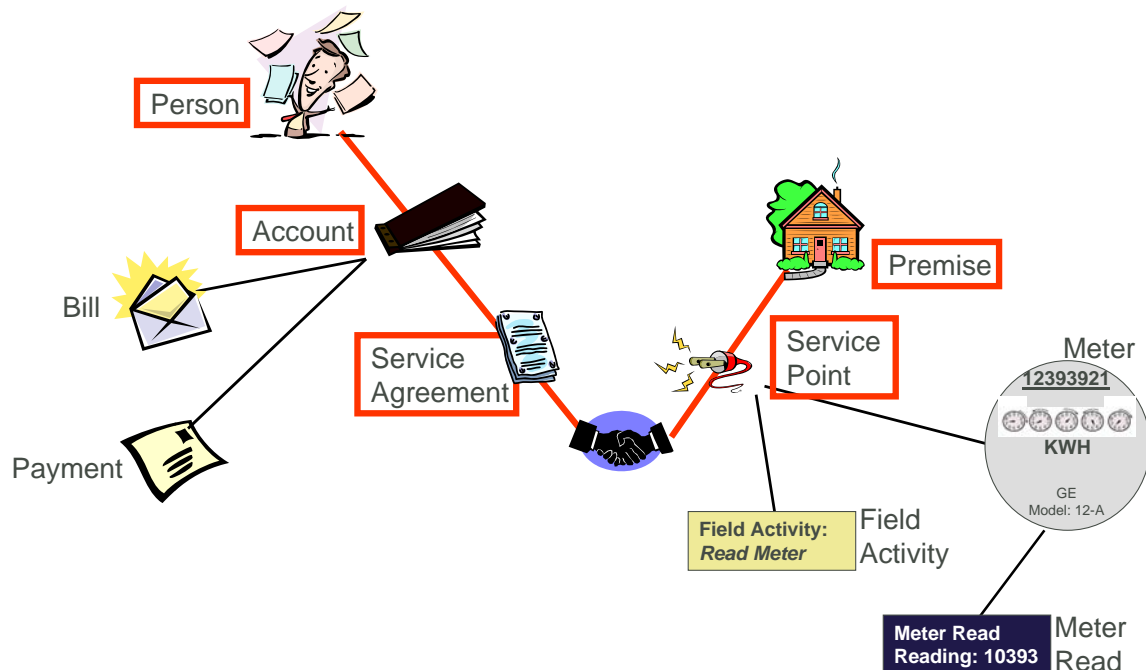
You must intuitively understand the concepts embodied in the "V" before you can perform the business processes in the system. In this section, we provide an overview of these objects. In later sections, we describe how you maintain this information.

Contents

Persons

A person exists for every individual or business with which your company has contact. Besides customers, persons exist for landlords, contractors, accountants at corporate customers, third party guarantors, energy distributors, collection agencies, etc.

On a person is maintained demographic information like Name, Mailing Address, Phone Numbers, Email Address, Life Support Details, etc.

Most persons are linked to at least one account because, without an account, the person cannot receive a bill. There are rare examples of persons without accounts, for example, collection agencies that don't receive bills, parent companies that receive statements (as opposed to bills), etc.

> Refer to Maintaining Persons for more information about persons.

Accounts

Accounts are the entities for which bills are created. You must create at least one account for every customer. The account contains information that controls when bills are created and how they are formatted.

Every account must reference at least one person because the person contains the customer's demographic information (e.g., names, phone numbers, forms of ID). We refer to this individual as the "main" person linked to the account. In addition to the "main" person, an account may reference other types of persons, e.g., the billing contact, the third party guarantor of the account's debt, persons who receive copies of bills, etc.

Most accounts are linked to at least one service agreement because, without a service agreement, there is nothing on which a bill can be based. An account without a service agreement may exist; you just won't be able to do much in the system with such an account.

> Refer to Maintaining Accounts for more information about accounts.

Service Agreements (SAs)

Think of a service agreement as a contract between your company and a customer. The service agreement contains the terms and conditions controlling how the system calculates charges for the specific service supplied to the customer.

Every account should have at least one service agreement (otherwise, the account has no financial obligations with your company). There is no limit to the number of service agreements that may be linked to an account. However, most residential customers have X service agreements where X is the number of services sold by your company. For example, if your company sells both electricity and gas, most accounts will have two service agreements.

A separate service agreement is required for every service supplied to every account. Why? Because a variety of fields may differ for each service agreement:

- Obviously, the price of the service is different.

- The credit and collection criteria may be different.

- The general ledger account to which the resultant revenue and/or receivable are linked is different.

- The sales tax could be different for each good / service / location.

- The service point measuring consumption will frequently be different.

- The list goes on…

Service agreements that bill for premise-based services are linked to one or more premises via their service points. When you link a service point to a service agreement, you are telling the system that the service agreement's account will pay for the service point's service.

Refer to Maintaining Service Agreements for more information.

Premises

A premise is created for every location to which your company supplies service. On a premise is maintained geographic information like:

- The address.

- Characteristics that determine tax jurisdictions.

- Descriptions of unusual situations associated with a property.

- The list goes on…

Most premises have at least one service point because, without a service point, there are no services supplied to the premise. A premise without service points may exist; you just won't be able to do much in the system with such a premise.

Refer to Maintaining Premises for more information about premises.

Service Points (SPs)

Think of a service point as a specific location at a premise where your company supplies service. A service point contains information describing the type of service and how it is measured.

A premise should have at least one service point (otherwise, there are no services supplied to the premise). However, it is permissible for a new premise to exist without service points until you are ready to physically start service at the premise.

A premise may have many service points. However, most residential premises have X service points where X is the number of services sold by your company. For example, if your company sells both electricity and gas, most of your premises will have two service points.

Separate service points are required for every service supplied to a premise. Why? Because a variety of fields may differ for each service point:

- The cycle in which the meter is read.

- The network facilities that provide service.

- Basic characteristics about the service (e.g., pipe size, take point, amperes, etc.).

When you link a service point to a service agreement, you are telling the system that the service agreement's account will pay for the service point's service.

> Refer to Service Point - Main Information for information about how to add and update service points.

The following topics describe the relationship between a service point and the physical devices that may be installed at the service point.

Contents

Metered versus Item-Based versus Non-Badged Service Points

There are three major categories of service points:

- Those where consumption is measured (e.g., electricity, gas, water) by a meter. We refer to these types of service points as *metered*. A metered service point may have zero or one meter installed at any instant in time. Over time, a metered service point may have many meters installed and removed.

- Those where consumption is not measured, but where there exists some type of badged (i.e., uniquely identified) item that impacts billing and dispatching (e.g., streetlights, a security camera). We refer to these types of service points as *item-based*. An item-based service point may have zero or one badged item installed at any instant in time. Over time, an item-based service point may have many badged items installed and removed.

- Those where one or more non-badged items (i.e., items without a unique identity) that have some impact on billing or dispatching exist. We refer to these types of service points as **unbadged**. At a single instant in time, a non-badged service point may have many unbadged items installed at it. Refer to Service Points With Multiple Items for an illustration of such a service point.

> **Multiple unbadged items can also be defined on metered and item-based service points.** Under some billing scenarios, you may define non-badged items on a metered or item-based service point. For example, assume you have an item-based service point that exists to support lamp service. Also assume that the rate for lamp service is based on the type of lamp and the number of feet of electric wire between the pole and the power source. To define the number of feet of wire, you could create a non-badged item type called **_WIREFEET_** and indicate the number of feet on the item-based service point. On this service point, you can also keep track of the specific lamp that's installed.

> Refer to The Big Picture Of Meters, Items and Equipment for more information about meters and items. Refer to Meters & The "V" for more information about installing meters at a service point. Refer to Items & The "V" for more information about installing items at a service point.

Service Points With Multiple Items

An example will help explain a single service point with multiple non-badged items. Assume you have a parking lot with 4 lights, none of which are badged.

A Premise With One Service Point
Where The Service Point Has Multiple Items
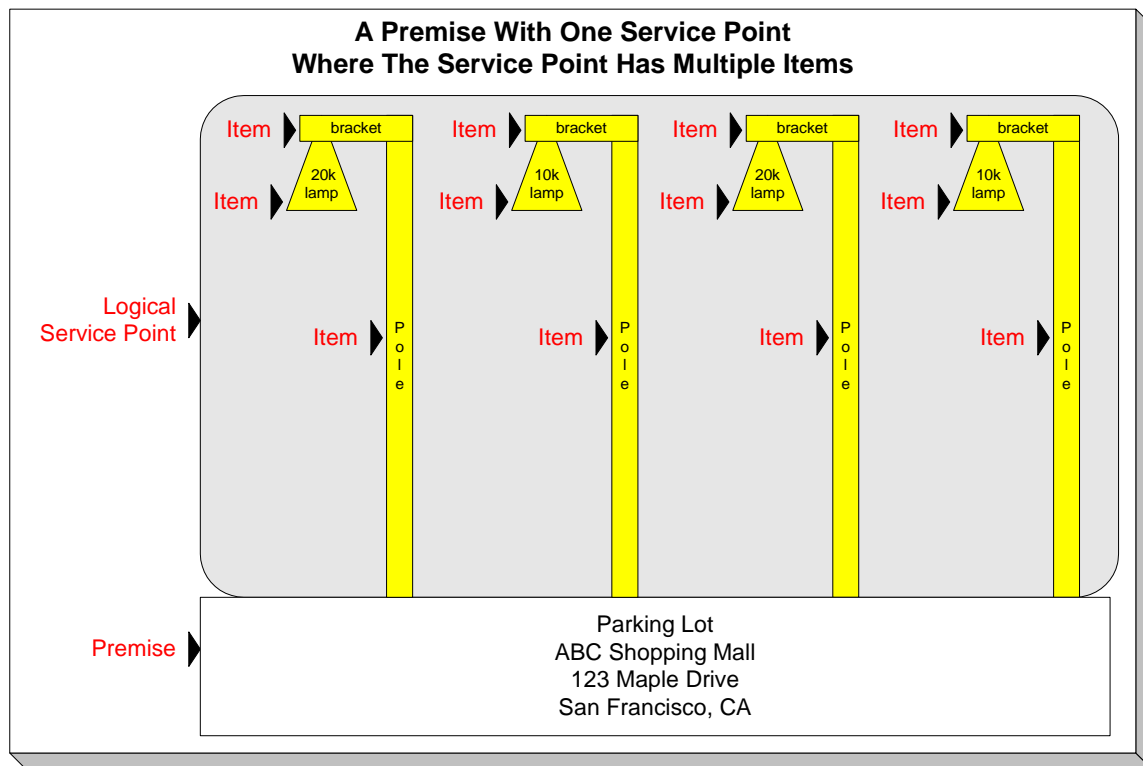
You can set up the above example with one premise with a single non-badged service point. On the service point, you create one item for each type of item in the parking lot:

- 20K lumen lamp

- 10K lumen lamp

- pole

- bracket

For each type of item, you indicate the quantity that exist in the parking lot:

- 20K lumen lamp - 2

- 10K lumen lamp - 2

- pole - 4

- bracket - 4

Refer to Service Point - Multiple Items for more information about multi-items on service points.

Putting It All Together

To help you understand the significance of the "V", consider a few scenarios:

- When a new residential customer starts service, you create both person and account objects for the new customer. In addition, you also create service agreements and link them to the appropriate service points. You won't have to create a new premise and service points because the customer is probably moving into an existing house.

- If the residential customer moves within your service territory, you don't have to set up new person or account objects. You also don't have to set up new premise and service point objects if the customer is moving into an existing house. You only have to create new service agreements and link them to the appropriate service points (and the system does most of the service agreement set up processes for you).

- A business with a single location uses the same "V" objects as does a residential customer. If the business expands and starts using services at other locations, you simply link new service agreements to the existing account. You don't have to redefine person or account information.

Bottom line. A person and an account are needed for every customer. After these exist, future service requests simply involve stopping existing service agreements and starting new ones. You typically won't have to add or modify premise or service point information unless new locations are built.

For more information, refer to Maintaining The "V", Navigating The "V" Using Control Central, The Big Picture Of Starting Service, and The Big Picture Of Stopping Service.

Sample V For A Residential Customer

The following illustration shows a simple residential customer's "V" objects.

Sample "V" For A Simple Residential Customer
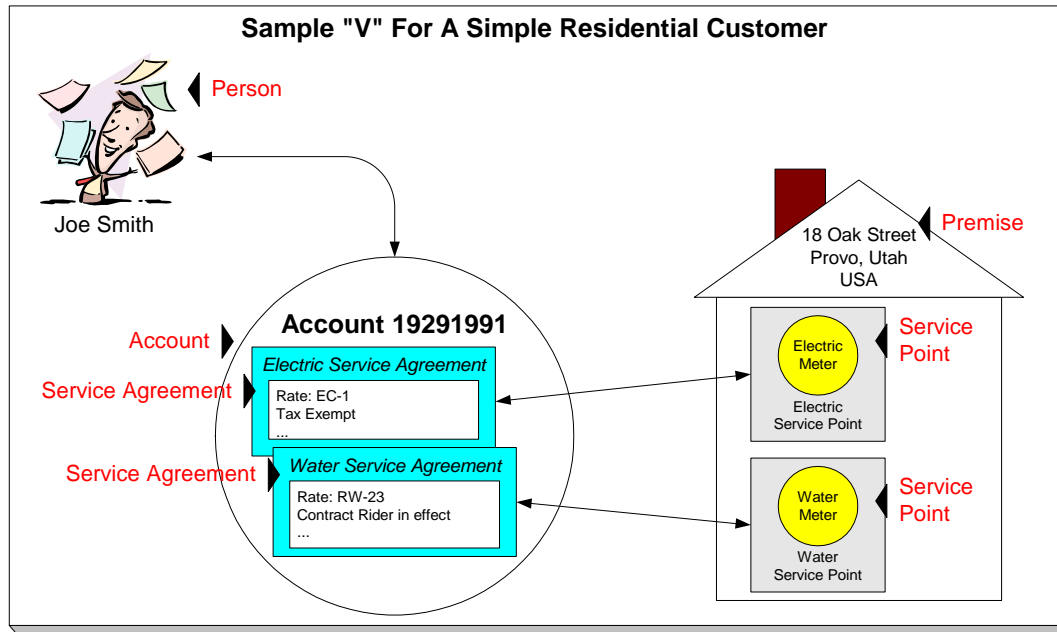
Sample V For A Commercial Customer With Multiple Premises

The following illustration shows the "V" objects for a commercial customer who pays for service at two premises.

Sample "V" For A Commercial Customer With Two Premises

Person

Acme, Inc.

Account

Service Agreement

Service Agreement

Account 93002483

Electric Service Agreement

Rate: EC-1
Tax Exempt
...

Electric Service Agreement

Rate: EC-3
Contract Rider in effect
...

Premise

439 Pine Ave
Provo, Utah
USA

Service Point

Electric
Meter

Electric
Service Point

Premise

87 Ord St
Oakland, Utah
USA

Service Point

Electric
Meter

Electric
Service Point

Note. The above example shows a separate service agreement per premise. If your rates allow, you could link both premises to a single service agreement.

How To Set Up Customer Hierarchies

Consider the following customer hierarchy:
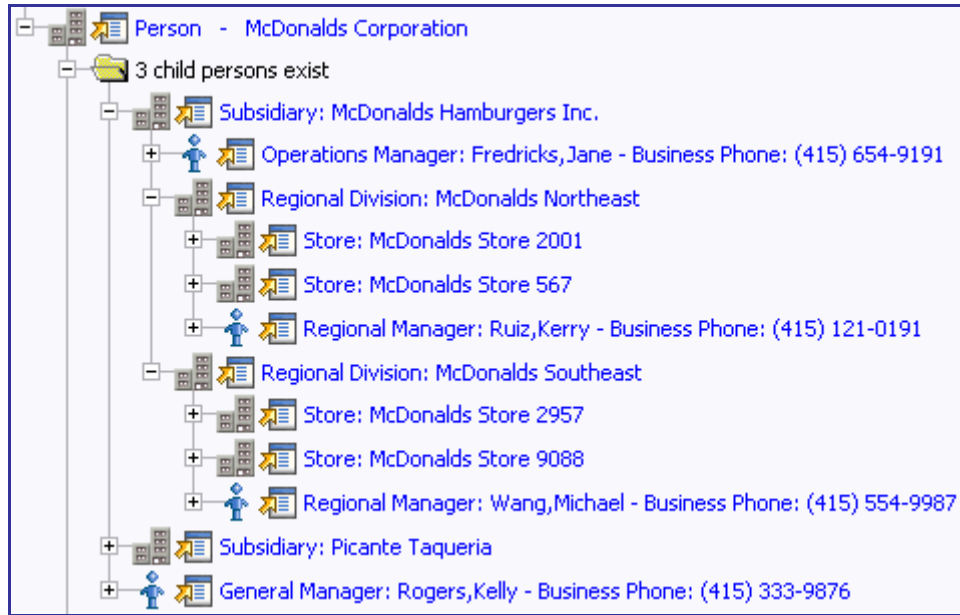
The above hierarchy shows a parent company (***McDonalds Corporation***) with two subsidiaries and one general manager. Each subsidiary, in turn, has subsidiaries and these subsidiaries can have their own subsidiaries …

You must set up a person for every individual and business in a hierarchy. After the basic demographic information is defined, you define each person's children using the Person to Person page.

> **A script can be used to set up a hierarchy.** The demonstration database contains a script that guides users through the process of setting up a hierarchy. Please speak to your implementation staff if you'd like to import this script for use in your implementation.

After a hierarchy is set up, the system displays its members in the Person Tree Zone (this is a zone on the Customer Information Portal). In addition, if the persons in a hierarchy have accounts, summary information about these accounts is displayed in the Account Summary Zone.

While hierarchies would typically be set up to define parent companies and subsidiaries, you can use this functionality for many other purposes. For example, a customer relationship manager could set up a hierarchy containing their "important" customers. To do this, they'd need to create a "dummy" person for the parent and then link the "important" customers to it. After this hierarchy is set up, the manager could see a summary of these customers in the Account Summary Zone whenever they display the "dummy" person.

Navigating The V Using Control Central

Control Central is the name given to the functionality that helps you:

- Find a person.

- Find an account.

- Find a premise.

- View information about a person / account / premise.

- View alerts and messages about a person / account / premise.

- Navigate to pages that contain information related to a person / account / premise.

For more information about the relationships between persons, accounts, and premises, see
Understanding The "V".

Contents

Control Central - Main

Open **Control Central, Main** to find a customer and/or a premise.

Automatic transfer to Account Information tab. You are automatically transferred to Control
Central - Account Information when an account / premise is selected on this page.

The contents of this section describe how to use Control Central - Main.

Contents

Search Facilities

The top of Control Central is where you enter the criteria used to find a person, account or
premise.

Multiple search criteria. You can search for a customer using a combination of **Name**,
Address, **City**, and **Postal Code**. When multiple fields are populated, the system searches for
customers that match all such criteria. For example, if you enter a **Name** of *Smith*, and a **Postal**
code of *94114*; only customers named *Smith* with service in postal area *94114* will be displayed.

The following table describes each of the different search methods.

Search Method	Description
Name	Use this field to search for a person or account using a person's name. The person

Search Method	Description
	may be the main customer on the account or a third party related to the account.
	You can enter all or part of the person's name. The name search is not case sensitive.
	If you need to add a new customer, use either of the following options:
	- Click the ✚ button. Clicking this button opens the Person - Main page where you can add a new person. Refer to How To Add A New Customer From Control Central for more information about how to add a new customer (i.e., Person and Account) from this page.
	- Click the 🗐 button. Clicking this button opens the Order - Main page where you can add a new person (and initiate service for the new person). Refer to Order User Interface Flow for more information about how to add a new customer using an order.
Address	Use this field to search for a premise or account using the first line of a service address.
	You can enter all or part of the first line of the address. For example, if you're looking for 324 Hawthorne Lane, you can enter *324 Haw* rather than the entire address.
	The address search is not case sensitive.
City	Use this field to search for a premise or account using a city name associated with a service address.
	You can enter all or part of the city name. For example, if you're looking for someone in San Francisco; you can enter *San Fra*, *San F*, *San Francisco*, etc.
	The city search is not case sensitive.
	We strongly recommend qualifying a **City** search with some other information (e.g., **Name**) otherwise the resultant list can be too large to deal with.
Postal	Use this field to search for a premise or account using a postal code associated with a service address.
	You can enter all or part of the postal code. For example, if you're looking for someone in 94114; you can enter "94114", "9411", etc.
	We strongly recommend qualifying a **Postal** search with some other information (e.g., **Name**) otherwise the resultant list will be too large to deal with.
Account ID	Use this field to search for an account using an account number. After entering this information, click the search button adjacent to the Account ID entry field (or press Enter) to search for an account. The **Account ID** cannot be combined with other search fields.
	You can enter all or part of the account ID. For example, if you're looking for account 1929119291; you can enter "1929119291", "192911", etc.
	If you need to add a new account for an existing person, click the ✚ button. Clicking this button opens the Account - Main page on which a new account can be added.
Phone Format/Number	Use this field to search for an account using one of the telephone numbers linked to one of the persons linked to the account. The person may be the main customer on the account or a third party related to the account.
	You may enter the phone number in the format indicated or you can enter the information as a contiguous string of numbers and the system will format this for you.
	Wild card searches are not supported. However, you can enter the first few digits of the phone number and the system will look for all accounts with these digits.

Search Method	Description
	After entering this information, click the search button (or press Enter) to search for an account linked to a person with this telephone number. The system displays every account with the input telephone number in the search results.
Person ID Type/Value	Use these fields to search for a person or account using one of the ID's linked to one of the persons linked to the account. You must enter both an identifier type and number.

You may enter the person's ID in the format dictated by the identifier type (if any). Please note that if the **ID Number** should be formatted (e.g., dashes in an American social security number), you do not have to enter the dashes. Rather, you can enter the information as a contiguous value and the system will format this for you.

Wild card searches are not supported. However, you can enter the first few digits of the ID number and the system will look for all persons and accounts with these digits.

After entering this information, click the search button (or press Enter) to search for a person / account linked to a person with this ID. The system displays every person with the input ID in the search results. |
| Geo ID Type/Value | Use these fields to search for a premise using one of the geographic values linked to the premise or one of its service points. You must enter both a geographic type and value.

Wild card searches are not supported. However, you can enter the first few digits of the geographic value and the system will look for all premises / service points with these digits.

After entering this information, click the search button (or press Enter) to search for a premise / service point with this ID. The system displays every premise with the input ID in the search results. |
| *Meter ID* | Control central does not allow you to find a customer using a meter ID. If you know the meter ID and want to find who's paying for its service, transfer to Meter/Item Search and display the meter. All customers who have paid for service measured by the current configuration of the meter will be displayed on this page. You can then use the various context menu buttons to return to Control Central where details about the customer are displayed. |
| *Item ID* | Control central does not allow you to find a customer using an item ID. If you know the item ID and want to find who's paying for its service, transfer to Meter/Item Search and display the item. All customers who have paid for the item will be displayed on this page. You can then use the various context menu buttons to return to Control Central where details about the customer are displayed. |

> **Automatic transfer to Account Information tab.** If your search criteria result in a single customer being retrieved, you are automatically transferred to Control Central - Account Information with that customer's information displayed.

Search Options

The **Show All Premises** search option controls whether you see all of an account's premises in the search results. If turned on, every premise linked to an account is shown in the search results. If turned off, only one premise is shown per account (and this premise is selected at random).

This switch pertains to the following search methods:

- Search by name (and all address constituents are left blank)

- Search account ID

- Search by person phone number

- Search by person identifier

This switch does NOT pertain to the following search methods as these are premise-oriented, not account-oriented:

- Search by name when any address constituent is entered

- Search by address constituent (when name is blank)

- Search by geographic identifier

The benefit of turning this switch off is that an account will be immediately selected when you enter unique account-oriented search criteria. For example, if you specify an **Account ID** and press enter, the system automatically selects the account; you don't have to wait for the search results to be populated with the multitude of premises linked to the account (and then select one of the rows). Please note, an alert highlights if the selected account has other premises.

> **Default note.** The first time you open this page, this switch defaults from your user preferences. When you return to this page, the last value of this switch is defaulted.

Wild Cards

The control central searches against **Name**, **Address**, and **City** support wild cards. The wild card character is *%* and represents any number or character. The system always appends a *%* for you when you use these search methods. Examples will help clarify this functionality:

- If you enter a *B*, the system searches for *B%* (and will find all objects that begin with *B*).

- If you enter *B%N*, the system searches for *B%N%*. It will find anything that

  - Starts with a *B*, and

  - has zero or more other characters followed by an *N*.

- If you enter *%B* the system searches for *%B%*. It will find anything with a *B* in it, no matter what it starts and ends with.

> **Certain wildcard searches can result in lengthy response times.** If you use the wildcard character to prefix your search criteria (e.g., *%San Fran*), lengthy response times can result. Why? Because the system will have to look at EVERY customer in the system before it can return the results.

Search Results

The search results at the bottom of the page contain persons, accounts, and premises that match your search criteria. The information displayed in this area differs depending on the type of search you perform. You can perform searches on a customer's name, address, or phone number.

The first X matches are returned. The number of customers that are returned is limited by the system's memory buffers. If you do not find the account you are looking for in the set of results, refine your search criteria.

Automatic selection if only one match. You don't have to select the desired person / account / premise if there is one and only one object that matches your search criteria; the system automatically selects it and transfers you to Control Central - Account Information.

Use Tab and Enter to select an account. You don't have to use the mouse to select an account when multiple matches are returned. Instead, the system highlights the first row in the search results. If this is the customer you want, press **enter** to select it. If not, press **tab** until you've highlighted the desired customer (and then press **enter** to select it).

Use next and previous buttons to step through a list of customers. When you select an account from the search results, you are automatically transferred to Control Central - Account Information. If you want to look at a different account that appeared in the search results, you do NOT have to return to the **Main** tab. Rather, you can click the next in list and previous in list buttons to scroll up and down through the search results (note that there are accelerator keys for each of these buttons so you don't have to use the mouse to take advantage of this feature).

Control Central - Account Information

Once Control Central - Main has populated an account, you are brought to the Account Information page to see an overview of the account.

Global context. Selecting an account on control central causes the global context information to be refreshed. Various zones available on this page use the value in the global context to display relevant data for the appropriate account, person and premise.

User configurable. Refer to Each User Can Customize Which Zones Appear for information about how to configure which zones appear.

Description of Page

Navigation hint. The *Go To Control Central* option on the account context menu navigates to the Account Information tab page.

A mouse with a roller is useful. This page can extend vertically past the normal desktop boundary. You will find that a mouse with a "roller" will facilitate navigating through the page.

The contents of this section describe the zones that are available on this portal page.

Contents

Account Activity History Zone

The **Account Activity History Zone** is a grid that summarizes a variety of account-related events (in reverse chronological order). Pushing the button adjacent to the information transfers you to an appropriate page. The following table lists the type of information that may appear in this zone and the page to which you will be transferred if you push the adjacent button.

Activity Label	What Is Displayed	Drill Down Transfers You To
Severance Event. *One row is displayed for every Pending and Awaiting Field Activity Completion severance event linked to the account's service agreements.*	The severance event's description, status and trigger date (if non-blank). If the event is dependent on earlier events, the earlier events' type and status is appended	Severance Process – Events
Severance Process. *One row is displayed for every Inactive severance process linked to the account's service agreements. Inactive processes are displayed (as opposed to active) because active severance processes have pending events and pending events are shown separately.*	The severance process's SA type description, severance process template description, status and create date/time	Severance Process – Main
Collection Event. *One row is displayed for every Pending collection event linked to the account.*	The collection event's description, status and trigger date (if non-blank)	Collection Process – Events
Collection Process. *One row is displayed for every Inactive collection process linked to the account. Inactive processes are displayed (as opposed to active) because active collection processes have pending events and pending events are shown separately.*	The collection process's description, debt class description, status and create date/time	Collection Process – Main
Overdue Event. *One row is displayed for every Pending overdue event linked to the account.*	The overdue event's standard information string (this is dynamic as it's constructed by an algorithm)	Overdue Process – Events

Overdue Process. *One row is displayed for every Inactive overdue process linked to the account. Inactive processes are displayed (as opposed to active) because active overdue processes have pending events and pending events are shown separately.*	The overdue process's standard information string (this is dynamic as it's constructed by an algorithm)	Overdue Process – Main
Cut Event. *One row is displayed for every Pending cut event linked to the account.*	The cut event's standard information string (this is dynamic as it's constructed by an algorithm)	Cut Process – Events
Cut Process. *One row is displayed for every Inactive cut process linked to the account. Inactive processes are displayed (as opposed to active) because active cut processes have pending events and pending events are shown separately.*	The cut process's standard information string (this is dynamic as it's constructed by an algorithm)	Cut Process – Main
Write-off Event. *One row is displayed for every Pending write-off event linked to the account.*	The write-off event description, status and trigger date (if non-blank)	Write-off Process – Events
Write-off Process. *One row is displayed for every Inactive write-off process linked to the account. Inactive processes are displayed (as opposed to active) because active write-off processes have pending events and pending events are shown separately.*	The write-off process template's description, status and create date/time	Write-off Process – Main
Customer Contact. *One row is displayed for every customer contact associated with the main customer linked to the account.*	The main name of the person associated with the customer contact, the customer contact's class and type, and the customer contact's date	Customer Contact – Main
Field Activity. *One row is displayed for every unique non-cancelled field activity linked to the account's non-cancelled / non-closed service agreements.*	The field activity type, scheduled date/time and status	Field Activity – Main
Pay Plan. *One row is displayed for every non-cancelled pay plan linked to the account*	The pay plan's type, status, date, and amount	Pay Plan – Main
Payment Arrangement. *One row is displayed for every non-cancelled payment arrangement (i.e., service agreement with a special role of Payment Arrangement) linked to the account*	The service agreement's division, SA type, status, and effective period.	Payment Arrangement – Main
Credit Rating History. *One row is displayed for every credit rating transaction that affects the account's credit rating*	The effect on the account's credit rating, the end date, creation date and the process that created the transaction.	Account – C&C
Cash Only History. *One row is displayed for every credit rating transaction that affects the account's cash-only score*	The effect on the account's cash-only score, the end date, creation date and the process that created the transaction.	Account – C&C

| Case. *One row is displayed for every case associated with the account.* | The case's standard information. | Case - Main |
| Rebate Claim. *One row is displayed for every* rebate claim*.* | The rebate claim's description. | Rebate claim portal |

> **Warning!** The first 25 rows are displayed when this zone is initially built. If more rows exist, a **Get All** button appears. If you click this button, the system retrieves a maximum of 750 rows.

Account Financial History Zone

The **Account Financial History Zone** lists an account's financial events in reverse chronological order. You can use this grid to both view high-level information about these events and to transfer to the respective page in which an object is maintained.

> **Approximately a year and half is shown.** This zone shows all financial transactions within 20 months of the latest financial transaction. This limitation exists to prevent this zone from becoming unmanageably long.

The following columns are displayed in the grid:

Arrears Date

This is the date the event starts aging. This column will be blank if the FT has not started aging yet.

Financial Transaction Type

This column indicates the type of financial event: ***Bill***, ***Payment***, ***Bill Cancellation***, ***Pay Cancellation***, ***Adjustment*** and ***Adjustment (Cancel)***. If the event is related to an adjustment, the adjustment type's description is displayed instead of "Adjustment".

Current Amount

This column shows the financial event's effect on the account's current balance.

Current Balance

This column shows the account's current balance after the financial event.

Payoff Amount

This column shows the financial event's effect on the account's payoff balance. **Payoff Amount** will be dimmed if it is the same as its **Current Amount**.

Payoff Balance

This column shows the account's payoff balance after the financial event. **Payoff Balance** will be dimmed if it is the same as its **Current Balance**.

If you need to see more information about a specific financial transaction, press the go to button to transfer to the respective page in which the information is maintained.

> For information about current and payoff balance, refer to Current Amount versus Payoff Amount.

> **Warning!** The first 25 rows are displayed when this zone is initially built. If more rows exist, a **Get All** button appears. If you click this button, the system retrieves a maximum of 750 rows.

Alert Zone

The **Alert Zone** is a grid that contains messages highlighting a variety of situations. Clicking on the hyperlink transfers you to an appropriate page. The following table lists the various alerts that may appear and the page to which you will be transferred if you click on the hyperlink. The table below lists alerts in alphabetical order, but it includes a column indicating the order in which the alert will appear.

> **You can create additional alert conditions.** The following table contains those alerts supported in the base package. It is possible to highlight additional conditions by plugging-in the appropriate algorithm(s) on the installation record. Refer to Count Customer Contacts of a Given Type and Count Pay Plans with a Given Status for examples of such algorithms.
>
> **Account alerts are implementation-specific.** On Account - Alerts, a user can define account-specific alerts that should be displayed whenever the account is selected. The Alert Types control table contains the possible alert messages.

Alert Text	Order	Description	Drill Down Transfers You To
Account alerts	6	Appears for each user-defined alert associated with an account.	Account – Alert
Account has Multiple Premises	24	Appears when the account has service agreements whose service points reference multiple premises	Control Central – Account Tree
Account SA(s) linked to Umbrella Agreement	41	Appears when the account has one or more service agreements linked to a non-canceled terms of service record for an umbrella agreement that is in effect on the current date.	Terms of Service - Main
Active Write Off Process	10	Appears when an account has an *active* write off process. Refer to How Are Write off Processes Cancelled for information describing when a write-off process is deactivated.	Write Off Process
Appointment Exists	37	Appears when a premise has a non-canceled, non-completed field activity that's linked to an appointment.	Appointment
Auto-Pay Active: *auto pay method description*	25	Appears when the account has an automatic payment option effective on the current date. The auto pay method description (i.e. *Direct Debit* or *Payment Advice*) appears only if payment advice functionality is enabled. Refer to Payment Advices for more information on payment advice functionality.	Account – Auto Pay
Comment Exists On Account	5	Appears when a freeform comment has been entered for the account (on Account -	Account

		Main)	
Field Activity Pending	19	Appears when any of the premise's service points have a *pending* field activity	Field Activity
Field activity type alert message	12	Appears when the premise has a service point with a *completed* field activity whose type has been marked with an alert message (refer to Field Activity Type)	Field Activity
Held Order Exists	32	Appears when the person has a *held order*.	Order
Installation dynamic alerts	42	You can install plug-in algorithms on the installation record that will create alerts (if given situations exist). Refer to Count Customer Contacts of a Given Type and Count Pay Plans with a Given Status for examples of such algorithms	*Varies by plug-in*
Landlord Exists	27	Appears when a landlord is linked to the premise	Premise
Last Contact: *days old - user name who added the contact*	3	Appears when the person has a customer contact. The "days old" presents how old the contact is (based on the contact's date). The word *Today* is shown if the last contact was on the current date. The word *Yesterday* is shown if the last contact was on the current date - 1 day. If neither is applicable, the number of days old is shown.	Customer Contact
Multiple Financially Resp	26a	Appears when the account has more than one financially responsible person linked to it	Control Central - Account Tree
Non-cash Deposit	15	Appears when the account has non-cash deposits effective on the current date	Account - Deposit
n Open Contact(s) for Person	4	Appears if there are *open* customer contacts associated with the person. Refer to Customer Contacts Can Be Used As Case Files for more information.	Customer Contact
Pending Order Exists	31	Appears when the person has a *pending order*.	Order
Pending Proposal SA Exists	36	Appears when the account has a proposal service agreement in the *pending* state. Refer to Proposal SA State Transition for more information.	Service Agreement
Pending Quote Exists	34	Appears when the account has a *pending* quote. Refer to Quote Lifecycle for more information.	Quote
Pending SA Relationships	16	Appears when the account has SA relationships that are *pending*	SA Relationship

Pending Stop	18	Appears when there is a service agreement in the state of *pending stop* linked to the account. Refer to The Lifecycle Of A Pending Stop Service Agreement for more information.	Start/Stop
Person is linked to Multiple Accounts	22	Appears when the person has multiple accounts. A person's accounts are maintained on the Account - Person page.	Control Central
n Persons on Account	26c	Appears when the account has multiple persons linked to it. An account's persons are maintained on the Account - Person page.	Account - Person
Premise has Multiple Accounts	23	Appears when the premise has service points that are linked to service agreements that are linked to different accounts.	Control Central
Premise has n Child Premise(s)	40	Appears when the premise is defined as the parent premise for one or more premises. Refer to Define Premise Hierarchy for more information.	Premise Management
Premise is linked to Parent Premise	39	Appears when the premise defines a parent premise. Refer to Define Premise Hierarchy for more information.	Premise
Quotable Proposal SA Exists	35	Appears when the account has a proposal service agreement in the *quotable* state. Refer to Proposal SA State Transition for more information.	Service Agreement
Quote Awaiting Customer Response Exists	33	Appears when the account has a *complete* quote with a quote detail that references a *quotable* proposal SA. Refer to Quote Lifecycle for more information.	Quote
Reactivated SAs Exist	21	Appears when any of the account's service agreements exist in the state of *reactivated* (i.e., a financial transaction has been generated after the service agreement was *closed*). Refer to The Lifecycle Of A Service Agreement for more information.	Service Agreement
SA type alert message	13	Appears when the customer has a service agreement with an SA type that has been marked with an alert message (refer to SA Type - Details) Note that if the account in control central has more than one service agreement, pressing the drill down button will also launch the service agreement search dialog.	Service Agreement

SA type description and status of a non-billed budget service agreement	14	Appears for every *pending start*, *pending stop*, and *active* non-billed budget that is linked to the account.	Non-billed Budget Service Agreement
Seasonal Address Exists	38b	Appears if the account has a seasonal address and there is no seasonal address active on the current date.	Person - Correspondence Info
Seasonal Address Currently Effective (MM/DD - MM/DD)	38a	Appears if the account has an active seasonal address that is effective on the current date. The date range that the seasonal address is effective is included in the alert.	Person - Correspondence Info
Statement Construct Active	28	Appears if the person has an *active* statement construct	Statement Construct
Third Party Guarantor	26b	Appears when the account has a third party guarantor. An account's third party guarantors are maintained on the Account - Person page.	Control Central - Account Tree

> **Legacy Alert Order.** Certain system-generated alerts have been converted to algorithms that may be plugged-in on the installation record. This implies that the order in which these alerts now appear might differ to the prior system-generated alerts order. If your implementation wishes to retain the legacy order for these alerts, the *Use Legacy Alerts* **Option Type** for the *General System Configuration* Feature Configuration must be defined with a value of *Y*, and the alert algorithms should not be plugged-in on the installation record. If this option is set, then the alerts in the following table will be treated as system-generated alerts. These alerts are listed in alphabetical order, but a column indicating the order in which they will appear is included. Note that if both the feature option and alert algorithms are configured, these alerts may appear twice on the **Alert Zone**.

Alert Text	Order	Description	Drill Down Transfers You To
Cash Only Account	11a	Appears when the account's cash only score is equal to or exceeds the cash only threshold on the CIS installation table. Refer to How are credit rating transactions created for information describing how a cash-only score is affected by various system and user events.	Account
Collection Process Active	8	Appears when an account has an *active* collection process. Refer to How Are Collection Processes Cancelled for information describing when a collection process is deactivated.	Collection Process
Collection Referral Active	9	Appears when the account has active collection agency referrals.	Collection Agency Referral
Credit rating: NNNN	11b	Appears when the account's credit rating	Account – C & C

		falls below the credit rating threshold on the CIS installation table. Refer to How are credit rating transactions created for information describing how a customer's credit rating is affected by various system and user events.	
Life Support / Sensitive Load on Person	1	Appears when any of the account's persons has life support or sensitive load information	Person
Life Support / Sensitive Load on Premise	2	Appears when the premise has life support or sensitive load information	Premise
Pending Start	17	Appears when there is a service agreement in the state of *pending start* linked to the account. Refer to The Lifecycle Of A Pending Start Service Agreement for more information.	Start/Stop
Severance Process Active	7	Appears when any of the account's service agreement has an active severance process Appears when an account has an *active* severance process. Refer to How Are Severance Processes Cancelled for information describing when a severance process is deactivated.	Severance Process

Applicable Campaigns Zone

The **Applicable Campaigns Zone** lists the campaigns that may be of interest to the customer. If you press a campaign's Add Order button, you will be transferred to the Order transaction where you can walk the customer through the campaign's provisions and determine if they are interested in its goods and services.

Refer to The Big Picture Of Campaign Eligibility for more information.

Warning! The first 25 rows are displayed when this zone is initially built. If more rows exist, a **Get All** button appears. If you click this button, the system retrieves a maximum of 750 rows.

Bill Graph Zone

The **Bill Graph Zone** illustrates the ending balance and new charges on each of the customer's historical bills.

Approximately a year and half is shown. This zone shows all bills within 20 months of the latest bill. This limitation exists to prevent this zone from becoming unmanageably wide.

For balance-forward accounts, both ending balances and current charges are shown in the graph. For open-item accounts, only the current charges are shown in the graph.

The following points describe unique features of this zone:

- If you leave the mouse pointer stationary on a bar, summary information about the bill will be displayed.

- If you click on a bar, you will be transferred to the bill page with the respective bill displayed.

Billed Consumption Zone

The **Billed Consumption Zone** illustrates the amount of consumption on each of the customer's historical bills. Up to three units of measure (UOM) are shown for each bill. The system uses the graph UOM's defined on the SA types associated with the customer's active service agreements. If more than three graph UOM's are detected for a customer, the system uses those associated with the service agreement types with the highest bill print priorities.

The following points describe unique features of this zone:

- If you leave the mouse pointer stationary on a bar, summary information about the bill will be displayed.

- If you click on a bar, you will be transferred to the bill page with the respective bill displayed.

> **Approximately a year and half is shown.** This zone shows all bills within 20 months of the latest bill. This limitation exists to prevent this zone from becoming unmanageably wide.

Context Zone

The **Context Zone** contains basic information about the Person / Account / Premise on which you are working.

Person	This part of the context area contains the person's standard information. Note, this information is formatted by a plug-in algorithm on the installation record. Refer to the base package's person information algorithm for an example. If you prefer different formatting logic, your system administrator should configure the system appropriately
Account ID	This part of the context area contains the unique identifier of the account and the name of its main customer.
	Adjacent to the account ID appears a "check digit". This is for information purposes only and is not needed to operate the system. Refer to the ***Description of Page*** section under Account – Main for a description of how "check digit" is calculated.

Below **Account ID**, the account's **Current Balance** and **Payoff Balance** are displayed. **Payoff Balance** will be hidden when it's the same as the **Current Balance**. Refer to Current Amount versus Payoff Amount for more information.

Aged Debt Bar　　　　　If the account's **Current Balance** is greater than zero, a colored bar is displayed adjacent. This bar provides information about the age of the account's debt.

The number of segments that appear in this bar is dependent on the elements of the customer's aged balance. The following segments may appear:

- disputed debt (If you handle disputed debt as described in Disputing Items),

- new charges and debt between 0 and X days old (where X is the account's customer class's bill due days),

- debt between X to 30 days old,

- debt between 31 to 60 days old,

- debt older than 60 days

Note. If you hover the mouse pointer over a segment of the bar, the respective amount of debt will appear. If you click on the arrears bar you will be taken to the Account Financial History page. Note that information about debt balances by age is not applicable to open-item accounts.

Premise　　　　　This part of the context area contains the premise address. Note, the address information is formatted by a plug-in algorithm on the installation record. Refer to the base package's premise format algorithm for an example. If you prefer a different format, your system administrator should configure the system appropriately

(Start Button)　　　　　Push this button if you want to start service for the account and the service isn't at a premise (e.g., a deposit). Refer to The Big Picture Of Starting Service for more information.

(Stop Button)　　　　　Push this button if you want to stop service for the account at the premise. Refer to The Big Picture of Stopping Service for more information.

Credit and Collections Info Zone

The **Credit and Collections Info Zone** is a grid that contains a variety of credit & collections-oriented events. Pushing the button adjacent to the information transfers you to an appropriate page. The following table lists the type of information that may appear in this zone and the page to which you will be transferred if you push the adjacent button.

Activity Label	What Is Displayed	Drill Down Transfers You To
Severance Process. *One row is displayed for every Active severance process linked to the account's service agreements.*	The severance process's description and create date/time	Severance Process – Main
Collection Process. *One row is displayed for every Active collection process linked to the account.*	The collection process's description and create date/time	Collection Process – Main
Write-off Process. *One row is displayed for every Active write-off process linked to the account.*	The write-off process's description and create date/time	Write-off Process – Main
Overdue Process. *One row is displayed for every Active overdue process linked to the account.*	The overdue process's standard information string (this is dynamic as it's constructed by an algorithm)	Overdue Process – Main
Cut Process. *One row is displayed for every Active cut process linked to the account's service agreements.*	The cut process's standard information string (this is dynamic as it's constructed by an algorithm)	Cut Process – Main
Pay Plan. *One row is displayed for every Active pay plan linked to the account*	The pay plan type's description and create date/time	Pay Plan – Main
Payment Arrangement. *One row is displayed for every non-cancelled, non-closed payment arrangement (i.e., service agreement with a special role of Payment Arrangement) linked to the account*	The service agreement's SA type description, start date and status	Payment Arrangement – Main

Warning! The first 25 rows are displayed when this zone is initially built. If more rows exist, a **Get All** button appears. If you click this button, the system retrieves a maximum of 750 rows.

Customer Information Zone

The **Customer Information Zone** is a grid that contains information about the current person and account. Pushing the button adjacent to the information transfers you to an appropriate page. The following table lists the type of information that may appear in this zone and the page to which you will be transferred if you push the adjacent button.

Note. Rows are suppressed if the related data is blank for the person / account.

Label	What Is Displayed	Drill Down Transfers You To
Account ID	The account's unique identifier (i.e., account ID) is displayed	An account context menu has been provided (allowing you to

		drill to a variety of account-oriented pages)
Main Customer	The main customer's name. Note, the person's name is formatted by a plug-in algorithm on the installation record. Refer to the base package's name format algorithm for an example. If you prefer different formatting logic, your system administrator should configure the system appropriately	A person context menu has been provided (allowing you to drill to a variety of person-oriented pages)
Set Up Date	The account's setup date	Account – Main
CIS Division	The account's CIS division	Account – Main
Customer Class	The account's customer class	Account – Main
Bill Cycle	The account's bill cycle	Account – Main
Current Credit Rating	The account's current credit rating	Account – C&C
Next Credit Review Date	The next date on which the account's debt will be reviewed by the account debt monitor. Refer to When Is An Account's Debt Monitored for more information.	Account – C&C
A separate row is displayed for each characteristic linked to the account. Each row's label is the characteristic type's description. If the characteristic is future dated, the effective date enclosed in parentheses prefixes the description.	The characteristic's value	Account – Characteristic
Auto Pay Source Code	The account's auto pay source	Account – Auto Pay
A separate row is displayed for each miscellaneous person linked to the account. Each row's label is the person relationship type's description.	The main name of the miscellaneous person	A person context menu has been provided (allowing you to drill to a variety of person-oriented pages)
Budget Plan	The account's budget plan	Account – Budget
A separate row is displayed for each characteristic linked to the person. Each row's label is the characteristic type's description.	The characteristic's value	Person – Characteristic
A separate row is displayed for each telephone number linked to the person. Each row's label is the phone	The telephone number	Person – Main

type's description.		
A separate row is displayed for each identifier linked to the person. Each row's label is the ID type's description.	The person identifier value	Person – Main
Email Address	The person's email address	Person - Miscellaneous
Service Provider. *A separate row is displayed for each service provider associated with the account's service agreement's who does not have a billing relationship of* ***It is Us***	The service provider's name and a description of the service provider's billing relationship	SA Relationship - Main

Warning! This zone does not support data masking. If your implementation masks any of the information that appears on this zone, you must disable it and implement a zone that will mask your data appropriately. The demonstration system provides a sample zone that your implementation can import and then customize if necessary; this zone's code is ***CI_CIMAP***.   To disable the base package zone simply deny access to its associated application service. You should only grant access to your new Customer Information zone.

Field Activity Information Zone

The **Field Activity Information Zone** displays the following information about every non-cancelled field activity linked to the premise's service points.

- The field activity's **Schedule Date/Time**.
- **FA Information** contains a concatenation of information about the premise, service point and field activity.
- If the field activity is linked to a field order, the **Field Order's Status** is displayed.

You can press the adjacent Go To button to transfer to Field Activity – Main.

Warning! The first 25 rows are displayed when this zone is initially built. If more rows exist, a **Get All** button appears. If you click this button, the system retrieves a maximum of 750 rows.

Financial Information Zone

The **Financial Information Zone** is a grid that contains financial information related to the account. Clicking the hyperlink transfers you to the appropriate page. The following table lists the type of information that appears in this zone and the page to which you are transferred if you click the adjacent icon.

Note. Rows are suppressed if the related data is blank for the person / account.

Label	What Is Displayed	Drill Down Transfers You To
Current Balance	The account's current balance. If the account's current balance is greater than zero, a colored bar is displayed adjacent. This bar provides information about the age of the account's debt. Refer to Context Zone for more information about this bar.	Clicking on the Arrears Bar or the hyperlink takes you to Account Financial History – Main
Payoff Balance	The account's payoff balance. It will only be displayed if the amount differs from the current balance.	*Not applicable*
Last Bill	The date and amount of the account's last bill along with its due date.	Bill – Main
Last Payment	The date and amount of the account's last payment.	Payment Event – Main
Previous Bill	The date and amount of the bill prior to the last bill for the account.	Bill – Main
Next Bill Date	The next date on which a bill is scheduled to be produced for the account (based on the account's bill cycle's schedule)	*Not applicable*
Pending Bill Exists	The date of the pending bill. This row only appears if there is a pending bill associated with the account	Bill – Main
Freezable Bill Segments	If *freezable* bill segments exist, this row contains the number of segments and their total amount.	Bill Segment – Main
Incomplete Adjustments	If *incomplete* adjustments exist, this row contains the number of adjustments and their total amount.	Adjustment – Main
Freezable Adjustments	If *freezable* adjustments exist, this row contains the number of adjustments and their total amount.	Adjustment – Main
Payment(s) Pending Upload	Appears when the account has a *pending* payment staging record (i.e., the account has an external payment that has not been uploaded into the system). To prevent payments from being created and frozen before the actual payment is received, external payments are not uploaded into the system until their accounting date is reached. Note that the amount displayed represents the amount tendered for the account, but does not reflect how the payment may be distributed (i.e., the payment may be distributed to other accounts). For information about payment staging records, refer to Interfacing Payments from External Sources.	Payment Upload Staging
Incomplete Payment(s)	Appears when the account has payments that are *incomplete*. This row contains the number of	Payment - Main

	payments and their total amount. Note, *incomplete* automatic payments that are pending distribution are not included in this alert as they are highlighted on the **Auto Pay will be distributed on** described below.	
Payment(s) with Errors	Appears when the account has payments that are in *error*. This row contains the number of payments and their total amount.	Payment - Main
Freezable Payments)	If *freezable* payments, this row contains the number of payments and their total amount.	Payment Event – Main
Auto Pay will be created on	This row shows the date that the next auto pay will be created. This alert will appear after a bill is completed for an account on auto pay and when your installation option's **Auto Pay Creation Option** is *Create on Extract Date*. If the installation option is *Create at Bill Completion*, then the Autopay will be created immediately at bill completion time and no information is displayed here. Refer to How And When Are Automatic Payments Created? for more information.	Bill – Main
Auto Pay will be distributed on	This row shows the date that the next auto pay will be distributed. This alert will appear after a bill is completed for an account on auto pay and when your installation option's **Auto Pay Creation Option** is *Create on Extract Date*. If the installation option is *Create at Bill Completion*, then the payment for the Autopay will be created immediately at bill completion time and no information is displayed here. Refer to How And When Are Automatic Payments Created? for more information.	Payment Event – Main

Premise Information Zone

The **Premise Information Zone** is a grid that contains information about the current premise. Pushing the button adjacent to the information transfers you to an appropriate page. The following table lists the type of information that may appear in this zone and the page to which you will be transferred if you push the adjacent button.

Note. Rows are suppressed if the related data is blank for the premise.

Label	What Is Displayed	Drill Down Transfers You To
Premise Information	The premise's address. Note, the address information is formatted by a plug-in algorithm on the installation record. Refer to the base package's premise format algorithm for an	A premise context menu has been provided (allowing you to drill to a variety of premise-oriented pages)

	example. If you prefer a different format, your system administrator should configure the system appropriately	
CIS Division	The premise's CIS division	Premise – Main
A separate row is displayed for each characteristic linked to the premise. The label in each row is the respective characteristic type's description.	The characteristic's value	Premise – Characteristic
Landlord	The name of the premise's landlord	Landlord Agreement
Service Point Information. *Note, a separate row is displayed for each service point linked to the premise*	The service point's type and service cycle (if specified)	A service point context menu has been provided (allowing you to drill to a variety of service point-oriented pages)
Meter Configuration. *This row is displayed if a meter configuration is currently installed at the service point. If so, this row's label is indented and displayed beneath the related service point.*	The meter configuration's meter type, badge number, installation date, meter configuration type, number of registers	A meter configuration context menu has been provided (allowing you to drill to a variety of meter configuration-oriented pages)
Last Meter Read. *This row is displayed if a billable meter read exists for the meter configuration that is currently installed at the service point.*	The most recent billable meter read's date and time.	Meter Read – Main
Next Meter Read. *This row is displayed if the service point references a service cycle.*	The next scheduled meter read date and an indication of the service point's *service cycle*	No drill down is available
Item Information. *This row is displayed if an item is currently installed at the service point. If so, this row's label is indented and displayed beneath the related service point.*	The item's type, badge number and status	An item context menu has been provided (allowing you to drill to a variety of item-oriented pages)

SA Premise List Zone

The **SA Premise List Zone** contains a row for each non-cancelled, non-closed service agreement linked to the account. The **Premise** (if any), **Current Balance, Payoff Balance**, and **SA Information** is displayed for each service agreement.

The service agreements appear in the following order:

- Service agreements linked to the premise on which you're working appear first.

- Next appear service agreements linked to the account that don't have a premise (deposits, charitable contributions, etc.).

- Following this are the remaining service agreements linked to the account.

> **Dimmed Payoff Balance.** A service agreement's **Payoff Balance** will be dimmed if it is the same as its **Current Balance**. Refer to Current Amount versus Payoff Amount for more information.

> **Warning!** The first 25 rows are displayed when this zone is initially built. If more rows exist, a **Get All** button appears. If you click this button, the system retrieves a maximum of 750 rows.

Service Credit Membership Zone

The **Service Credit Membership Zone** contains a row for each pending and active service credit membership linked to the account. It will also show any inactive membership that contains a balance. The **Service Credit Membership Type**, **Membership Status** and **Balance** (if applicable) are displayed for each membership.

Timeline Zone - Account Info

Timeline zones show when significant events have occurred in the past and when significant events will occur in the future. For example, a timeline can show when payments and bills have been received for a customer.

The topics in this section describe the rich functionality available in timeline zones.

Contents
- Timelines Zones Are Configured By Your Implementation Team
- The Anatomy Of A Timeline Zone
- You Can Move Through Time
- Timelines Can Have Many Lines
- Each Line Shows Events
- An Event's Color And Icon Can Convey Information About The Event
- An Event's Hover-Text Can Contain Additional Information
- Clicking On An Event Shows More Information In The Detail Area

Timelines Zones Are Configured By Your Implementation Team

Your implementation team controls the number and type of timeline zones you see on this page. Refer to Configuring Timeline Zones for how to add and change timeline zones.

The Anatomy Of A Timeline Zone

The following illustration highlights the various elements in a timeline zone. These elements are described in the remaining topics.
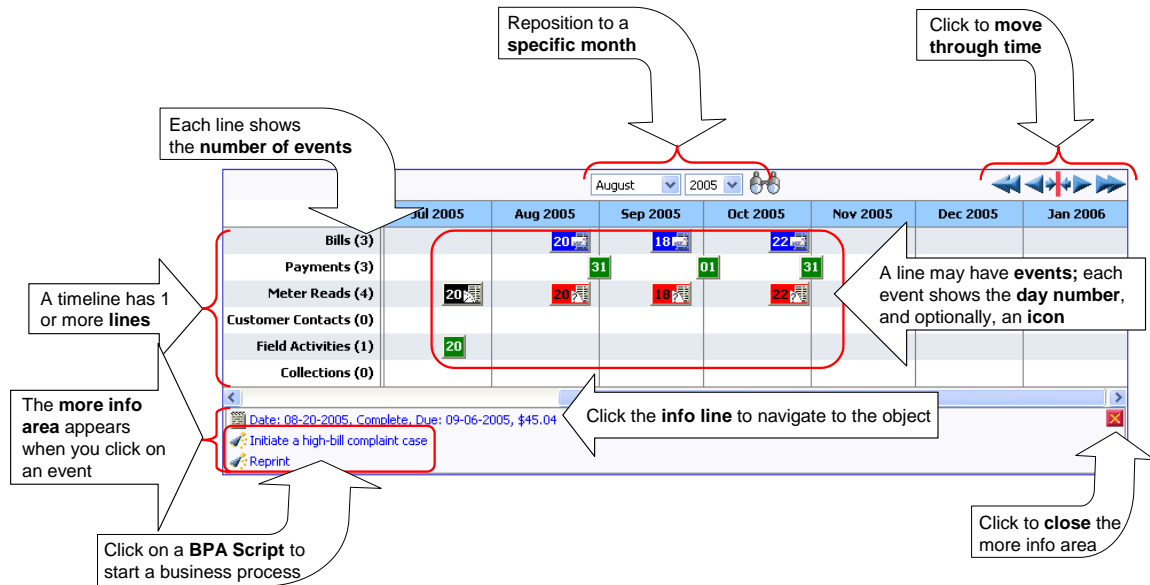
You Can Move Through Time

You can click the controls at the top of a timeline zone to change the date-range of the zone's information:
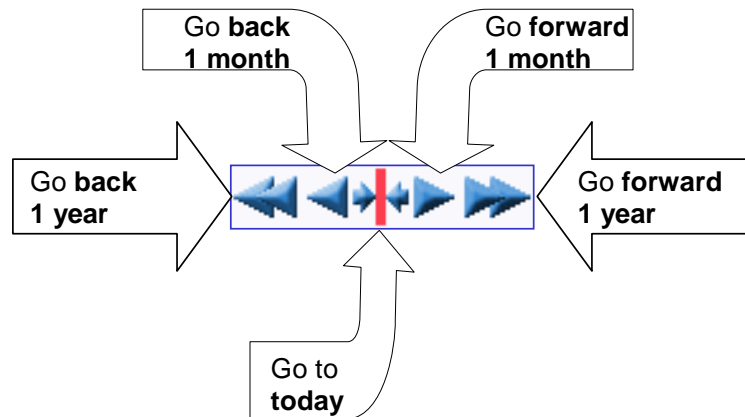
The following points describe how to use these controls:

- To reposition the timeline to a specific date, selected the desired month and year and click the search button.

- To go back one year, click the double-left arrow.

- To go back one month, click the single-left arrow.

- To go to today, click the red line (between the arrows).

- To go forward one month, click the single-right arrow.

- To go forward one year, click the double-right arrow.

Timelines Can Have Many Lines

A timeline zone has one or more "lines" that show when significant events have occurred. For example, you can set up a timeline zone that has two lines: one that shows when payments have been received from a customer, and another that shows when bills have been sent to the customer. Your implementation team controls the number and type of lines by configuring the timeline zone accordingly.

Each Line Shows Events

Each line on a timeline may contain zero or more events where each event shows the date when the event occurs. For example, the bill line in a timeline has a separate event for every bill sent to a customer. Each line's description contains the number of events on the line.

Warning! If a line has more events than can fit onto a timeline, the line will show the first "chunk" of events and a message will appear in the "more info area" explaining that some events have been truncated. If this happens and the truncated events are in a latter period, you can reposition the timeline's base period to show the truncated events.

An Event's Color And Icon Can Convey Information About The Event

Your implementation team can configure the timeline so different types of events have different visual representations. For example, a timeline that shows when meter reads have occurred can use different colors and/or icons to visually differentiate between estimated and non-estimated meter reads.

An Event's Hover-Text Can Contain Additional Information

If you hover the mouse over an event, hover text appears. Each type of event can have different hover text. For example, the hover text for a case shows significant dates in the case's lifecycle (e.g., when it was created, and when it was closed). Whereas the hover text for a meter read shows each register reading.

Clicking On An Event Shows More Information In The Detail Area

When you click on an event, additional information appears in the zone's detail area (at the bottom of the zone). The following information may appear:

- The event's common "information string" appears. For example, if you click on a field activity event, the field activity's information string appears. This information is hyperlinked to allow for easy access to the transaction on which the object is maintained.

- Additional information may appear. For example, if you click on a bill that has been canceled and rebilled after it was initially sent to the customer, information about the net result of the changes appears.

- BPA scripts that can be executed to perform business processes on the object. For example, if you click on a bill event, BPA scripts may appear that can guide you through initiating a bill dispute or canceling the bill. Note, BPA scripts are prefixed with the "wizard's hat" icon.

Control Central - Customer Information

Once Control Central - Main has a person context, you can navigate to this page to view an overview of the related persons, customer contacts, accounts, premises, and service agreements linked to the account.

> **User configurable.** Refer to Each User Can Customize Which Zones Appear for information about how to configure which zones appear.

Description of Page

> **Navigation hint.** The *Go To Control Central* option on the person context menu navigates to this tab page.
>
> **A mouse with a roller is useful.** This page can extend vertically past the normal desktop boundary. You will find that a mouse with a "roller" will facilitate navigating through the page.

The contents of this section describe the zones that are available on this portal page.

Contents

Person Tree Zone

The tree in this zone shows a great deal of information including:

- All accounts linked to the person in context. Refer to Understanding The V for more information.

- Customer contacts linked to this person.

- The hierarchy of parents and children linked this person.

- All aliases linked to this person.

You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Active Account Summary Zone

The **Active Account Zone** lists all accounts related to the person in context. In addition, accounts linked to this person's children also appear in this zone, and if a child has children, the grandchildren's accounts are included. In fact, the system will look for accounts up to five levels deep (meaning that the great, great grandchildren's accounts will be included in this zone).

> **Only accounts linked to child persons with a financial relationship are shown.** When you set up a customer hierarchy, you can define both subsidiaries and "key contacts" (i.e., individuals that you contact at a company). As described above, this zone will include accounts related to these subsidiaries and key contacts. However, you might not want to include the personal accounts related to the key contacts in this zone. You can control which accounts appear in this zone when you set up a hierarchy. You do this by turning on the Financial Relationship switch for those persons whose accounts should be included.

The following columns are displayed in the grid:

Account Info	This column contains the standard account information.
Current Balance and **Arrears**	This column contains the account's current balance. If the account's current balance is greater than zero, a colored bar is displayed in the **Arrears** column. This bar provides information about the age of the account's debt. Note that information about debt balances by age is not applicable to open-item accounts. Refer to Context Zone for more information about this bar.
Last Billed Info	This column contains information about the last completed bill sent to the account.
Last Contact Info	This column contains information about the last customer contact associated with the account's main customer.

Timeline Zone - Customer Info

Your implementation may have configured this page to show one or more timeline zones. Refer Timeline Zone - Account Info for a description of how to use these zones.

Control Central - Account Tree

Once Control Central - Main has an account context, you can navigate to the **Account Tree** to see an overview of the persons, premises, and service agreements linked to the account.

Description of Page

This page is dedicated to a tree that shows the various objects linked to an account. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Control Central - Premise Tree

Once Control Central - Main has a premise context, you can navigate to the **Premise Tree** to see an overview of the accounts, service points, and service agreements linked to the premise.

Description of Page

This page is dedicated to a tree that shows the various objects linked to a premise. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Control Central - Bill/Payment Tree

Once Control Central - Main has an account context, you can navigate to the **Bill/Payment Tree** to see an overview of the financial transactions linked to the account.

Description of Page

This page is dedicated to a tree that shows the account's bills and payments. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

For balance-forward accounts, bill nodes contain the balance presented on the respective bill, and pay nodes contain the amount of the respective payment. However, for open-item accounts, the tree behaves differently:

- The amount on bill nodes is equal to the sum of the current charges, adjustments and corrections on the bill.

- Each bill or payment will contain an indication if all of its financial transactions are fully matched. If not, the node will become red to highlight that unmatched financial transactions exist.

- If a bill or payment node is expanded, a summary of the match status of its financial transactions is shown.

- Credit and correction notes appear as separate nodes.

Control Central - Pay Plan Tree

Once Control Central - Main has an account context, you can navigate to the **Pay Plan Tree** to see an overview of account's debt and the status of an account's pay plans.

Description of Page

This page is dedicated to a tree that shows the pay plans linked to an account. It displays both current and past (expired) pay plans. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

How To Add A New Customer From Control Central

There are three ways to add a new customer from control central:

- You can add a new customer by invoking the Person and Account pages from the menu bar. This is not the recommended approach, as it requires several screen interactions; either of the following approaches is preferable.

- If your team has set up sales and marketing campaigns, you can use the order transaction to add a new customer. Refer to Order User Interface Flow for more information. Refer to Sales & Marketing for background information about sales and marketing campaigns.

- Adding a Person from Control Central. You navigate as follows:

  - You start from Control Central - Main. On this page, you determine if the customer already has an account. If so, select it and you're done. If not, proceed to step 2.

  - Click the + button adjacent to the Person button to transfer to Person - Main Information page (with the name you entered already defaulted). Use the Person pages to record all relevant information about the new customer. When finished, proceed to step 3.

  - Enter the customer's names, phone numbers, and IDs. Click Save (or press ALT+S) to add the person and account. The value of **Add Account and Start Service** is defaulted to "on" and the **Customer Class** defaults based on the **Person Type**. This means that when you click save the following will happen: a new person is added, a new account is added, the new person is linked to the new account, and you will be automatically transferred to Start / Stop where you can start service.

> **Default note.** When the system links the person to the account, it defaults the relationship type from the installation options. A different relationship type can be defined for persons versus businesses on the installation record.

If you need to tinker with information on the account, transfer to account maintenance (use the context menu) and make any necessary changes.

Finding Who Pays For A Meter

If you know the customer's meter number but you don't know the customer, you have the following options:

- Go to Meter - Main and display the meter. The meter's last premise will be displayed on this page. Use the premise's context menu to go to Control Central.

- Go to Meter/Item Search and display the meter. All customers who have paid for service measured by the current configuration of the meter will be displayed on this page. You can then use the various context menu buttons to toggle to related information.

Finding Who Pays For An Item

If you know the customer's item number but you don't know the customer, you have the following options:

- Go to Item - Main and display the item. The item's last premise will be displayed on this page. Use the premise's context menu to go to Control Central.

- Go to Meter/Item Search and display the item. All customers who have paid for the item will be displayed on this page. You can then use the various context menu buttons to toggle to related information.

Maintaining The V

As described in Understanding The "V", the "V" objects are those that form the core of your business processes. In this section, we describe the pages that maintain these objects.

> **Start / Stop Also Maintains The "V".** The Start/Stop Pages also maintain many of the objects in the "V". For example, service agreements are created behind-the-scenes when you start service for a customer. This means you won't have to use most of the pages described in this section as part of your day-to-day activities. Rather, they exist in case you need to override what the system automatically set up for you.

Contents

Maintaining Persons

On the person page, you define demographic information about your customers and every other individual or business with which your company has contact. The topics in this section describe the person page.

> For more information about persons and their place in the "V", refer to Understanding The "V". For more information about how most persons are added, refer to How To Add A New Customer From Control Central. For more information about how a person is required to set up a customer, refer to Customer Overview.

Contents

Person - Main Information

The Main page contains core person information like names, telephone numbers, and forms of identification. Open this page using **Customer Information, Person, Main**.

Description of Page

Person Information contains basic information about the person. These values only appear after the person exists in the database. The **ID** is a system-assigned random number that stays with a person for the life of the system.

> **Formatting is performed by a plug-in.** The format of **Person Information** is controlled by a plug-in algorithm on the installation record. Refer to the base package's person information algorithm for an example. If you prefer different formatting logic, your system administrator should configure the system appropriately.

The following information may be recorded about a person:

Person/Business indicates if the entity is a person or a business. Valid values are: *Person*, *Business*. This value controls how the person's primary name is validated.

Life Support / Sensitive Load indicates if the person has life support or sensitive load equipment. Valid values are: *LS/SL* (i.e., the person has life support / sensitive load equipment), *None*. If the customer has *LS/SL* equipment, make a note of the type of equipment in the field provided.

A premise can also have life support / sensitive load information. If the equipment is physically linked to the premise (e.g., a hospital has life support equipment), you should NOT specify the life support information on the person. Rather, transfer to Premise - Misc and specify life support information on the premise.

> **Alert and C&C.** If the base package's C1-LSSL-PER algorithm is enabled on the installation record, and life support / sensitive load information is specified, an alert will appear when the person is displayed on control central. In addition, if a person has life support or sensitive load equipment, it is possible for a different credit & collection severance process to be kicked off if the person's account associated has overdue debt. Refer to Designing Your Severance Procedures for more information.

Person Names are used by Control Central to look for accounts and persons. In addition, a person's primary name is the addressee on the person's bill unless overridden by the Override Mailing Name (maintained on the **Misc** tab). The following fields display:

- Use **Name Type** to indicate if the name is an *Alias*, *Alternate Representation*, *Doing Business As*, *Legal*, or *Primary* name. Note, for new persons, a value of *Primary* is defaulted.

> **Note**. The values for the name type field are customizable using the Lookup table. This field name is NAME_TYPE_FLG.

- Use **Person Name** to define the person's name. Note well, the name is case sensitive.

> **Alternate representations of a person's name.** You would use an *Alternate Representation* for a person's name when you have an alternate ways to define the person's primary name. Alternate representations are typically used in countries that use multiple character sets (e.g., the *Primary* name is entered in Chinese, the *Alternate Representation* is entered in English). When a person has an alternate name, both the main and alternate names can be used to search for a person. The *Alternate Representation* **Name Type** only appears if you have enabled alternate names on the installation record. Refer to the description of the Alternate Representation field under Installation - Main for more information.
>
> **Validation is performed by a plug-in.** The validation that is applied to **Person Name** (e.g., a comma separating the last and first name – *Smith,Patricia*) is controlled by a plug-in algorithm on the installation record. Refer to the base package's name validation algorithm for an example. If you prefer different validation logic, your system administrator should configure the system appropriately.

Person Phone numbers are used by Control Central to look for accounts and persons. The following fields display:

- **Phone Type** indicates the type of phone number, e.g., Home, Mobile, Business, …

- Use **Phone Number** to define the telephone number. Enter the telephone number in the format described by the **Phone Format**.

> **Formatting is performed by a plug-in.** The format that is applied to a **Phone Number** is controlled by the algorithm that is plugged in on the respective Phone Type. If you prefer a different format, your system administrator should configure this algorithm appropriately.

- Enter the **Extension**, if any, of the telephone number.

A **Person's ID's** have several uses:

- They are used by Control Central when you look for a customer / premise based on their ID.

- They are used to highlight potential duplicate persons.

- Control Central displays a person's **primary** identification in the search results area to help a user identify the customer when multiple customers match the search criteria.

> **Person ID may be required or optional.** The person ID usage flag on the installation record indicates whether at least one id for a person is *required* or *optional*.

The following fields are used to define a person's ID(s).

- Turn on **Primary ID** for the piece of **ID** that is the primary means of identifying the customer.

- Indicate the **ID Type**. The **ID Type** defaults from the Installation Record based on the **Person Type** (*Person* versus *Business*).

- Enter the identification number in the adjacent fields. Please note that if the **ID Number** should be formatted (e.g., dashes in an American social security number), you do not have to enter the dashes. Rather, you can enter the information as a contiguous value and the system will format this for you. The format is shown in the adjacent **Identifier Format** column.

> **Formatting is performed by a plug-in.** The format that is applied to an **ID Number** (e.g., dashes in an American social security number) is controlled by the algorithm that is plugged in on the respective ID Type. If you prefer a different format, your system administrator should configure this algorithm appropriately.

If you want to add an account for the person when you save the person information, turn on **Add Account and Start Service**. When this switch is on, you must also define the new account's **Customer Class**. If this information is specified, the system creates a new account and links the person to the account using the relationship type from the installation options. In addition, you will be transferred to Start / Stop where you can start service for the newly added account.

> **Default note.** The account's customer class defaults from the Installation Record based on the **Person Type** (*Person* versus *Business*).

A message appears in the lower right corner of the page that describes the number of accounts the person has. You can click the adjacent go to button to transfer to Control Central – Customer Information on which all of a person's accounts appear.

Person - Correspondence Information

This page contains information that may be used to address bills, letters, quotes and statements. Use **Customer Information, Person, Correspondence Info** to open this page.

Description of Page

If the person does not want their primary name (defined on the Main page) used on bills, letters, quotes and / or statements, specify the desired name in **Override Mailing Name 1, 2, and 3**.

Specify the **Override Mailing Address** fields if the person wants their bills, letters, quotes, and / or statements sent to an address other than their service addresses (for example, a post office box). In addition, if the person's account doesn't already indicate that the person's mailing address should be used, you must update this person's account(s). This information resides in the Address Source field on Account - Person.

> **Note.** Both the Start / Stop and Order transactions allow you to update the person's **Override Mailing Address** and their account's address source using a single transaction.
>
> **Address isn't everything.** In addition to defining the person's **Override Mailing Address**, there may be additional tasks you must perform in order to route information to this address. Refer to the following links for more information: where are bills sent, where are letters sent, where are quotes sent and where are statements sent.

If you enter an **Override Mailing Address**:

- The **Country** defaults from your installation options.

- The address constituents may differ depending on the **Country**. Refer to Defining Countries for more information on the address constituents.

- If you have set up postal defaults, the system will default the address constituents when you tab out of the postal code.

Specify the customer's **Email Address** if you communicate with the customer via Email. In addition to defining the person's **Email Address**, you're correspondence routing software must support sending the information via Email. Refer to the following links for more information: where are bills sent, where are letters sent, where are quotes sent and where are statements sent.

Define the **Language** in which the person prefers their bills and correspondence printed.

> **Default note.** The person's language defaults from Installation Options - Person.

> Refer to Customer Language for more information on options for supporting multiple languages for your customers.

The **Seasonal Addresses** scroll is only used if the person wants their correspondence sent to an alternate address during predefined periods. For example, the customer may want their bills sent to their vacation cottage during the summer. Please be aware of the following:

- Seasonal addresses will only be used if the customer's bills, statements, quotes, and / or letters are routed via the postal service. For example, if you route bills to the customer via Email, the seasonal address will never be used to route bills to the customer. Refer to the following links for more information: where are bills sent, where are letters sent, where are quotes sent and where are statements sent.

- You don't have to specify a seasonal address for every part of the year. For example, if the customer wants their bills sent to their service address except during the summer, you need only enter a seasonal address for the summer.

- You can enter a seasonal address with or without an **Override Mailing Address**. If an **Override Mailing Address** is not specified, the person's correspondence will be addressed as per the instructions on the person's account(s). These instructions reside in the Address Source field on Account - Person.

- You can enter multiple seasonal addresses if the customer so desires.

- The **Season**al period is defined in the two adjacent fields. The first field contains the day and month when the season starts; the second field contains the day and month when the season ends. The day and month should be entered in the format defined in your display profile.

- The **Status** of the address must be *Active*. You can set the status to *Inactive* if you want a seasonal address ignored (alternately, you can just remove the seasonal address).

- The **Country** defaults from your installation options. The address constituents may differ depending on the **Country**. Refer to Defining Countries for more information on the address constituents.

- If you have set up postal defaults, the system will default the address constituents when you tab out of the postal code.

Person - Characteristics

The characteristics page contains information that describes miscellaneous information about the person. Use **Customer Information, Person, Characteristics** to open this page.

Description of Page

> **Note.** You can only choose characteristic types defined as permissible on the person record. Refer to Setting Up Characteristic Types & Their Values for more information.

The following fields display:

Effective Date   Define the date on which the characteristic becomes effective. The effective date defaults from the Installation Record.

Characteristic Type   Indicate the type of characteristic.

Characteristic Value   Indicate the value of the characteristic.

Person - Persons

This page is used to define this person's relationship with other persons. For example, if the person being maintained is a conglomerate, you can define its subsidiaries on this page. Refer to How To Set Up Customer Hierarchies for more information about hierarchies.

> **You're defining "child relationships".** It's important to understand that the persons being defined on this page's grid should be thought of as "children" of the person on the top of the page.
>
> **Children may have children.** It's possible for one of the children to have children itself (for example, if you have a situation where a subsidiary of a conglomerate itself has subsidiaries). To define a child's children, simply display the child person on this page and then define its children.

> **Equal relationships.** It's possible to link persons where no hierarchy is implied by the relationship (e.g., spouses). There are two ways to do this: 1) you can nominate one spouse as the "parent" and the other as the "child" or 2) you can define the spousal relationship for both persons (i.e., you would define Robert Chopin as the husband of Jeanette Chopin, and Jeanette Chopin as the wife of Robert Chopin). If you choose the latter approach, a recursive relationship will exist.

> **Warning!** If your organization enters multiple levels of person, we want to point out that we do not prevent recursive relationships. This means that you could set up a nonsensical situation where person 2 is a child of person 1 and person 1 is a child of person 2.

Use **Customer Information, Person, Persons** to open this page.

Description of Page

The grid contains the "children" associated with the "parent" person who is defined at the top of the page. The following fields display:

Child Person	This is the unique identifier of the "child" person. This person's main name appears adjacent.
Child Information	An informational message appears to highlight if the child person itself has children. You can click the corresponding go to button to view the child's children.
Relationship Type	Indicate the type of relationship between the parent and the child person.
Start Date	Indicate the date on which this relationship began. This field defaults from the Installation Record.
End Date	If the relationship expires, indicate the date the relationship stops.
Financial Relationship	Turn on this switch if the child person has account(s) and information about these account(s) should be displayed when the parent person's hierarchy is displayed in the Active Account Summary Zone.

Person - Web Self Service

This page is used to define information for this person to access account information via your web self-service application.

> **Configuring Web Self Service.** The system provides sample web self-service functionality. This functionality may be used as a basis for implementing a full web application for your organization that is integrated with other web services you offer.

Use **Customer Information, Person, Web Self Service** to open this page.

Description of Page

The information on this page is entered by the customer when registering for the web self service application.

> **Web User ID**. The sample web self service functionality provided by the system defines the customer's web user ID using an entry in the person ID collection defined on the main tab.
>
> The **Web Self Service Password** chosen by this person through the web application is stored encrypted and cannot be viewed. Customers should change their password via the web application.

The **Web Self Service Password Hint** and **Web Self Service Password Answer** are defined by the customer when registering and are used when the customer has forgotten the password.

> **Note**. The values for the password hint field are customizable using the Lookup table. This field name is WEB_PWD_HINT_FLG.

The **Web Self Service Receive Marketing Info Flag** indicates whether or not the customer has chosen to receive marketing information. The possible values are ***Receives Marketing Info*** and ***Doesn't Receive Marketing Info***. This information may be used by your web application to optionally send marketing information to this customer via email.

Maintaining Accounts

The account record contains information that controls billing and collection processes. You should only need to use this page if you need to fine-tune the information that the system has set up by default because:

- Most accounts are created when you add a new person or when you complete an order for a new customer.

- Many fields are populated behind-the-scenes as part of the service activation process.

The topics in this section describe the pages on which account related information is maintained.

> For more information about accounts and their place in the "V", refer to Understanding The "V".

Contents

Account - Main Information

The Main page contains core account information. Open this page using **Customer Information, Account**.

Description of Page

The primary name of the **Account**'s main customer and the **Account ID** are displayed on every tab in this page. These values only appear after the account exists on the database. The **Account ID** is a system-assigned random number that stays with an account for life.

> **Formatting may be performed by a plug-in.** The basic information about an account that appears at the top of this page (and on many other pages in the system) may be formatted by a plug-in algorithm on the installations record. Refer to the base package's account information algorithm for an example. If you prefer different formatting logic, your system administrator should configure the system appropriately.

A "check digit" is displayed adjacent to the account ID. This is for information purposes only, and is not needed to operate the system. The following points describe how the check digit is calculated for an Account ID equal to *0011883422*.

- Calculate the sum of the first and every alternate digit in the account id. A = 14 = 0+1+8+3+2

- Calculate the sum of the second and every alternate digit in the Account ID and multiply by 2. For example, B = 30 = (0 + 1 + 8 + 4 + 2) * 2

- Add A and B. For example, C = 44 = 14 + 30

- Count the number of digits used to calculate B that are greater than 4. For example, D = 1 since only 8 is greater than 4.

- Multiply D by 9. For example, E = 9 = 1 x 9

- Subtract E from C. For example, F = 35 = 44 - 9

- Subtract the units position of F from 10 to find the check digit. For example, check digit = 5 = 10 – 5 (5 is subtracted from 10 because F = 35 and there the units position is 5).

> **Technical note.** The above is calculated in the common routine called *CIPCACDN*.

Set Up Date is the date the account was initially set up. This is purely informational.

Currency Code defines the currency in which the account's financial transactions are expressed. All rates and payments associated with this account must be denominated in this currency.

> **Default note.** The currency defaults from the Installation Record and may be overridden here.

Customer Class plays a part in:

- If and when a customer is subject to late payment charges.

- The account's default collection class and when the account debt monitor reviews an account. Refer to The Big Picture of Credit & Collections for more information about how and when an account's debt is reviewed.

- And several other functions. Refer to and Setting Up Customer Classes for more information.

> **Default note.** The customer class defaults from Installation Options - Account (Person Customer Class) and may be overridden at will.

CIS Division defines the jurisdiction that governs this account. You may only select **CIS Divisions** associated with the account's Customer Class. This field is updated behind the scenes every time a service agreement is activated (the system uses the **CIS Division** associated with the service agreement's SA type). If you have assigned a **CIS Division** and do not want the system to change it when a service agreement is activated, turn on **Protect CIS Division**.

> **CIS Division governs many functions.** An account's CIS Division impacts its subsequent bill due dates, late payment charge dates, credit & collections review dates, its default budget plan, the roles assigned to To Do entries, and the calendar of workdays. Refer to Setting Up CIS Divisions and Setting Up Customer Classes for more information.

Access Group controls which users are allowed to view and update this account's information (including bills, service agreements, payments, premises, …). The system defaults this value from the user's default access group. Refer to The Big Picture of Row Security for a complete description of how account security is implemented in the system.

The optional Account **Management Group** controls the roles assigned to To Do entries associated with an account. Refer to Setting Up Account Management Groups for more information.

Enter a **Comment** to define unusual information about the account. If this field is populated, an alert will highlight such in the Alert Zone.

Bill Cycle controls when a bill is produced for an account. This field is updated behind the scenes every time a service agreement with a service point is activated. The route the system takes to do this update is as follows:

- It looks for all service points linked to the service agreement.

- It extracts the *service cycle* from one of the service points.

- Finally, it takes the bill cycle from the *service cycle*.

While this is a little complicated, it makes sense because it keeps the bill cycle in sync with the *service cycle*.

If you have assigned a bill cycle and do not want the system to change the bill cycle when a service agreement is activated, turn on **Protect Bill Cycle**.

Mailing Premise ID defines the address on bills for persons who have their bill sent to the account's mailing premise. This field may be updated behind the scenes when a service agreement is activated. The word "may" is used because the system will only update an account's mailing premise if there are no *active* service agreements currently linked to the account. Refer to Account - Person Information for more information about how to define where a person has their correspondence and bills sent.

If you do not want the mailing premise to change when a service agreement is activated, turn on **Protect Mailing Premise**.

If you want to stall billing until after some future date, enter the date in **Bill After**.

If user should review the account's printed bills before they are sent to the customer, enter the user ID of the individual who reviews the bill in **Bill Print Intercept**.

The balances shown in the scroll are the total amounts of debt belonging to every debt class linked to the account's service agreements. The following information is displayed:

- **Debt Class** is the debt class associated with the account's service agreement(s).

- **Current Balance** is the amount of debt the customer currently owes.

- **Payoff Balance** is the amount the customer would owe if they wanted to pay off their debt.

To see summary information about the service agreements that contribute to the financial totals click the go to button adjacent to the respective amount.

> **Warning!** If you do not understand the difference between payoff balance and current balance, refer to Current Amount versus Payoff Amount.

Account - Auto Pay

The Auto Pay page is used when an account pays their bills automatically (e.g., by direct debit or credit card).

> Refer to How And When Are Automatic Payments Created for more information.

Open **Customer Information, Account** and navigate to the **Auto Pay** tab to maintain this information.

Description of Page

The **Account Auto Pay** scroll defines the bank account / credit card from which the customer's automatic payments are debited. Multiple auto-pay options may exist if the customer changes auto-pay options over time. The following fields display:

- **Start Date** is the date on which the automatic payment information comes into affect. The system creates an automatic payment for any bill produced for this account with a due date on/after this date and on/before the **End Date**. If **End Date** is not specified, this means the automatic payment option applies indefinitely. You need only specify an **End Date** if the customer wants to stop paying automatically.

- **Auto Pay ID** is the unique, system-assigned identifier of the auto-pay record. This value is assigned after the information is saved on the database and may not be modified.

- Use **Auto Pay Source Code** to define the source of the funds used to satisfy the automatic payment request. For example, if a customer indicates that they want to use their checking account to pay their bill, you would specify the **Auto Pay Source Code** associated with their bank. The source's description and external source ID (e.g., bank routing number) are displayed adjacent.

- Use **Auto Pay Method** to specify whether you want the system to process automatic payments as *Direct Debit* or *Payment Advice*. This field is visible only if feature configuration is set up to support payment advice functionality. Refer to Payment Advices for more information on the payment advice functionality.

- Use **External Account ID** to define the customer's bank account / credit card number.

- You will be required to define an **Expires On** date if the **Auto Pay Source Code** references a tender type that requires an expiration date (e.g., if the Auto Pay Source is a credit card company).

- Enter the **Name** of the customer as it appears in the financial institution's system. This name is routed to the financial institution.

> **Default note.** The **Name** will default to the primary name of the main customer linked to the account after you enter a **Start Date**. This defaulting is only possible for accounts that exist on the database.

- In some locales, customers can define a **Maximum Withdrawal Amount** to limit the amount of money that is automatically debited from their account. Refer to How To Implement Maximum Withdrawal Amounts for more information.

- Use **Comments** to describe anything interesting / unusual about the automatic payment request.

Account - Person Information

The Account Person page contains information about the person(s) linked to the account.

> **Note.** Both customers and non-customers (e.g. the accounting service that handles the bills of a commercial customer) can be linked to an account.

When you add an account from Person - Main or from Order - Main the system automatically links the person to the account, so you typically won't have to open this page. However, if you need to link multiple persons to an account (e.g., because you need to send a duplicate of the account's bill to someone other than the main customer) or change information about a person on an account, open **Customer Information, Account** and navigate to the **Persons** tab.

Description of Page

The **Account Persons** scroll contains one entry for every person linked to the account. The following fields display:

Person ID	The unique identifier of the person linked to the account. The person's name is displayed adjacent.
Main Customer	Turn on this switch if the person is the main customer on the account. Only one person on an account may be designated as the main customer.
	The significance of the main customer is that its name will appear adjacent to the account ID throughout the system.
Financially Responsible	Turn on this switch if the person is financially responsible for the account's debt.

	This switch is on and gray if the person is the **Main Customer** because the main customer is always financially responsible. If multiple persons are linked to the account, you use this switch to indicate which ones are financially responsible versus those that are linked for other purposes.
Third Party Guarantor	Turn on this switch if the person is a 3rd party guarantor of the account's debt. This switch is off and gray if the person is the **Main Customer**.
Relationship Type	Define the relationship between the person and the account. Refer to Setting Up Account Relationship Codes for information about setting up relationship types.

> **Default note.** When the system links the person to the account when you add an account from Person - Main, it defaults the relationship type from the Installation Record.

Web Access	Indicate whether or not a person linked to this account is *Allowed* or *Not Allowed* to view details of this account via your web self service application.

> **Default note.** This flag is defaulted to *Allowed*.

Prefix/Suffix and **Pfx/Sfx Name**	Use these fields if you need to append additional information to a customer's name when correspondence or bills are sent to this person. For example, if the account has declared bankruptcy you might attach "Debtor In Possession" to the person's name. Use **Prefix/Suffix** to indicate if the **Pfx/Sfx Name** should be appended to the front or the back of the customer's name.
Receives Copy of Bill	Turn on this switch if the person receives a copy of the account's bills. Turning off this switch grays the remaining fields. This switch is on and gray if the person is the **Main Customer** because the main customer always receives a copy of the bill.

> Refer to The Source Of Bill Routing Information for more information about how the remaining information is used to format the address of a bill.

Bill Route Type	Indicate how the bill is sent to the customer. This field's value defaults from the Installation Record. If the **Bill Route Type** you select indicates that bills are routed via Fax, the person's fax number is displayed adjacent (the system knows which of a person's phone numbers is a fax number by the phone type). If the **Bill Route Type** you select indicates that bills are routed via Email, the person's Email address is displayed adjacent. If the **Bill Route Type** you select indicates that bills are routed via the Postal service, you must choose an appropriate **Address Source** to define which address should be used. Refer to Setting Up Bill Route Types for more information about bill route types.
Bill Format	Indicate if the customer should receive a *Detailed* or a *Summary* bill.

Note. The values for this field are customizable using the Lookup table. The values need to match the formats supported by your bill print software. This field name is BILL_FORMAT_FLG.

Number of Bill Copies	Indicate how many copies of the bill the person receives.
Customer PO ID	Indicate the purchase order ID the customer wants printed on their copy of the bill.

Note. Receives Copy of Quote and **Quote Route Type** only appear if the quotation *Contract Management* module is not turned off.

Receives Copy of Quote	Turn on this switch if the person receives a copy of the account's quotes. Turning off this switch grays the remaining fields. This switch is on and gray if the person is the **Main Customer** because the main customer always receives a copy of the account's quotes.

Refer to Printing Quotes for more information about how the remaining information is used to format the address of a quote.

Quote Route Type

Indicate how the quote is sent to the customer. This field's value defaults from the Installation Record. If the **Quote Route Type** you select indicates that quotes are routed via Fax, the person's fax number is displayed adjacent (the system knows which of a person's phone numbers is a fax number by the phone type). If the **Quote Route Type** you select indicates that quotes are routed via Email, the person's Email address is displayed adjacent. If the **Quote Route Type** you select indicates that quotes are routed via the Postal service, you must choose an appropriate **Address Source** to define which address should be used. Refer to Setting Up Quote Route Types for more information about quote route types.

Receives Notification

Turn on this switch if the person receives letters (i.e., notifications) initiated by collection, severance, write-off, overdue and cut events. These events will send letters to the main customer and any other person linked to the account that **Receives Notifications**. This switch is on and gray if the person is the **Main Customer** because the main customer always receives notifications. Refer to Printing Letters for more information about how letters are produced by the system.

Address Source

If the **Bill Route Type** or the **Quote Route Type** you selected indicates that bills / quotes are routed via the postal service, you must choose the appropriate **Address Source**.

Choose *Mailing Premise on Account* if bills / quotes should be sent to the address associated with the Mailing Premise on the first page. This address is displayed adjacent.

Choose *Person* if bills / quotes should be sent to the person's mailing address. This address is displayed adjacent.

Choose *Account Override* if bills / quotes should be sent to an override address specified below. Typically, you would only choose this option if the person has multiple accounts and each account's bills / quotes should be sent to a different address. If you choose this option, the bottom of this page will become populated with fields that should be used to specify this override address.

Override address constituents   If you selected an **Address Source** of ***Account Override***, you must enter the address to which bills / quotes will be sent in the address constituents. The number and type of address constituents is based on the Country. These fields will be invisible for other **Address Sources**.

Note, the **Country** defaults from Installation Options - System. The City, County and State default based on the **Country** and **Postal Code** if a Postal Default exists for the postal code.

Account - Financial Balances

The financial balances page is an information-only page that subdivides an account's debt by debt class. The balances shown on this page are the total amounts of debt belonging to every debt class linked to the account's service agreements.

> **The source of debt class.** An account's debt comes from its service agreement(s). Every service agreement has an SA type. Every SA type references a debt class.

Open **Customer Information, Account** and navigate to the **Financial Balances**.

Description of Page

The account's **Current Balance** displays at the top of the page.

The **Debt Class Balances** scroll contains one entry for every debt class linked to the accounts non-closed / non-cancelled service agreements. The following information is displayed for each debt class.

- **Debt Class** is the debt class associated with the account's service agreement(s). To see summary information about the service agreements that contribute to the debt class totals click the adjacent Go To button.

- **Current Balance** is the amount of debt the customer currently owes.

- **Payoff Balance** is the amount the customer would owe if they wanted to pay off their debt. Payoff balance is only displayed if it differs from current balance.

> **Warning!** If you do not understand the difference between payoff balance and current balance, refer to Current Amount versus Payoff Amount.

- The **Debt Class Arrears** shows the age of all amounts that make up the current balance.

- The **Days Old** and **Amount** information shows the age of the debt class's debt.

> **Note.** Information about debt balances by age is not applicable to open-item accounts.

Account - Bill Messages

The Account Message page contains information about the message(s) to appear on an account's bills. Both one-time and permanent messages may be defined. This information is used when the system assembles messages to appear on an account's bill. Refer to The Source of Bill Messages for more information about bill messages.

Open **Customer Information, Account** and navigate to the **Bill Messages** tab to access this page.

Description of Page

The following fields are displayed:

Bill Message	The message code and description of the message that appears on the customer's bill.
Bill Message Type	Use *Temporary* to indicate the message should only be linked to the next bill produced for the account. Use *Permanent* if the message should appear on every bill. Note, a value of *Temporary* defaults.

Account - C&C

The Credit Rating page contains the credit rating transactions that impact an account's credit rating and cash-only score. To view or modify these transactions, open **Customer Information, Account** and navigate to the **C&C** (credit and collections) tab.

Description of Page

Collection Class controls how the account's debt is compared against collection criteria to determine if a collection process should be started. Refer to The Big Picture of Credit & Collections for more information about how and when an account's debt is reviewed.

> **Default note.** The **Collection Class** defaults from the account's customer class when the account is first added. It may be overridden at will.

If you need to prevent an account from being reviewed by credit and collections processes (i.e., the account debt monitor and the write-off monitor), use **Postpone Credit Review Until** to define the future date when these processes can again review the account's debt.

Last Credit Review Date is the date when the account's debt was last reviewed by the account debt monitor (ADM).

> **Forced ADM review.** If you want the ADM to review an account's debt the next time it runs, simply change the **Credit Review Date** to a date in the distant past (e.g., 1/1/1900). The next time the ADM2 background process runs, it'll see that a great deal of time has past since the last time it reviewed the account's debt and review it (and then set the **Credit Review Date** accordingly).

The account's **Current Credit Rating** is displayed. For an explanation of how this number is derived, see How is an account's credit rating calculated?.

The account's **Current Cash Only Score** is displayed. For an explanation of how this number is derived, see How is an account's cash-only score calculated?.

The **Credit Rating History** scroll contains one entry for each credit rating history record associated with the account. The following fields display:

Start Date   This is the first date the credit rating transaction affects the account's credit rating and cash-only score.

End Date   This is the last date the credit rating transaction affects the account's credit rating and cash-only score.

The **_Created On_** message is formatted using an algorithm on the Installation Options.

Affect Credit Rating By   This is the effect of the credit rating transaction on the account's credit score. This should be a _negative_ number because the _lower_ the score the worse the credit rating.

An account's credit rating is equal to the start credit rating amount defined on the installation record plus the sum of credit rating demerits that are currently in effect. When an account's credit rating is less than the credit rating threshold defined on the installation record, the account's credit rating is displayed as an alert in the Alert Zone.

Affect Cash-Only Score By   This is the effect of the credit rating transaction on the account's cash-only score. The _higher_ the score, the greater the chance this account will be marked as cash-only. Therefore, a _positive_ number should be used to make the score go up.

An account's cash-only score is equal to the start cash-only score defined on the installation record plus the sum of cash-only points that are currently in effect. When an account's cash-only score exceeds the cash-only threshold score defined on the installation record, the account is flagged as cash-only in the Alert Zone and on the payment event page.

Comments   Enter comments to clarify the reason(s) for the creation of the transaction.

Contents
How are credit rating transactions created?
How is credit rating calculated?
What impact does credit rating have in the system?
How is cash-only score calculated?
What impact does cash-only score have in the system?

How are credit rating transactions created?
Credit rating transactions may be created as follows:

- Certain types of collection events add credit rating transactions. The number of credit rating and cash-only points is defined on the collection event type.

- Certain types of severance events add credit rating transactions. The number of credit rating and cash-only points is defined on the severance event type.

- Certain types of write-off events add credit rating transactions. The number of credit rating and cash-only points is defined on the write-off event type.

- If a payment tender is canceled with a cancellation reason that indicates the cancellation was due to non-sufficient funds, a credit rating transaction is created. The number of credit rating and cash-only points is defined on the payment cancellation reason code.

- You may configure your system to create a credit rating transaction when a pay plan is broken. To do this, you must plug in an appropriate Broken Algorithm on the pay plan type.

- A user may create credit rating transactions at their discretion.

- Algorithms may add credit rating transactions. The system provides sample overdue event and cut event activation algorithms that add credit rating transactions. Refer to C1-OE-CR-RT and C1-CE-CR-RT for more information. Some examples of algorithms your implementation may decide to introduce: the creation of a late payment charge. To do this you could introduce a new adjustment freeze algorithm.

> **Created By Flag**. The credit rating transaction includes a **Created By** flag that is customizable using the Lookup table. This field name is CR_RAT_CRE_BY_FLG. If your implementation uses algorithms to create credit rating history transactions, you may consider adding appropriate values to the Created By flag. Also note that the Created By flag includes the value *Other*, which may be used by your implementation specific algorithms if you do not want to add a new custom value.

How is credit rating calculated?

An account's credit rating is calculated by summing the Affect on Credit Rating from credit rating transactions effective on the current date. This value is added to the perfect credit rating defined on the installation record. The result is the customer's current credit rating.

What impact does credit rating have in the system?

The following points describe the impact of an account's credit rating:

- An account's current credit rating is displayed in the Control Central Alert area when it's less than the threshold credit rating defined on the installation record.

- An account's credit rating may affect how the account's debt is collected. We used the word "may" because an account's credit rating will only affect collection criteria if you set up your collection processes to do this.

> For more information, refer to Designing Your Collection Class Control Overrides.

How is cash-only score calculated?

An account's cash-only score is calculated by summing the Affect on Cash-Only Score from credit rating transactions effective on the current date. This value is added to the beginning cash-only score defined on the installation record. The result is the customer's current cash-only score.

What impact does cash-only score have in the system?

If an account's current cash-only score exceeds the cash-only threshold on the installation record, and the base package's C1-CASH-ACCT algorithm is enabled on the installation record:

- The customer is flagged as cash-only in the Control Central Alert area.

- If a user attempts to add a payment whose tender type is a cash-equivalent, a warning is issued.

Account - Budget

The Budget page contains information about all service agreements linked to an account that are eligible to participate in a budget billing plan. Refer to Budget Billing for more information about how this information affects the account's bills.

> **You are actually changing service agreements.** When you change a service agreement's budget amount on this page, you are actually changing the service agreement's recurring charge amount. Refer to Service Agreement – Recurring Charge for more information.
>
> **Eligible service agreements.** It's important to be aware that some service agreements linked to an account may not be eligible for budget plans. For example, assume you have a customer with a deposit service agreement and one or more utility service agreements. This customer will be billed for their deposit regardless of the utility service agreements' budget amounts. You define whether a service agreement may participate in a budget plan on the service agreement's SA type.

Open **Customer Information, Account** and navigate to the **Budget** tab to view this information.

Description of Page

The appearance and dialogue of this page differs slightly for an account with a small number of service agreements (100 or less) versus a large number of service agreements (more than 100).

- For an account with a small number of service agreements, the user may click the **Recommend Budget** button to generate a **New Budget** for each service agreement. At that point the service agreement's budget amount has not been updated. The user may review the calculated amounts; make desired changes and then click Save to update the budget amount for the service agreements.

> **Warning!** You must save the page in order for the budget changes to take affect.

- For an account with a large number of service agreements, the user may click the **Calculate and Apply New Budget** button. At that point the system will calculate the recommended budget and update the **Budget Amount** on all the eligible service agreements. To change the budget amount for one or more of the service agreements, the user navigates to the service agreement page using the drill down button adjacent to the service agreement in question.

Click **Cancel Budget** to have the system set the **New Budget** amount to zero for all the account's service agreements on budget.

> **Budget Recommendation.** Though this page lists all SAs eligible for a budget, the budget recommendation only calculates a budget amount for SAs whose start and end date (if any) includes the budget date. Additionally, the budget date is used to select the rate schedule that is in effect for an SA if estimating consumption is necessary.

Budget Plan controls how the account's debt is managed for budget-related purposes. Specifically, it controls how the recommended budget amount is calculated and how / when the customer's budget is periodically changed.

> **Default note.** Budget plan defaults based on the account's customer class / division combination.

Use **New Budget Date** to define the effective date of any changes to the customer's budget amount (this date is the effective date on the respective service agreements' recurring charge history).

The system displays the sum of the service agreements' current budget amounts in **Total Budget Amount**.

For accounts with a small number of service agreements, the system displays the sum of the service agreements' new budget amounts in **Total New Budget**.

The grid that follows contains a row for each service agreement linked to the account that is eligible to participate in a budget billing plan:

SA Information	This is a concatenation of basic information about the service agreement.
Last Changed Date	This is the date when the service agreement's budget amount (i.e., recurring charge amount) was last changed.
Budget Amount	This is the existing budget amount (i.e., recurring charge amount) for the service agreement.
New Budget	For accounts with a small number of service agreements, the service agreement's budget amount (i.e., recurring charge amount) will be changed to reflect this value when the page is changed. The effective date of the change is defined in **New Budget Date**.

Account - Deposits

The Deposits page contains information about all cash and non-cash deposits linked to an account.

> **Cash versus Non-cash Deposits.** Non-cash deposits (e.g., letters of credit, surety bonds, 3rd party deposits) can be added and maintained on this page. Cash deposits are maintained using service agreements. Refer to Cash Deposits for information about how to add and maintain cash deposits.

Open **Customer Information, Account** and navigate to the **Deposits** tab to view this information.

Description of Page

The following fields appear in the **Deposit Summary**:

Cash Deposits On Hand	The total amount of cash deposits currently held for the account. This value is equal to the sum of the payoff balances from all service agreements whose SA type has a special role of **_Cash Deposit_**. Refer to Cash Deposits for information about how to add and maintain cash deposits.
Cash Deposits Requested	This value is equal to the sum of Total Amount to Bill from all service agreements whose SA type has a special role of **_Cash Deposit_**. Refer to Cash Deposits for information about how to add and maintain cash deposits.
Non-Cash Deposits	The total amount of active non-cash deposits currently held for the account. This value is equal to the sum of non-cash deposits displayed in the scroll below (note, non-cash deposits can be maintained in the same scroll).
Total Deposits on Hand	This is the sum of cash and non-cash deposits held for the account.

Turn on **Do Not Review or Refund** if this account should not be considered by the Deposit Review background process (this process highlights customers who require an additional deposit) or by the Deposit Refund background process. Refer to The Big Picture Of Deposits for more information about these processes.

The **Non-Cash Deposit** scroll contains an entry for every non-cash deposit linked to the account. Refer to Non Cash Deposits for more information.

To modify a non-cash deposit, simply move to a field and change its value. To add a new non-cash deposit, click the + button and then fill in the information for each field.

Start Date	This is the date the non-cash deposit is effective.
End Date	This is the expiration date of the non-cash deposit.

Non Cash Deposit Type	Select the appropriate non-cash deposit type. The value selected is important as it controls whether the system requires a **Third Party Deposit** and whether the system will create a To Do entry near the expiration date of the deposit. Refer to Setting Up Non-Cash Deposit Types for more information.
Deposit Class	Select the deposit class in which this non-cash deposit should be included. This value is used when the system amalgamates an account's total deposits when checking if the account holds an adequate deposit (amalgamation and recommendation happens within a deposit class). Refer to Deposit Class Controls Everything for more information about the significance of deposit class.
Deposit Amount	Indicate the amount of the non-cash deposit.
Document Number	Enter the document number, if any, associated with the non-cash deposit (e.g., the letter of credit number, the surety bond number, etc.).
Third Party Deposit SA	If a 3rd party has paid the cash deposit for the account, reference the deposit SA associated with the 3rd party. Refer to 3rd Party Deposits for more information about how 3rd party deposits are maintained in the system.
Comments	Enter any free-form comments about the non-cash deposit.

Account - Characteristics

The characteristics page contains information that describes miscellaneous information about the account. Use **Customer Information, Account** and navigate to the **Characteristics** tab to open this page.

Description of Page

> **Note.** You can only choose characteristic types defined as permissible on the account record. Refer to Setting Up Characteristic Types & Their Values for more information.

The following fields display:

Effective Date	Indicate the date on which the characteristic value becomes effective. Note, the effective date defaults to the account's setup date (defined on the **Main** page).
Characteristic Type	Indicate the type of characteristic.
Characteristic Value	Indicate the value of the characteristic.

Account - Alerts

The alerts page contains information that describes various alerts assigned to the account. Use **Customer Information, Account** and navigate to the **Alerts** tab to open this page.

Alerts assigned to an account appear in the Alert Zone. They are used to bring important information to the attention of any customer service representative who looks at the account. Up to 60 alerts can display in the Alert Zone.

Description of Page

The following fields display:

Alert Type	Indicate the type of alert to show on Control Central.
Start Date	Indicate the date on which the alert starts showing in Control Central. The current date defaults.
End Date	Indicate the date on which the alert stops showing in Control Central. You can leave this field blank if the alert should be effective indefinitely. The date defaults to the **Start Date** plus the **Alert Type's** alert period.

Account - SAs For A Debt Class

This is an information-only page that shows an account's service agreements grouped by debt class.

> **The source of debt class.** An account's debt comes from its service agreement(s). Every service agreement has an SA type. Every SA type references a debt class.

To access this page, drill down on a debt class shown on **Customer Information, Account, Main**.

Description of Page

The **Account ID** and the primary name of the account's main customer are displayed.

Debt Class is the debt class associated with the account's service agreement(s).

> **Note.** An account may have service agreements that belong to other debt classes. Navigate to Account – Main Information to see a list of all debt classes associated with an account.

The **Service Agreement** scroll contains one entry for each service agreement that belongs to the **Debt Class**. The following information is displayed for each service agreement.

- **SA** (service agreement) **Info** is a concatenation of important details about the service agreement.

- **Premise** defines the service agreement's main premise.

- **Current Balance** is the amount of debt the customer currently owes.

- **Payoff Balance** is the amount the customer would owe if they wanted to pay off their debt. Payoff balance is only displayed if it differs from current balance.

> **Warning!** If you do not understand the difference between payoff balance and current balance, refer to Current Amount versus Payoff Amount.

- **SA Arrears** displays the age of the amounts that make up the current balance.

- The **Days Old** and **Arrears Amount** information shows the age of the service agreement's debt.

> **Note.** Information about debt balances by age is not applicable to open-item accounts.

Using The Account / Person Replicator

There are two different ways to use this transaction:

- You can make many copies of a given Person / Account combination. This may be required if your company works with 3rd party agencies who enroll customers on its behalf. In this situation, the 3rd party agency may receive blocks of pre-allocated account numbers to be used when they enroll a customer. When a customer signs up, the person information can be updated with information about the newly enrolled customer.

    Perform the following steps if you need to create many copies of a given person and account:

    - Add a new person and account if you don't already have a customer to serve as your "template".

    - Use the account / person replicator to create copies of the person and the account as described below (and make sure to use the *Replicate Acct and Person* option).

- You can create many Accounts for a single Person. This may be required if you have a customer who wants many separate accounts rather than a single consolidated account.

    Perform the following steps if you need to create many copies of a given account for a specific person:

    - Select the account that serves as the template account for the person. Note, this account must be linked to the person who wants the many accounts.

    - Use the account / person replicator to create copies of the account as described below (and make sure to use the *Replicate Account Only* option).

Use **Customer Information, Account/Person Replicator** to open this page.

Description of Page

Choose the **Account** that serves as the template account.

> **Recommendation.** Carefully verify that the template account you have chosen is correct before you save the replicated accounts. After you save the replicated accounts, any corrections could prove time consuming.

At the top of the page, indicate the **Number** of accounts and persons **to Replicate**.

Indicate the **Main Person Name Base**, which will be used as the main person name for all the new persons to be created. This field will be protected if you choose a **Replicate Type** of *Replicate Account Only* (as no persons are created).

Use **Replicate Type** to define if you want to create multiple copies of an account for a given person or if you want to create many new person / account combinations. See the description that appears above for more information about this field.

After entering the above, click the **Replicate** button to generate your new accounts and persons. The grid displays informational messages describing what will happen when you click save. For example, it will verify how many accounts will be created, the person whose record will be copied, the name that will be used on all the new persons, etc..

If everything looks clean, click save.

Contents

Information Replicated for New Persons

Except for the main name, which you indicate in the **Main Person Name** field, all information for the main person linked to the account will be copied to the new persons.

Warning! This copy includes the person's identification number. This will result in multiple persons with the same identification number. You should ensure that the identification number for your template person is a temporary number. When you sign up your actual customer, be sure to update the identification number to a valid number for the person.

Information Replicated for New Accounts

Although most information for an account will be copied, not all information will be. The following points describe the information that is NOT copied on newly replicated accounts:

- Mailing premise will be set to blank

- Setup Date is set to the current date

- Credit Review Date and Postpone Credit Review Until Date will be set to blank

- Auto Pay information will not be copied

- Credit Rating History will not be copied

- Non-cash deposit information will not be copied

Note that all miscellaneous persons linked to the account (i.e., those who are not flagged as Main Customers) will be linked to the new accounts. With this functionality, for example, you can create a person for a third party enroller and link this enroller to the template account. This enroller will then be linked to all the new accounts.

Maintaining Service Agreements

A service agreement contains the terms and conditions controlling how the system calculates charges for a specific service supplied to a customer. The topics in this section describe the pages on which service agreement related information is maintained.

> **The system creates most service agreements behind the scenes.** Most service agreements are created "behind the scenes" by the system as part of the Start Service and Order completion processes. You should only have to access the service agreement pages if you need to fine-tune what the system defaults. Refer to Start / Stop and Maintaining Orders for the details.

> For more information about service agreements and their place in the "V", refer to Understanding The "V". For more information about the source of information defaulted onto service agreements, refer to Setting Up Start Options.

> **Warning!** Take special care when adding a new service agreement to specify the appropriate Division and SA Type as it will affect how the customer is billed, what rate can be specified, how overdue debt is collected, and much more. After the service agreement is activated, you may not change its SA type.

Contents
 The Lifecycle Of A Service Agreement
 Service Agreement - Main Information
 Service Agreement - Rate Info
 Service Agreement - SA / SP
 Service Agreement - Chars, Qty & Rec. Charges
 Service Agreement - Miscellaneous
 Service Agreement - Contract Options
 Service Agreement - Interval Info
 Service Agreement - TOU Contract Values
 Service Agreement - Billing Scenarios

The Lifecycle Of A Service Agreement

The following diagram shows the possible lifecycle of a service agreement.

Service Agreement Lifecycle

Pending Start				
Active		Billable States		
	Pending Stop			
Canceled		Stopped	Reactivated	
			Closed	
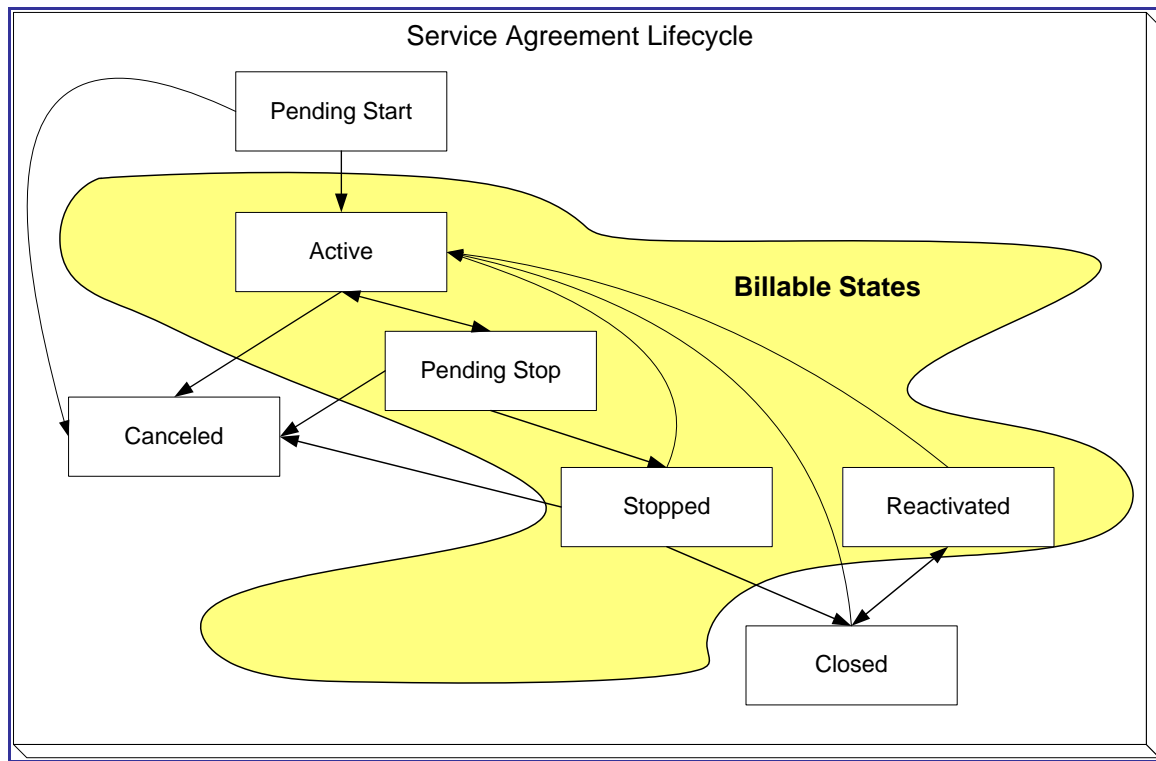
Pending Start

When you initiate a request to start service, the system initiates a service agreement in the state of *Pending Start*. A pending start service agreement remains in this state until everything necessary to start service is defined in the system.

Active

The system automatically changes the state of *Pending Start* service agreements to *Active* when everything necessary to start service exists in the system. Refer to Activating Pending Starts for more information. While in this state, the system bills the service agreement's account for the service.

Pending Stop

When you initiate a request to stop service, the system progresses the service agreement to the *Pending Stop* state. A pending stop service agreement remains in this state until everything necessary to stop service is defined in the system.

Stopped

The system automatically changes the state of ***Pending Stop*** service agreements to ***Stopped*** when everything necessary to stop service exists in the system. Refer to [Finalizing Pending Stops](#) for more information. The service agreement remains in this state until it is paid in full.

A service agreement can be automatically stopped depending on the SA Type configuration of the **Stop Option Flag**. Service agreements configured to automatically stop will be stopped when all SP related SAs of the account are stopped. For example, if an account has a cable service and a charitable contribution service agreement then the charitable contribution service agreement can be configured to automatically stop when the cable service agreement is stopped. The stop date of the charitable contribution will be set equal to the stop date of the electric SA.

Closed

The system moves a service agreement to the ***Closed*** state when it no longer has a financial balance.

Reactivated

The system moves a service agreement to the ***Reactivated*** state if a financial transaction is created after a service agreement is ***Closed*** (e.g., when a payment is canceled after the service agreement is closed). Please be aware that ***Reactivated*** service agreements are processed by the [Write Off Monitor](#).

When the service agreement once again has a zero balance (e.g., because the customer pays or the debt is written off), the service agreement returns to the ***Closed*** state.

Cancelled

You may ***Cancel*** a service agreement if it shouldn't exist (because the customer doesn't want service). While cancellation doesn't physically remove a service agreement from the database, most queries and trees suppress information about canceled service agreements. This means cancellation is a nice way to logically delete undesired service agreements.

You'll notice in the above diagram that you can cancel an ***Active, Pending Stop*** or ***Stopped*** service agreement. You may only do this if the service agreement's financial transactions and non-billed billable charges are all cancelled.

You should rarely have to change a service agreement's status. Why? Because the system changes the status behind-the-scenes when various events take place. For example,

- When you request a service start using the Start/Stop page, the system creates a service agreement in the *pending start* state.

- If you cancel a pending start before service is activated, the system automatically changes the state of the service agreement to *cancelled*.

- When everything necessary to start service exists, the system automatically changes the state of the service agreement to *active*.

- When you request a service stop using the Start/Stop page, the system changes the state of the stopped service agreement to *pending stop* state.

- When everything necessary to stop service exists, the system automatically changes the state of the service agreement to *stopped*.

- When a final payment is received and the stopped service agreement's balance becomes zero, the system automatically changes the state of the service agreement to *closed*. The system can also *close* a service agreement as part of the write-off processing.

- If the payment bounces, the system automatically changes the state of the service agreement to *reactivated*. And the system will change it back to *closed* when the account's balance returns to zero.

- If a billable charge is interfaced into the system, the system automatically changes the state of the service agreement to *reactivated*.

You may need to manually change a service agreement's state for the following reasons:

- If a service agreement was activated inadvertently, you may cancel it (and therefore logically remove it from the system) after canceling all of its financial transactions. You do this by clicking the cancel button on the service agreement page. You may also cancel an incorrect service agreement if the status transitions to pending stop or stopped before you have a chance to correct the mistake.

- If you don't want to wait for the system to automatically activate a pending start service agreement, you may push the activate button on the service agreement page. You might do this in order to create a bill for an impatient customer.

- If you don't want to wait for the system to automatically finalize a pending stop service agreement, you may push the stop button on the service agreement page. You might do this in order to create a real time final bill for a customer.

- If you don't want to wait for the system to automatically close a stopped service agreement, you may push the close button on the service agreement page.

- Sometimes a service agreement is *closed* or *stopped* by mistake. You can activate a *stopped*, *closed*, or *reactivated* service agreement using the **Reinstate SA** button on the service agreement page. Using the **Reinstate SA** button retains the current service's billing history.

> **One time invoices (i.e., one-time billable charges) are interesting.** One-time invoice service agreements follow the above lifecycle; it's just that they do it quickly. You see, when a one-time invoice service agreement is created, both its start and stop dates are known (they are the invoice date). If you followed the above state transition discussion, you'll understand that the system progresses these invoices from pending start to stopped when the service agreement is activated.

Contents

Renewing Service Agreements

Some service agreement types (e.g., non-billed budgets) may allow or require renewal. If renewal is optional, a renewal date may be specified when the service agreement is created. If renewal is required, you must specify a renewal date.

The SA renewal background process initiates the renewal for all *active* service agreements when the renewal date is reached (i.e., the renewal date is on or before the process date). When a service agreement is renewed:

- The SA renewal algorithm (specified on the SA type) is executed. The SA renewal algorithm can be used to customize the processing required to renew an SA.

- If the SA renewal algorithm is successful, the renewal and expiration date (if calculated by the renewal algorithm) on the service agreement are updated with the values returned from the renewal algorithm.

- If the renewal process is not successful, a To Do list entry (of type TD-SARN) is created for the account and service agreement.

Expiring Service Agreements

Service agreements may specify an expiration date. Some service agreement types (e.g., non-billed budgets) require an expiration date. The SA expiration background process initiates the request to stop service for all *active* SAs when the expiration date is reached (i.e. the expiration date is on or before the process date).

Service Agreement - Main Information

The Main page contains basic service agreement information. Open **Customer Information, Service Agreement** to maintain this information.

Description of Page

SA (service agreement) **Info** and **SA ID** are displayed on every page. These values only appear after the service agreement exists on the database. The **ID** is a system assigned random number that stays with a service agreement for life. The **SA Info** is a concatenation of important details about the service agreement and its account.

> **Formatting may be performed by a plug-in.** The contents of **SA Info** may be formatted by a plug-in algorithm on SA Type. Refer to the base package's C1-SAT-INFO for an example. If such an algorithm is not plugged-in on the SA Type, the system looks for a corresponding algorithm on the installation record. Refer to the base package's C1-SAI-INFO for an example. If you prefer different formatting logic, your system administrator should configure the system appropriately.

SA Status defines the state of the service agreement. The system typically changes the state of a service agreement behind-the-scenes. If you can't wait for the system, use one of the adjacent buttons:

- Click the **Activate SA** button to activate a *Pending Start* service agreement.

- Click the **Cancel SA** button to cancel a *Pending Start* or *Active*, *Pending Stop* or *Stopped* service agreement.

- Click the **Initiate Stop** button to populate the **End Date** and change the state of the service agreement to *Pending Stop*.

- Click the **Stop SA** button to stop a *Pending Stop* service agreement.

- Click the **Close SA** button to close a *Stopped* or *Reactivated* service agreement.

- Click the **Reinstate SA** button to reinstate a *Closed*, *Reactivated*, or *Stopped* service agreement to an *Active* service agreement.

> Refer to The Lifecycle of a Service Agreement for more information about **SA Status**.

If the quotation module is not turned off, a "real" service agreement can be created when a proposal service agreement is accepted. If the service agreement you've displayed was created in such a way, information about the **Proposal SA** will appear beneath **SA Status**.

Enter the **Account ID** that is financially responsible for the service agreement. If you change a service agreement's **Account ID**, you are effectively transferring this service agreement (and its debt) to the new account.

Indicate the **CIS Division** and **SA Type**. These fields are very important as they control numerous aspects of the service agreement's behavior. These fields are gray when the status is not *Pending Start*.

> For more information about what the SA type controls, refer to Setting Up SA Types.

The **Start Date** defines when the financial relationship begins. The **End Date** defines when the financial relationship terminates. If the end date is blank, the service agreement has not yet been terminated.

Use **Maximum Bill Threshold** if you want the system to generate a bill error when a bill segment is produced in batch that exceeds a given value. These bill errors will appear on the standard billing queries and To Do lists. If, after reviewing the high value bill segment, a user truly intends to send the bill out, they should regenerate the bill. Refer to How To Correct A Bill Segment That's In Error for more information.

> **Default note.** The value of **Maximum Bill Threshold** defaults from the service agreement's SA type.

If the **SA Type** has a special role of *Interval*, you must enter the **Cutoff Time** and **Start Day Option** that is used by interval pricing and derivation algorithms to determine the start and end intervals to process. Similarly, if the **SA Type** has a special role of *Bill Determinants Required*, you must enter the **Cutoff Time** and **Start Day Option** that is used on a bill determinants usage request. Refer to Start and End Times for Billing for more information about how these fields are used.

- The **Cutoff Time** is entered in "legal time". This value defaults from either the start option or the installation record. Refer to Bill Period and Seasonal Time Shifts for information describing how this field is used.

- For **Start Day Option**, you may choose *Current Day* or *Previous Day*. This value defaults from either the start option or the installation record.

Use **Customer Read** to define if the customer reads his or her own meter. Valid values are: *Yes*, *No*.

Turn on **Allow Estimates** if it's OK for the billing process to estimate this service agreement's consumption if a real meter read is missing at billing time. If the SA type does not allow estimates, this field will be gray.

> **Consumption estimation.** Consumption is only estimated by billing if all of the following points are true:
> a) A real read cannot be found;
> b) The service agreement allows estimation;
> c) The bill cycle schedule allows estimation (if the bill is produced by the BILLING background process);
> d) The operator allows estimation (if the bill is produced as a result of an ad hoc request);
> e) The rate schedule allows estimation;
> f) The register is subtractive;
> g) The register does not measure peak consumption.

If you've set up the system to use start options, you can have the system default many fields by copying the terms from a start option when service is started using either Start / Stop or the Order transaction. The **Start Option** field contains the last start option whose field values were copied to the service agreement. If you need to change a service agreement's terms by applying a different start option, you can. Refer to Changing A Start Option for a description of how to do this.

If the service agreement's rate uses premise-based characteristics for taxation and other purposes, **Char**acteristic **Premise ID** defines the premise that supplies these characteristics. This field also defines the premise under which the service agreement's bill segments are classified and is used to identify where the service agreement's service is located on various windows. This field is gray if the service agreement's SA type doesn't require a characteristic premise. For more information about rates and their use of characteristics, refer to Setting Up Bill Factors.

> **Selecting a characteristic premise.** If the service agreement has service points, only premises associated with these service points may be selected as a **Char Premise**. If the service agreement doesn't have service points, any premise may be selected.

Your conversion process will fill in **Old Account ID** for service agreements that were converted from your legacy CIS system. The payment upload process uses this field to locate the accounts for payments that reference a legacy account number.

If the service agreement requires a total amount to bill, the amount is displayed. This field is typically only used on loan or cash deposit service agreements. It holds either the loan amount or the desired cash deposit. If you increase this field's value, the customer will be billed for any difference between the new amount and the total amount billed (and paid for) to date. The label that appears for this field is defined on the SA type (on the Billing tab). We recommend that the system be set up so that this label is very specific, for example:

- It should be called **Cash Deposit Amount** if the total amount to bill is for a deposit.

- It should be called **Loan Amount** if the total amount to bill is for a loan.

Number of Payment Periods only appears for loan SA types. It displays the number of periods specified when the loan was first activated. (The number of payment periods may have been subsequently changed on Loan maintenance.)

If the service agreement uses a recurring charge, the current recurring charge amount is displayed. Transfer to the Service Agreement - Recurring Charge to update this value. This field is not visible if the service agreement's SA type doesn't allow recurring charges. The label that appears for this field is defined on the SA type (on the Billing tab). We recommend that the system be set up so that this label is very specific, for example:

- It should contain **Budget Amount** if the recurring charge is for a budget.

- It should contain **Installment Amount** if the recurring charge is used for a deposit being paid in installments.

- It should contain **Payment Amount** if the recurring charge is used for a loan.

SA Relationship ID contains the ID of the SA Relationship that is associated with a sub service agreement. This field is only visible on sub service agreements. Refer to Sub Service Agreements for more information.

CIAC Review Date displays the last date that the Contributions In Aid of Construction (CIAC) review process ran for this service agreement. This field is only visible if the SA type indicates this is a CIAC service agreement. Refer to CIAC Segmentation for more information on CIAC.

Deposit Interest Calculated contains the last date the system applied interest. This field is only visible if the SA type has a special role of *Cash Deposit*.

The **Sched**uled **Payment Autopay** flag determines if the non-billed budget scheduled payments are excluded from automatic payment or included by automatic payment. If the account is not set up for automatic payment for the period that covers the non-billed budget, this flag cannot be set. This field is only visible if the SA has a special role of *Non-billed Budget*.

The **NBB Recommendation Rule** displays the description of the non-billed budget recommendation rule used for this SA. This field is only visible if the SA has a special role of *Non-billed Budget*.

Expiration Date contains the date at which the service agreement is set to expire.

Renewal Date contains the date at which the service agreement is to be renewed. Renewal date is disabled if renewal is not allowed on the SA type.

Debt Class indicates the debt class into which the service agreement's current balance is categorized by credit and collections. A service agreement's debt class is defined on its SA type. Refer to Different Collection Criteria For Different Customers And Different Debt for more information about debt class.

Current Balance indicates the amount the customer currently owes for the service.

Payoff Balance indicates the amount the customer would owe if they wanted to close the service agreement. This value is only displayed when it differs from current balance.

Refer to Current Amount versus Payoff Amount for more information.

The **Days Old** and **Arrears Amount** information shows how old the current balance is. This information will be blank if the current balance is a credit.

> **Note.** Information about debt balances by age is not applicable to <u>open-item accounts</u>.

This bottom of this page contains a <u>tree</u> that shows the various objects linked to the service agreement. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

The topics that follow describe miscellaneous features on this page.

Contents

Changing A Start Option

If the service agreement is in the ***pending start*** state, you can use the <u>Start/Stop - Pending SAs</u> page to change the service agreement's SA type and/or start option.

If the service agreement is in the ***active*** or ***pending stop*** states and if the SA type uses <u>start options</u>, a button appears on Service Agreement - Main called **Apply New Start Option**. When clicked, the **Apply New Start Option** dialog box opens.

The fields in this dialog box allow you to define a **Start Option** whose terms should be copied to the service agreement as of a given effective date (**Apply Start Option on**). Because most terms on a service agreement are effective-dated, it's important that you understand the following ramifications of applying a start option (note, we use the word "terms" to generically reference any of the fields that can be defaulted from a start option):

- Terms are reused if **Start Option** contains the same value as defined in the service agreement. For example,

  - If the **Start Option** references the same rate as defined in the service agreement, a new rate record will NOT be created.

  - If the **Start Option** references a contract rider that's currently defined in the service agreement, a new rider will NOT be created.

- Terms that support explicit expiration (i.e., those with an end date) are expired if they are not referenced on the new **start option**. For example, if the service agreement has a rider that is not referenced on the new **start option**, it will be expired.

> **Note:** Interval profiles and TOU maps are expired using the Start Day Option and Cutoff Time in the new start option and not the existing values for the SA.

- Terms that support implicit expiration (i.e., those without an end date) are left unchanged if they are not referenced on the new **start option**. For example, a service agreement characteristic that isn't referenced on the new **start option** will NOT be modified when a new start option is applied.

> **Only start options related to the service agreement's SA type can be used.** It should be noted that only start options related to the service agreement's SA type can be specified. If the service agreement is in the ***pending start*** state, you can change the service agreement's SA type on the **Main** tab or via <u>Start/Stop - Pending SAs</u>. If the service agreement is ***active***, you may not change its SA type.

When you click **OK** a warning window will appear that summarizes the changes that will be made to the service agreement. After confirming what will be changed, click **OK** to change the service agreement's terms. The **Start Option** that is shown on the **Main** tab will now reflect the start option whose terms were just applied.

The Impact of Proposal Service Agreements

If the quotation module is not turned off, you may display a proposal service agreement on Service Agreement - Main. This section describes how Service Agreement - Main differs when a proposal service agreement is displayed.

The **SA Status** section is replaced with a section that shows the status of the proposal service agreement (proposal SA).

Proposal SA Status defines the state of the proposal service agreement. The Quote Maintenance transaction typically changes the status of a proposal SA when users accept, decline and cancel quote details. If you wish to change the status of a proposal SA independent of this transaction, you can press one of the adjacent buttons

- Click the **Activate** button to change the status from *Pending* to *Quotable*. Note, you can set up the system to automatically make newly created proposal SAs quotable by plugging in the appropriate *Proposal SA Creation* algorithm on the SA's SA type.

- Click the **Accept** button to change the status from *Quotable* to *Accepted*. When you accept a proposal SA, you will be asked to supply the **Start Date** of the real service agreement that will be created.

- Click the **Decline** button to change the status from *Quotable* to *Declined*. When you decline a proposal SA, you will be asked to supply a **Decline Reason**.

- Click the **Cancel** button to change the status from *Quotable* to *Canceled*.

- Click the **Reactivate** button to return a *Canceled* or *Declined* proposal SA to the *Quotable* state.

Refer to Proposal SA State Transition for more information about **Proposal SA Status**.

If the proposal SA has been declined, the **Decline Reason** appears beneath **Proposal SA Status**. Refer to Accepting / Declining Quote Details for more information.

It the proposal SA was changed after a quote detail was generated using the proposal SA's terms, a **Remark** appears beneath **Proposal SA Status** highlighting such.

Changing A Start Option. You can Apply A New Start Option on pending and quotable proposal SAs.

If a real service agreement was created when the proposal SA was accepted, **Real SA ID** appears and contains the ID of the real service agreement. Refer to Accepting / Declining Quote Details for more information.

Service Agreement - Rate Info

The rate info page contains the service agreement's rate and information needed by the rate to calculate the service agreement's bill segments. This information is only displayed if the service agreement's SA type allows a rate.

Open **Customer Information, Service Agreement** and navigate to the **Rate Info** tab to access this page.

Description of Page

The **Rate** grid controls the rate used to calculate the service agreement's bill segments. Multiple rows will only exist if the service agreement's **Rate** changes over time.

A service agreement's **Rate** is populated by the system when service is started. The method used to populate the initial **Rate** depends on how service is started and whether you use start options:

- If the service agreement's SA type uses start options:

    - If the Order transaction is used to start service, the rate is populated using the start option associated with the package that was selected by the user when the order was completed.

    - If Start / Stop is used to start service, the rate is populated using the start option selected by the user when service was initiated.

- If the service agreement's SA type does not use start options, the SA type's default rate is populated on the service agreement.

Billing selects a single rate from the **Rate** grid when it calculates a bill segment for the service agreement. If multiple rates are defined in this grid, the rate is selected based on the service agreement's SA type's Rate Selection Date. The following fields display:

- **Effective Date** is the date the rate becomes effective. The service agreement's start date defaults.

- **Rate Schedule** defines the rate used to calculate the service agreement's bill segments. Note, you can only choose rates defined as permissible on the service agreement's SA type; the permissible rates are shown in the adjacent tree.

> **Possible override**. If your service agreement is linked to a terms of service record, it is possible that the rate used by the system could get overridden by one referenced on the terms of service. If the rate is overridden by the TOS, the tree on this page indicates the rate source.

The **Contract Rider** grid contains the contract riders that are in effect for the service agreement. This information is defaulted when service is started using a start option (using the contract rider information defined on the start option). You should only have to access this section if you need to fine-tune what the system defaults.

Billing uses this information when it calculates a bill segment for the service agreement if:

- The rate used to calculate the bill segment contains a rate component that references a bill factor.

- The referenced bill factor requires a contract rider to levy the associated charge.

If a **Contract Rider** does not exist or is not effective, the charge associated with the rate component is not applied to the customer's bill.

To modify a contract rider linked to the service agreement, simply move to a field and change its value. To remove a contract rider, click the - button. To add a new contract rider, click the + button and fill in the information for each field. The following fields display:

- Use **Start Date** to define the date on which the contract rider becomes effective. The service agreement's start date defaults.

- Use **End Date** to define the date on which the contract rider expires. This field need only be specified if the contract rider expires on an explicit date.

- Use **Bill Factor** to define the type of rider. You may only reference **Bill Factors** designated as being applicable for contract riders. Note, the **Bill Factors** linked to the rate that are marked with contract rider applicability are shown in the adjacent tree under the Contract Rider node.

For more information about contract riders, refer to Defining General Bill Factor Information.

The **Contract Values** grid contains the contract values that are in effect for the service agreement. This information is defaulted when service is started using the contract value information defined on the start option used to start service (if any). You should only have to access this page if you need to fine-tune what the system defaults.

Billing uses this information when it calculates a bill segment for the service agreement if:

- The rate used to calculate the bill segment contains a rate component that references a bill factor.

- The referenced bill factor uses a contract value to define the amount charged.

The following fields display:

- Use **Start Date** to define the date on which the contract value becomes effective. The service agreement's start date defaults.

- Use **End Date** to define the date on which the contract value expires. This field need only be specified if the value rider expires on an explicit date.

- Use **Bill Factor** to define the type of value. You may only reference **Bill Factors** designated as allowing values in contract terms. Note, the **Bill Factors** linked to the rate that are marked as allowing values in contract terms are shown in the adjacent tree under the Contract Value node.

- Use **Value** to define contract value.

For more information about contract values, refer to Defining General Bill Factor Information.

The **Tax Exemptions** section contains the taxes from which the service agreement is all or partially exempt.

Billing uses this information when it calculates a bill segment for the service agreement if:

- The rate used to calculate the bill segment contains a rate component that references a bill factor.

- The referenced bill factor can have tax exemptions that limit the amount of the charge.

If the bill factor doesn't have a tax exemption or there are none that are effective during the bill period, the tax is levied in full. If the service agreement is exempt, the appropriate charge associated with the tax is calculated. We strongly recommend using the "%T" substitution character in the Description on Bill on tax-exemptible rate components so that an appropriate tax exemption message appears on the customer's bill.

> For more information about tax exemptions, refer to <u>Defining General Bill Factor Information</u>.

The following fields display:

- Use **Start Date** to define the date on which the tax exemption becomes effective.

- Use **End Date** to define the date on which the tax exemption expires.

- Use **Bill Factor** to define the tax from which the service agreement is exempt. You may only reference bill factors designated as being tax exemptible. Note, the **Bill Factors** linked to the rate that are marked as tax exemptible are shown in the adjacent tree under the Tax Exemption node.

- Use **Percent Exempt** to define the customer tax exemption percent (e.g., 90 means the customer is 90% exempt and will only pay 10% of the normal tax rate).

- Use **Tax Exempt Type** to specify the type of exemption.

- Use **Tax Certification** if the customer has a tax exemption certificate.

Rate Information Tree

The <u>tree</u> shows the service agreement's permissible rates and the related types of contract riders, contract values and tax exemptions that are possible given these rates.

- The Permissible Rates node displays all the rate schedules associated with the service agreement's SA Type.

- The Effective Rate Schedule node indicates the rate schedule currently effective.

- The Contract Rider node displays the bill factors linked to the service agreement's rate(s) that may have contract riders defined for them. If you expand a node, you can see the individual rate component(s) on which the bill factor is specified. If the service agreement has a value defined for the contract rider that is currently in effect, it is also shown.

- The Contract Value node displays all the bill factors linked to the service agreement's rate(s) that may have contract values defined for them. If you expand a node, you can see the individual rate component(s) on which the bill factor is specified. If the service agreement has a contract value defined that is currently in effect, it is also shown.

- The Tax Exemption node displays all the bill factors linked to the service agreement's rate(s) that may have tax exemptions defined for them. If you expand a node, you can see the individual rate component(s) on which the bill factor is specified. If the service agreement has a tax exemption defined for the bill factor that is currently in effect, it is also shown.

If the service agreement is currently linked to a terms of service record for an effective umbrella agreement, additional information is displayed in the tree.

- The Permissible Rates node displays the rate source value associated with the service agreement's SA Type.

- If the terms of service record linked to the service agreement has a template SA and the rate source is **_Check TOS First, then SA_**, the Effective Rate Schedule node displays the rate schedule for the template SA. An additional node indicating whether the rate source is the template SA or the current SA is displayed below.

- The Contract Rider, Contract Value and Tax Exemption nodes include the terms of service usage value from the bill factor.

> Refer to Rate Terms Overridden By Terms Of Service for more information.

Service Agreement - SA / SP

The SA / SP page contains the service points that are linked to the service agreement. This information is only displayed if the service agreement's SA type allows service points.

This information is updated by the system when service is started. You should only have to access this page if you need to fine-tune what the system defaults.

> **Warning!** You must understand the "V" very well before attempting to maintain this information. Refer to Understanding The "V" **for more information**.

Use **Customer Information, Service Agreement** and navigate to the **SA/SP** tab to open this page.

Description of Page

Billing uses **SA / SP** information to amalgamate consumption when it calculates a bill segment for the service agreement. The following fields are displayed:

Service Point ID	The identity of the service point. The type and location of the service point is displayed adjacent. This field is gray after the service point is committed to the database.
Meter/Item Info	The meter / item that is currently installed at the service point is displayed. Refer to Installing and Removing A Meter and Installing and Removing An Item for more information.
How to Use (SP)	Indicates how billing uses the consumption associated with the service point. This field is gray for item-type service points. Valid values are: *Add*, *Check*, *Subtract*. *Add* service points have their consumption added to the total amount of consumption billed under a service agreement. *Subtract* service points have their consumption subtracted from the total amount of consumption billed under a service agreement. *Check* service points are ignored by billing.
Use Percent	Indicates the percentage of this service point's consumption that is billed under the service agreement. This field is gray for item-type service points.

Start Date/Time

The date and time the service point's consumption starts being billed under the service agreement. The service agreement's start date defaults. If the **SA Type** has a special role of *Bill Determinants Required*, the system sets this date based on the service agreement's start date, the service agreement's start day option and cutoff time, and the SA Type's initial start date option to reflect the earliest possible date/time that usage may be requested for the SA.

Start Meter Read

The meter read that records the register values, as they appeared when the service point was linked to the service agreement. The meter reading's date and time are displayed adjacent. This field is disabled for item-type service points.

Note. Only meter reads that have been marked as "Use on Bill" may be specified.

Stop Date/Time

The date and time the service point's consumption stops being billed under the service agreement. If the **SA Type** has a special role of *Bill Determinants Required*, the system sets this date based on the service agreement's stop date and the service agreement's start day option and cutoff time to reflect the latest possible date/time that usage may be requested for the SA.

Stop Meter Read

The meter read that records the register values as they appeared when the service point was unlinked from the service agreement. The meter reading's date and time are displayed adjacent. This field is disabled for item-type service points.

Note. Only meter reads that have been marked as "Use on Bill" may be specified.

The **Field Activity** grid contains the list of field activities that have been generated in respect of this SA / SP. Refer to Field Activities to Start Service, Field Activities to Stop Service and The Big Picture Of Severance Events for more information.

Field Activity

The unique ID of any field activity associated with starting, stopping, investigating, or severing the service at the service point.

Field Activity Type

Indicates why the field activity is linked to the SA/SP. Valid values are *Start Activity*, *Stop Activity*, *Severance Activity*, or *Service Activity*.

The **Characteristics** grid contains characteristics that are only applicable for a given SA / SP combination. These are typically only used for obscure SA/SP relationships for which unusual pricing terms or interval billing options have been set up.

> **Note.** You can only choose characteristic types defined as permissible on the SA/SP record. Refer to Setting Up Characteristic Types & Their Values for more information.

The following fields display:

Effective Date　　　　　　　　Indicate the date on which the characteristic value becomes effective. The service agreement's start date defaults.

Characteristic Type　　　　　　　　Indicate the type of characteristic.

Characteristic Value　　　　　　　　Indicate the value of the characteristic.

Service Agreement - Chars, Qty & Rec. Charges

This page contains the Characteristics, Contract Quantities and Recurring Charges that are in effect for the service agreement.

Use **Customer Information, Service Agreement** and navigate to the **Chars, Qty & Rec. Charges** tab to open this page.

Description of Page

The **Characteristics** grid contains information that describes miscellaneous information about the service agreement. This information is defaulted when service is started using the characteristics defined on the start option used to start service (if any). You should only have to access this section if you need to fine-tune what the system defaults.

> **Note.** You can only choose characteristic types defined as permissible on the service agreement record. Refer to Setting Up Characteristic Types & Their Values for more information.

The following fields display:

Effective Date　　　　　　　　Indicate the date on which the characteristic value becomes effective. The service agreement's start date defaults.

Characteristic Type　　　　　　　　Indicate the type of characteristic.

Characteristic Value　　　　　　　　Indicate the value of the characteristic.

The **Contract Quantity** grid contains the contract quantities that are in effect for the service agreement. This information is defaulted when service is started using the contract quantities defined on the start option used to start service (if any). You should only have to access this section if you need to fine-tune what the system defaults.

Billing may use this information when it calculates a bill segment for the service agreement if the rate has SQ (service quantity) rules or register rules. Refer to Defining Measured Quantity Manipulation Rules for more information.

The following fields display:

Effective Date　　　　　　　　The date this quantity becomes effective. The service agreement's start date defaults.

Contract Quantity Type　　　　　　　　The type of contract quantity.

Contract Quantity   The contract quantity.

The **Recurring Charge** section contains effective-dated information that defines the recurring charge amount used to calculate the service agreement's bill segments. This information is only displayed if the service agreement's SA type allows a recurring charge amount.

A service agreement's recurring charge amount history is updated by the system behind-the-scenes as part of the Start Service process. The budget recalculation process can also update this information. You should only have to access this section if you need to change a service agreement's recurring charge amount on some future date.

Billing uses recurring charge information to select the appropriate recurring charge when it calculates a bill segment for the service agreement. To modify a recurring charge, simply move to a field and change its value. To change the recurring charge amount effective on a given date, click the + button to insert a row, then fill in the information for each field. The following fields display:

Effective Date   The date the charge becomes effective. The service agreement's start date defaults.

> **Recurring charge changes during a bill period.** Only one recurring charge will be used on any bill segment. The system selects the recurring charge value effective on the end date of the bill segment.

Recurring Charge Amount   The recurring charge amount.

Service Agreement - Miscellaneous

The miscellaneous page contains information that describes miscellaneous information about the service agreement. Use **Customer Information, Service Agreement, Misc** to open this page.

Description of Page

Start Requested By displays the information entered in the Requested By field on the Start Stop page when this SA was started.

Stop Requested By displays the information entered in the Requested By field on the Start Stop page when this SA was stopped.

Select the **SIC Code** associated with the customer. This is typically only used for commercial and industrial customers.

Enter a **Business Activity** associated with the customer. This can be used to further define what types of activities are served by this contract.

The bill message grid contains information about the message(s) to appear on a service agreement's bill segments. Both one-time and permanent messages may be defined. This information is used when the system assembles messages to appear on an account's bill (as part of bill completion). Refer to The Source Of Bill Messages for more information. The following fields are displayed:

- For **Bill Message Code**, select a message code to appear on the customer's bill.

- For **Bill Message Type**, use *Temporary* to indicate the message should only be linked to the next bill produced for the account. Use *Permanent* if the message should appear on every bill. Note, a value of *Temporary* defaults.

The terms and conditions (T&C) grid contains the service agreement's T&C's. This information is defaulted when service is started using a start option (using the T&C information defined on the start option). You should only need to change this information if you need to fine-tune the defaults. Refer to Legal Terms and Conditions May Be Specified on Service Agreements for more information. The following fields display:

- Use **Start Date** to define the date on which the T&C becomes effective. The service agreement's start date defaults.

- Use **End Date** to define the date on which the T&C expires. This field need only be specified if the T&C expires on an explicit date.

- Use **Terms and Conditions** to define the type of T&C.

Service Agreement - Contract Options

The contract options page contains the contract options and contract option events for interval billing service agreements. Refer to Contract Option Background Topics for more information.

> **This tab may not appear.** This tab is suppressed if the interval billing *Complex Billing* module is turned off.

Open this page using **Customer Information, Service Agreement** and then navigate to the **Contract Options** tab.

Description of Page

The **Contract Option** collection contains effective-dated information that defines the contract options linked to the service agreement. The following information may be defined for each contract option:

Contract Option Id	This is the id of the contract option to link to the service agreement. The **SA Contract Option ID** is displayed adjacent. This is the unique identifier of the SA / contract option record.
Effective Date/Time	This is the date and time that the contract option is in effect for the service agreement.
Expiration Date/Time	This is the date and time that the contract option is no longer in effect for the service agreement.

The **Override Events Collection** contains information about the override events for a shared contract option. Refer to SA May Override a Shared Event for more information.

If a contract option event for a shared contract option should not be applicable to this service agreement, enter the **Contract Option Event ID**, the **Override Date/Time** that the override is effective and the **Status**. The status value of *Active* means that the override is in effect. The status value of *Inactive* 'cancels' the override, meaning that the event is applicable to this service agreement.

If seasonal time shift records are linked to both the base time zone and to the time zone on the service agreement's characteristic premise, the **Seasonal Time Shift** associated with the time zone on the characteristic premise is displayed. Refer to Time Zone and Time Changes for more information.

The **Seasonal Time Shift Remark** indicates whether the data is displayed and should be entered in legal time or standard time. Refer to Interval Time Display for more information. If the data is displayed in legal time use the **Show in Standard** button to toggle to standard time. If the data is displayed in standard time use the **Show in Legal** button to toggle to legal time.

Service Agreement - Interval Info

The interval info page contains various collections needed by an interval service agreement. This information may be used by validation and derivation algorithms or may be used by interval and time of use pricing algorithms. Refer to Interval Billing for more information.

This tab may not appear. This tab is suppressed if the interval billing *Complex Billing* module is turned off.

Open this page using **Customer Information, Service Agreement** and then navigate to the **Interval Info** tab.

Description of Page

The tree at the bottom of this page shows information about interval profiles and TOU maps that are referenced in the rate components linked to one of the service agreement's rates.

- A node will display for each Interval Profile Relationship Type, which is priced directly, i.e., it is referenced on a rate component with an RC Type of *Interval Pricing*. When this node is expanded, information about every *Interval Pricing* rate component, which references this relationship type is displayed.

- A node will display for each TOU Map Relationship Type and Interval Profile Relationship Type, which are referenced on a rate component with an RC Type of *TOU Pricing*. When this node is expanded, information about every *TOU Pricing* rate component, which references these relationship type is displayed.

- A node will display for each Interval Profile Relationship Type, which is referenced on a rate component with a generic RC Type of *Calculation Algorithm*. When this node is expanded, information about every *Calculation Algorithm* rate component, which references this relationship type is displayed.

- A node will display for each TOU Map Relationship Type, which is referenced on a rate component with a generic RC Type of *Calculation Algorithm*. When this node is expanded, information about every *Calculation Algorithm* rate component, which references this relationship type is displayed.

The **Interval Profile** collection contains effective-dated information that defines the interval profiles linked to the service agreement. Refer to Interval Pricing Background Topics for more information.

To link an interval profile to a service agreement, enter the Interval Profile Relationship Type that defines the role that this interval profile will serve for the service agreement. Choose the Interval Profile Id for the profile that you wish to link to this service agreement. This profile may be *Common* or *SA Owned*.

If the profile does not exist yet, then you must create it. Refer to How to Link Common Profiles to a Service Agreement and How to Link SA Owned Profiles to a Service Agreement for more information.

The **Start Date/Time** indicates the date and time that this profile is linked to the service agreement for this profile relationship type.

The **End Date/Time** indicates the date and time that this profile is no longer linked to the service agreement for this profile relationship type.

The **Status** values are *Active* and *Inactive*. By default, all records are active. The system will use the start date/time and end date/time to ensure that it processes the correct profile for the SA and Profile Relationship Type for the correct time period. No two profiles may be active for the same SA, Profile Relationship Type and overlapping time period. A user may change the status of a record to *Inactive*. The system will not change this status.

If data for this profile is derived using a creation algorithm on the interval profile's profile type, then the **Derivation Algorithm** and the **Creation Priority** for the interval profile type are displayed.

Refer to Setting Up Interval Profile Types for more information about linking data creation algorithms to an interval profile type.

The **Derive Interval Data** button will be enabled when the service agreement is in a billable status. Use this button to create profile data through data derivation. Clicking this button opens the **Derive Interval Data** dialog box.

In the resulting dialog box, turn on **Force Derivation** and enter a **Force Derivation Start Date** if you wish the system to re-derive data for a period that may have already been derived.

Note. Not all algorithms will necessarily support force derivation. It depends on whether or not the algorithm can detect changes in the source data.

Enter the **Cutoff Date** to indicate to the system until what date to generate data for.

After clicking **Process**, the system will execute any "Interval Data Creation" derivation algorithm linked to the profile type of an *SA Owned* profile where this SA is the owner. The algorithms are executed in creation priority order.

Note. You can design your control tables so that the appropriate *common* and *SA-owned* profiles are linked to the service agreement at start time. Refer to Designing Your Interval Billing Start Options for more information about designing and setting up these start options.

The **TOU Map** collection contains effective-dated information that defines the TOU maps linked to the service agreement. Refer to Time of Use Mapping Background Topics for more information.

To link a TOU map to a service agreement, enter the **TOU Relationship Type** that defines the role that this TOU map will serve for the service agreement. Choose the **TOU Map ID** for the map that you wish to link to the service agreement. This map may be *Common* or *SA Owned*.

The **Start Date/Time** indicates the date and time that this TOU map is linked to the service agreement for this TOU map relationship type.

The **End Date/Time** indicates the date and time that this TOU map is no longer linked to the service agreement for this TOU map relationship type.

The **Status** values are *Active* and *Inactive*. By default, all records are active. The system will use the start date/time and end date/time to ensure that it processes the correct map for the SA and Map Relationship Type for the correct time period. No two maps may be active for the same SA, Map Relationship Type and overlapping time period. A user may change the status of a record to *Inactive*. The system will not change this status.

If data for this map may be created using a creation algorithm on the TOU map's map type, then the **Derivation Algorithm** and the **Creation Priority** for the TOU map type are displayed.

The **Derive TOU Data** button will be enabled when the service agreement is in a billable status. Use this button to automatically create TOU map data. Clicking this button opens the **Derive Interval Data** dialog box.

In the resulting dialog box, turn on **Force Derivation** and enter a **Force Derivation Start Date** if you wish the system to re-derive data for a period that may have already been derived.

> **Note**. Not all algorithms will necessarily support force derivation. It depends on whether or not the algorithm can detect changes in the source data.

Enter the **Cutoff Date** to indicate to the system until what date to generate data for.

After clicking **Process**, the system will execute any "TOU Data Creation" algorithm linked to the TOU map type of an *SA Owned* profile where this SA is the owner. The algorithms are executed in creation priority order.

> **Note.** You can design your control tables so that the appropriate *common* and *SA owned* TOU maps are linked to the service agreement at start time. Refer to Designing Your Interval Billing Start Options for more information about designing and setting up these start options.

If seasonal time shift records are linked to both the base time zone and to the time zone on the service agreement's characteristic premise, the **Seasonal Time Shift** associated with the time zone on the characteristic premise is displayed. Refer to Time Zone and Time Changes for more information.

The **Seasonal Time Shift Remark** indicates whether the data is displayed and should be entered in legal time or standard time. Refer to Interval Time Display for more information. If the data is displayed in legal time use the **Show in Standard** button to toggle to standard time. If the data is displayed in standard time use the **Show in Legal** button to toggle to legal time.

Service Agreement - TOU Contract Values

This page enables you to define customer specific time of use values. Refer to Customer Specific TOU Values for more information.

Open this page using **Customer Information, Service Agreement, TOU Contract Values**.

Description of Page

The service agreement may contain a collection of TOU contract values, which change over time.

Choose the **Bill Factor** that defines the type of value. You may only reference bill factors designated as "TOU" bill factor types and where the value may be in contract terms.

Indicate the **TOU Group** that corresponds with the TOU group on the service agreement's TOU Map. Once entered, the collection of TOU codes linked to this TOU group will display.

For a given TOU contract value entry, the **Start Date** and **End Date** indicate when these TOU values are effective.

For each **Time of Use** code, enter the appropriate **Value**.

TOU Contract Values Tree

The tree shows bill factors linked to the service agreement's rate that may have TOU contract values defined for them.

Service Agreement - Billing Scenarios

> **This tab may not appear.** This tab is suppressed if the quotation *Contract Management* module is turned off.

This page allows you to define a proposal service agreement's billing scenarios. Refer to Proposal SAs Contain Billing Scenarios for more information.

Open this page using **Customer Information, Service Agreement, Billing Scenarios**.

Description of Page

This page is protected if the service agreement being displayed is not a proposal service agreement.

When a quote is generated for a proposal SA, the system creates a simulated bill segment for each billing scenario linked to the proposal SA. Each simulated bill segment shows the prospect how much their bill would be if the pricing terms on the proposal SA were applied to the billing scenario's consumption in the related time period.

> **You should not have to enter this information from scratch.** You can set up the system to automatically generate billing scenarios when a proposal SA is created. Refer to Proposal SAs Contain Billing Scenarios for the details.

The following information is defined for each billing scenario:

- **Start Date** and **End Date** define the simulated bill segment's period.

- The grid contains the consumption that will be priced during this period:

    - **Unit of Measure** is the unit of measure of the service quantity.

    - **TOU** is the time-of-use code of the service quantity.

    - **SQI** is the service quantity identifier of the service quantity.

    - **Initial Service Quantity** is the initial quantity passed to the rate (and massaged by the rate's SQ rules).

    - **Service Point ID** is used if your rate uses register rules that require characteristic values from the service point or premise. For example, the register rule that converts CCF to therms uses a bill factor to store the conversion factor. This bill factor may have been configured to use characteristics on the service point / premise (e.g., the conversion factor may differ based on the storage location associated with the service point).

> **Interval service agreements and template consumption.** Refer to <u>Proposal SAs And Interval</u> <u>Consumption</u> for a description of how interval consumption is defined on a proposal SA.

Maintaining SA Relationships

The SA Relationship page contains information about a specific relationship between a service provider and a customer.

> **Warning!** The following page looks deceptively simple. It's not. Refer to <u>The Big Picture of SA</u> <u>Relationships and Service Providers</u> **for more information**.

Open **Customer Information, SA Relationship** to maintain this information.

Description of Page

The **SA Relationship Info** is a concatenation of important information about the SA relationship record. The **SA Rel ID** is a system-assigned random number that stays with a SA relationship record for life. This value is assigned when the record is added to the database.

SA Relationship Status defines the state of the SA relationship. The buttons beneath the status are used to change the state:

- Click the **Activate SA Rel** button to activate a *Pending* SA relationship. This button is only enabled when the status of the SA relationship is *Pending*.

- Click the **Cancel SA Rel** button to *Cancel* an *Active* or *Pending* SA relationship. This button is only enabled when the status of the SA relationship is *Active* or *Pending*.

> **Automatic SA Relationship creation and activation.** The system automatically creates and activates required SA Relationships when the Activate SA background process sees that there are required SA relationships for the master SA Type.

Account ID is the account associated with the **Service Agreement ID**. This field is protected after the SA relationship has been added to the database.

Use **Service Agreement** to define the "master" service agreement ID that has a relationship. This field is protected after the SA relationship has been added to the database.

Premise is a display-only field that shows the **Service Agreement**'s characteristic premise (i.e., the primary premise associated with the service agreement).

Use **SA Relationship Type** to define the type of relationship. This field is only enabled if:

- a **Service Agreement ID** is specified, and

- the status of the SA Relationship is not *Cancelled*, and

- all sub SAs in the grid at the bottom of the page (if any) are *Cancelled*.

Enter the **Effective Date** of the relationship. This field is only enabled if:

- a **SA Rel Type** is specified, and

- the status of the SA Relationship is not *Cancelled*.

Usage defines how this relationship is used. The following options are available:

- *Relationship With SPr*. Use this option if this relationship is used to define a relationship between a customer and a service provider.

- *Expire SA Relationship*. Use this option if this relationship expires any prior relationship between a customer and a service provider and there is no relationship with a service provider going forward.

The **Service Provider** associated with this relationship is the one who provides the related service, if any. You can only choose service providers who are linked to the "master" service agreement's SA type and the above **SA Rel Type**. This field is only enabled if:

- **Usage** is *Relationship with SPr*, and

- a **SA Rel Type** is specified, and

- the status of the SA Relationship is not *Cancelled*, and

- all sub SAs in the grid at the bottom of the page (if any) are *Cancelled*.

If the **Service Provider** reads the customer's meter (as defined on the service provider's record), the customer's override **Read Cycle** should be defined. This field is only enabled if:

- a **Service Provider** is specified, and

- the **Service Provider** has the ability to override the service point's *service cycle*, and

- the status of the SA Relationship is not *Cancelled*

The **Account Number in Provider's CIS** is the customer's ID in the service provider's system. This field is only enabled if:

- a **SA Rel Type** is specified, and

- the status of the SA Relationship is not *Cancelled*.

The **Create Sub SA** button is used to create Sub Service Agreements for a service provider for which your organization provides billing services. This button will be gray if:

- you do not provide billing services for the service provider (i.e., the service provider doesn't have a billing relationship of *It's Us* or *We Bill For Them*), or

- if the SA relationship's **Status** is not *active*, or

- if the status of the master **Service Agreement** is not *Active*, *Pending Start* or *Pending Stop*.

The grid at the bottom contains the sub service agreements (if any) that exist when your organization provides billing service for the **Service Provider**. You can click the Go To button on a row to transfer to the sub service agreement. Refer to Sub Service Agreements for more information. Note: you can click the **Create Sub SA** button to create sub service agreements for a service provider.

Automatic sub SA creation. The system will automatically create sub service agreements for you. It does this when the Analyze SA Relationships background process (known by the batch control ID of *ANLYZSAR*) sees that a new SA relationship has been activated.

Service Provider SA Relationship

Use this page to manage a service provider's SA relationships and customers. You can view a given service provider's SA relationships of a given type that is in effect on a specified date. You can expire existing relationships or add new relationships. This page is particularly useful for managing negotiated terms.

Open **Customer Information - Service Provider SA Relationship** to view this information.

Description of Page

Enter the **Service Provider** and **SA Relationship Type** of the SA relationships that should be displayed.

Enter an **Effective Date**. This date filters the results so that only those SA relationships that are in effect on this date are shown.

Use **SA Filter** to restrict the SA relationships that are shown in the grid based on criteria of the related master service agreement. The following options are available:

- *Address*. Use this option to restrict SA relationships to those whose service agreements are linked to service points associated with a given **Address**, **City** and/or **Postal** code. Note, you can specify any combination of these fields.

- *All*. Use this option if you do not wish to restrict SA relationships based on service agreement attributes.

- *Geographic Type*. Use this option to restrict SA relationships to those whose service agreements are linked to premises or service points associated with a given **Geo Type** and **Value**.

- *SA Type*. Use this option to restrict SA relationships to those whose service agreements are linked to a given **CIS Division** and **SA Type**.

Don't forget to click the search button after changing the filters.

The **Select All** / **Clear All** buttons are used to select / unselect the SA relationships in the results grid. These buttons are enabled if there is at least one SA relationship in the results grid.

The grid that follows contains a line for each SA relationship that has a status of pending or active that meets the search criteria. Canceled SA relationships are not shown. If an SA relationship has more than one sub-SA, additional lines are used to show the additional sub-SA information. The following information appears in the grid:

- Select box. Use this checkbox to select SA relationships that you want to expire using the Expire SA Relationship(s) button.

- Click the go to button to transfer to the Account – Main page where you can perform maintenance functions on the account listed under Account Information.

- The **Account ID** column shows the account of the master SA linked to the SA relationship.

- The **Account Information** column shows information about the account identified by the account ID.

- Click the go to button to transfer to the Premise – Main page where you can perform maintenance functions on the premise listed under Premise Information.

- The **Premise Information** column shows information about the premise of the service point linked to the master SA of the SA relationship. If the master SA is linked to multiple service points, one is selected at random.

- The **Premise ID** column shows the ID of the premise whose premise information is shown.

- Click the go to button to transfer to the Service Agreement – Main page where you can perform maintenance on the service agreement listed under SA Information.

- The **SA Information** column shows information about the master SA that the SA relationship is linked to.

- The **SA ID** column shows the ID of the master SA that the SA relationship is linked to.

- Click the go to button to transfer to the Service Agreement – Main page where you can perform maintenance on the service agreement listed under Sub SA Information.

- The **Sub SA Information** column shows information about the sub SA linked to the SA relationship.

- The **Sub SA ID** column shows the ID of the sub SA linked to the SA relationship.

- Click the go to button to transfer to the SA relationship page where you can perform maintenance functions on the SA relationship listed under SA Relationship Information.

- The **SA Relationship Information** column shows information about the SA relationship meeting the search criteria.

- The **SA Relationship ID** column shows the ID of the SA relationship meeting the search criteria.

Following the grid is a section with action buttons that allow you to add or expire relationships for the given service provider:

- Press the **Expire SA Relationship(s)** button to expire the SA relationships that you have selected with the checkbox. You will be asked to confirm the date that you want the selected SA relationships to expire. Each selected SA relationship is expired by creating a new SA relationship without a service provider, i.e., its **Usage** is to *Expire SA Relationship*. This new SA relationship will be effective the day after the expiration date you specify. This is because an SA relationship that expires on a given day is deemed to be effective until the end of that day.

  Note that you can only expire SA relationships where the SA type and SA relationship type allow gaps in the relationship.

- Press the **Add SA Relationship** button to add a new SA relationship for the service provider and SA relationship type entered above. Enter the effective date for the new SA relationship and the service agreement that the new SA relationship is for. After confirmation, a new SA relationship is added in a pending status. Note that if there is an existing SA relationship with the same effective date whose **Usage** is *Expire SA*, this relationship is replaced by a new SA relationship with the given service provider.

Maintaining Premises

The premise record contains geographic information about your service addresses.

The following methods list the various ways in which premises can be created:

- A premise can be added via the premise replicator.

- A premise can be added when an order is completed.

- A premise can be added using this transaction.

The topics in this section describe the premise maintenance transaction.

> For more information about premises and their place in the "V", refer to Understanding The "V". For more information about the relationships between premises, service points, meters and items, refer to An Illustration Of A Premise.

Contents

Premise - Main Information

The Premise page contains basic premise information. Open **Customer Information, Premise** and navigate to the **Main** tab to maintain this information.

Description of Page

Basic information about the **Premise** and the premise's unique identifier (i.e., the **Premise ID**) are displayed on every page. These values only appear after the premise exists on the database. The ID is a system assigned random number that stays with a premise for life.

> **Formatting is performed by a plug-in.** The basic information about a premise that appears at the top of this page (and on many other pages in the system) is controlled by a plug-in algorithm on the installation record. Refer to the base package's premise format algorithm for an example. If you prefer a different format, your system administrator should configure the system appropriately.

Indicate the **Premise Type** to categorize the type of premise.

The address's constituent fields vary based on the **Country**. Please refer to the Country page for more information.

> **Default note.** A premise's **state**, **city**, **county**, **division**, **characteristics**, **trend area** and **geographic data** default from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information. If you change the premise's postal code, the system will default geographic values based on the new postal code.

Use **CIS Division** to define the jurisdiction in which the premise is located. This defaults based on the **Country** and the **Postal Code**, but can be overridden here.

Indicate whether the address is a valid **Mailing Address**. Premises that are valid mailing addresses may be specified as the mailing premise on an account. Refer to Account - Person Information for more information.

Use **Landlord Agreement** to define the landlord agreement that covers the premise, if any.

> **Landlord reversion.** When you specify a landlord agreement on a premise, you are telling the system that service associated with the premise's service points should be reverted to the landlord's account when a tenant stops service. The system uses this information during the stop service process to automatically create pending start service agreement(s) for the landlord.
>
> **Managing a large number of premises for the same landlord**   If the premise management module is not turned off, the premise management page helps you to manage the premises linked to the landlord.

If the premise management module is not turned off, you may reference a **Parent Premise** to include this premise in a premise hierarchy.

At the bottom of this page is a tree that shows the various objects linked to the premise. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Premise - Characteristics

The Characteristics page contains information that controls taxation and other rate options that differ based on geography. Use **Customer Information, Premise** and navigate to the **Characteristics** tab to open this page.

Description of Page

Many charges that appear on bills associated with consumption at this premise are controlled by the premise's characteristic values (e.g., the taxing city defines the city tax percent applied to the premise's consumption). Refer to An Illustration Of A Bill Factor And Its Characteristics for more information.

Characteristics also matter if your rates were set up to convert measured consumption into some other unit of measure before charges can be calculated (e.g., converting a cubic foot of gas to its therm value). Refer to Setting Up Register Rules for more information.

> **Note.** You can only choose characteristic types defined as permissible on the premise record. Refer to Setting Up Characteristic Types & Their Values for more information.

The following fields display:

Effective Date	Indicate the effective date of the characteristic type and value. The effective date defaults from the Installation Record when you are adding a new premise. The effective date defaults to the current date when you are changing an existing premise.
Characteristic Type	Indicate the type of characteristic.
Characteristic Value	Indicate the value of the characteristic.

> **Default note.** A premise's characteristics default from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information. If you change the premise's postal code, the system will default geographic values based on the new postal code.

Premise - Miscellaneous

The Miscellaneous page contains information meter read controls and life support information related to the premise. Use **Customer Information, Premise** and navigate to the **Misc** tab to open this page.

Description of Page

Turn on **OK to Enter** if the meter is located in the interior of the premise and your company has permission to enter.

Indicate a **MR Warning** if a specific warning should be downloaded to the person who reads the meter.

Indicate a **MR Instruction** if specific instructions should be downloaded to the person who reads the meter. Meter read instructions and warnings are downloaded as part of the meter read download.

Use **Instruction Details** to provide more detailed instructions to the individual who reads meters at this premise.

Turn on **Key at Premise** if the meter is secured in a locked area and your company has the key. If this field is turned on, you may also specify the **Key ID**.

Specify the **Trend Area** in which the premise is located. A premise's trend area plays an important role in how consumption at the premise is estimated for high / low and missing read purposes.

> **Default note.** A premise's trend area defaults from your postal default information. Refer to [Setting Up Premise & Service Point Postal Defaults](#) for more information.

Indicate if the premise has life support or sensitive load equipment. Valid values are: *LS/SL* (i.e., the premise has life support / sensitive load equipment), *None*. If a value of *LS/SL* has been selected, define the type of equipment in **LS / SL Description**.

> **A person can also have life support / sensitive load information.** If the equipment is personal (i.e., it travels with the person as they move from premise to premise), you should NOT specify the life support information on the premise. Rather, transfer to [Person - Main](#) and specify life support information on the person.
>
> **Alert and C&C.** If the base package's [C1-LSSL-PREM](#) algorithm is enabled on the installation record, and life support / sensitive load information is specified, an alert will appear when the premise is displayed on control central. In addition, if a premise has life support or sensitive load equipment, it is possible for a different credit & collection severance process to be kicked off if the account associated with the premise has overdue debt. Refer to [Designing Your Severance Procedures](#) for more information.

Premise - Geographic Data

The Geographic Data page contains information that defines where the premise is located. Use **Customer Information, Premise** and navigate to the **Geographic Data** tab to open this page.

Description of Page

Enter the **Time Zone** in which the premise is located. This value defaults from your postal defaults. Please note that **Time Zone** is only relevant for interval billing customers. Refer to Time Zone and Time Changes for more information.

The geographic information is used by Control Central to look for premises. The following fields display:

Geographic Type	Indicate the type of geographic data.
Geographic Value	Specify the coordinate value. If the entered value must be in a specific format, a description of the required format is displayed adjacent. For example, if you see the format 99A 99A 99 9, you must enter 2 numbers, followed by a letter, followed by a space, followed by 2 numbers, followed by a letter, followed by a space, followed by 2 numbers, followed by a space, followed by a single number.

> **Formatting is performed by a plug-in.** The format that is applied to a **Geographic Value** is controlled by the algorithm that is plugged in on the respective Geographic Type. If you prefer a different format, your system administrator should configure this algorithm appropriately. Note, algorithms of this type will NOT convert the input value into the relevant format (i.e., you must enter the information in the exact format dictated by the algorithm).
>
> **Default note.** A premise's geographic data defaults from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information. If you change the premise's postal code, the system will default geographic values based on the new postal code.

Premise - Alternate Address

> This tab only appears if you have enabled alternate addresses on the installation record. Refer to the description of the Alternate Representation field under Installation - Main **for more information**.

This page is used when you have an alternate way to define a premise's address. This is typically used in countries that use multiple character sets (e.g., the **Main** address is entered in Chinese, the **Alternate Address** is entered in English). When a premise has an alternate address, both the main and alternate addresses can be used to search for a premise.

Open **Customer Information, Premise** and navigate to the **Alternate Address** tab to maintain this information.

Description of Page

The remaining fields on the page are used to define the premise's alternate address.

The address's constituent fields vary based on the **Country**. **Country** is always protected on this page because a premise's alternate address must be located in the same country as its main address. Please refer to the Country page for more information about address constituents.

Default note. An alternate address's **state**, **city** and **county** default from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information.

The **Swap Main / Alt Address** button becomes enabled when you've entered an **Alternate Address**. When clicked, the contents of the address on the **Main** tab are swapped with the **Alternate Address**.

Maintaining Service Points

Service point records contain information describing the services supplied to a premise.

The following methods list the various ways in which service points can be created:

- A service point can be added when a premise is created using the premise replicator.

- A service point can be added when an order is completed.

- A service point can be added using this transaction.

The topics in this section describe the pages on which service point related information is maintained.

For more information about service points and their place in the "V", refer to Understanding The "V". For more information about the relationships between premises, service points, meters and items, refer to An Illustration Of A Premise.

Contents

Service Point - Main Information

This page contains basic service point information. Use **Customer Information, Service Point** to open this page.

Description of Page

Service Point information and **SP ID** are displayed on every page. These values only appear after the service point exists on the database. The **ID** is a system assigned random number that stays with a service point for life. The **Service Point** information is a concatenation of important details about the service point and its premise.

Enter the **Premise ID** of the premise at which the service point is located.

Indicate the **SP Type**. A service point's SP type controls the following:

- It defines the type of service delivered at the SP.

- It defines the service point as metered or item-based.

- It plays a part in how consumption at the service point is estimated for high / low and missing read purposes.

- It defines characteristics that are the same for all of its service points.

- It defines the type of field activities that may be performed at its service points.

- It defines the type of meters that may be installed at its service points.

- It defines the type of service agreements that may pay for service at its service points.

- It defines the types of equipment that may be linked to its service points.

Refer to Setting Up Service Point Types for more information about SP types.

Use the **Service Point Status** to indicate if the service point is *In Service* or *Abolished*. SP status controls whether the service point can be linked to new service agreements.

Note. The values for the SP status field are customizable using the Lookup table. This field name is SP_STATUS_FLG.

If the **Service Point Status** is *In Service*, the **Abolished Date** is gray; otherwise, it contains the date the service point was abolished.

Specify the **Install Date**. This is the date of the installation of the service point at the premise. It is not the date of installation of any meters or other physical device(s) at the service point.

Use the **Service Point Source Status** to define whether the service point is connected to the source of power. Valid values are: *Connected* and *Disconnected*. If the source status is disconnected, use **Disconnect Location** to specify where service was severed. Source status impacts the type of field activity created for the service point under various circumstances. For example, if a customer wants to start service at a service point that is disconnected, a field activity that reconnects the service point would be generated. Refer to Setting Up Field Activity Type Profiles for more information about automated field activity generation.

Use **Location** to define where the service point is located on the premise. If needed, **Location Details** may be used to clarify the location at the premise.

If the **SP Type** uses a service route, specify the **Service Cycle**, **Service Route**, and **Service Cycle / Route Sequence** to define the logical position of the service point in the meter reader's route.

At the bottom of this page is a tree that shows the various objects linked to a service point. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Service Point - Facilities

This page contains miscellaneous information about a service point. Use **Customer Information, Service Point** and navigate to the **Facilities** tab to open this page.

Description of Page

Designate the facility hierarchy that supplies service to the service point using the **Facility Levels**. The prompts that appear in front of the facility levels differ depending on the type of service (the type of service is defined on the service point's SP type).

Use the **Description** to specify anything special about the service point.

Service Point - Characteristics

The characteristics page contains information that describes miscellaneous information about the service point. Use **Customer Information, Service Point, Characteristics** to open this page.

Description of Page

Service point characteristics are purely informational. The following fields are displayed:

Effective Date	Indicate the effective date of the characteristic type and value. The service point's install date defaults.
Characteristic Type	Indicate the type of characteristic.
Characteristic Value	Indicate the value of the characteristic.

> **Default note.** A service point's characteristics default from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information.

Service Point - SP Type Info

The SP type info page is an information only page that shows the characteristics the service point inherits from its SP type. Use **Customer Information, Service Point** and navigate to the **SP Type Info** tab to open this page.

Description of Page

This page shows the characteristics the service point inherits from its SP type. No fields on this page may be modified.

Service Point - Geographic Information

The Geo page contains geographic information that defines where the service point is located. Use **Customer Information, Service Point** and navigate to the **Geo** tab to open this page.

Description of Page

The following fields are displayed:

Geographic Type	Indicate the type of geographic data.
Geographic Value	Specify the coordinate value. If the entered value must be in a specific format, a description of the required format is displayed adjacent. For example, if you see the format 99A 99A 99 9, you must enter 2 numbers, followed by a letter, followed by a space, followed by 2 numbers, followed by a letter, followed by a space, followed by 2 numbers, followed by a space, followed by a single number.

If the geographic type has a required format, you must enter the geographic value in the respective format; the system will NOT convert the input value into the relevant format.

> **Default note.** A service point's geographic data defaults from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information.

Service Point - Multiple Items

The multi-item page is used to define the non-badged items that exist at the service point. Refer to Service Points With Multiple Items for more information about when to set up this information for a service point.

Use **Customer Information, Service Point** and navigate to the **Multi-Item** tab to open this page.

Description of Page

Billing accumulates all unbadged items linked to a service point and levies a charge for each type of item based on information in the service agreement's rate.

The collection of items at a service point is effective dated and therefore when you modify this information, you must differentiate between:

- Correcting how the collection of items looked historically by changing existing data.

- Adding another collection of items to reflect how the items look after field work has taken place.

> **Removing Multi-items from a Service Point.** If you want to remove all multi-items from a service point, add a multi-item collection that doesn't include any items. The effective date should be the date the multi-items were removed from the service point (i.e. no longer applicable to the rate).

Define the **Effective Date** of the collection of items.

The following fields display:

Item Type	Indicate the type of item, its description is displayed adjacent.
Item Count	Indicate how many of the given type of item exist at the service point.

Service Point - Device History

The device history page is an information only page that shows the meters or items that have been installed at the service point. Use **Customer Information, Service Point** and navigate to the **Device History** tab to open this page.

Description of Page

This page shows the history of meters / items that have been installed at this service point. No fields on this page may be modified. Refer to Installing and Removing A Meter and Installing and Removing An Item for more information.

Service Point - Equipment

The equipment page contains the equipment that is linked to the service point. Use **Customer Information, Service Point, Equipment** to open this page. Refer to Equipment May Be Associated With Service Points for more information.

Description of Page
The following fields display:

Equipment ID   Indicate the unique equipment identifier. When a piece of equipment is entered, its **Badge Number** and **Equipment Type** description are displayed adjacent.

> **Note.** This is actually the ID of an item as an item must be set up for each piece of equipment that can be linked to a service point. Only items with an item type defined on the service point's SP type's equipment collection may be defined (in other words, the valid types of equipment are defined on the service point's SP type).

Equipment Count   This field should be *1* except when you are using an item to define a generic piece of equipment. If you use an item to define a generic piece of equipment, you can indicate the number of such generic pieces of equipment that are associated with this service point.

Install Date   Define the date that the equipment was installed at the service point.

Removal Date   Define the date that the equipment was removed from the service point.

Comment   Use comments to explain anything unusual about the piece of equipment.

Service Point - Operations Area

The Op Area page is used to define the operation area that is assigned to field activities associated with this premise. A different operation area can be associated with different categories of field activities (identified by a field activity's field activity type's field service classification). Use **Customer Information, Service Point, Op Areas** to open this page.

Description of Page
The following fields display:

Field Service Class   Indicate the field service classification.

Operation Area   Specify the operation area that manages field activities associated with the field service classification.

> **Default note.** A service point's operations areas default from your postal default information. Refer to Setting Up Premise & Service Point Postal Defaults for more information.

Service Point - SP/SA

The SP / SA page contains the service agreements that are linked to the service point.

This information is updated by the system when service is started. You should only have to access this page if you need to fine-tune what the system defaults.

> **Warning!** You must understand the "V" very well before attempting to maintain this information. Refer to Understanding The "V" **for more information**.

Use **Customer Information, Service Point** and navigate to the **SP/SA** tab to open this page.

Description of Page

Billing uses **SP / SA** information to amalgamate consumption when it calculates a bill segment for a service agreement. To modify information for a service agreement linked to the service point, simply move to a field and change its value. To add a new service agreement, click **+**, then fill in the information for each field.

This page works exactly the same as the Service Agreement - SA / SP page except for the field described below:

Service Agreement	The identity of the service agreement. The division and type of the service agreement is displayed adjacent. This field is gray after the service agreement is committed to the database.

> For a detailed description of the remaining fields on this page, refer to Service Agreement - SA / SP.

Service Point - Field Info

The Field Info page allows the user to override premise field information on a specific service point. It also shows the corresponding premise field information.

Use **Customer Information**, **Service Point** and navigate to the **Field Info** tab to open this page

Description of Page

To override premise field information on a specific service point, set **Override Premise Field Information** to *Yes*. If the value is set to *No*, the premise information may not be overridden.

Turn on **OK to Enter** if the meter is located in the interior of the premise and your company has permission to enter.

Indicate a **MR Warning** if a specific warning should be downloaded to the person who reads the meter.

Indicate a **MR Instruction** if specific instructions should be downloaded to the person who reads the meter. Meter read instructions and warnings are downloaded as part of the meter read download.

Use **Instruction Details** to provide more detailed instructions to the individual who reads meters at this premise.

Turn on **Key at Premise** if the meter is secured in a locked area and your company has the key. If this field is turned on, you may also specify the **Key ID**.

Service Point - SP Route Configuration

The SP Route Configuration page contains the effective dated route configurations for the Service Point.

> **This tab may not appear.** This tab page only appears if the service point's SP Type allows multiple route usage.

Description of Page

Define the **Effective Date** of the collection of Service Routes.

Use **Comments** to explain anything unusual about the service point.

The Service Routes grid contains a row for each unique **Service Cycle/Route**:

Specify the **Service Cycle** in which the service point resides.

Use **External Route Reference** to indicate how this service point is referenced in an external system, if applicable.

Enter the **Service Cycle/Route Sequence** to define service point's relative position within the route.

> Refer to Designing Cycles for Metered Services and Designing Cycles for Waste Collection Services for information on designing service cycles.

Dashboard Portal

The Dashboard is a portal that always appears on the Oracle Utilities Customer Care and Billing desktop. Its zones contain tools and data that are useful regardless of the object being displayed.

> **User configurable.** Refer to Each User Can Customize Which Zones Appear for information about a user can configure which zones appear.
>
> **Global context**. The system automatically refreshes the values saved in global context with information about the object that appears in Object Display Area. Various zones available in the dashboard portal have been designed to display data related to a person id, account id or premise id, which are populated by the base global context algorithm C1-GLBL-CTXT.

The contents of this section describe the zones that are available on this portal.

> **Other zones exist.** The zones described below are unique to Oracle Utilities Customer Care and Billing. Please see Core Dashboard Zones for a description of other zones that can appear on the dashboard.

Contents

Current Context Zone

The **Current Context Zone** contains basic information about the customer on which you are working.

A maximum of three rows may appear:

- The first row contains a person context menu and the person's name. You can click on the person's name to transfer to the Person – Main page. Note, the person's name is formatted by a plug-in algorithm on the installation record. Refer to the base package's name format algorithm for an example. If you prefer different formatting logic, your system administrator should configure the system appropriately.

- The second row contains an account context menu and the account's:

  - ID and check digit

  - The primary name of the main customer

  - Customer class

- The last row contains a premise context menu and the premise's address and premise type. Note, the address information is formatted by a plug-in algorithm on the installation record. Refer to the base package's premise format algorithm for an example. If you prefer a different format, your system administrator should configure the system appropriately.

Customer Contact Zone

The **Customer Contact Zone** has three purposes:

- It shows the age of the **Last** customer contact associated with the person displayed in the Current Context zone. The word *Today* is shown if the last contact was on the current date. The word *Yesterday* is shown if the last contact was on the current date - 1 day. If neither is applicable, the number of days old is shown.

- It shows the name of the person who added this contact.

- It greatly simplifies the addition of a new customer contact. To add a new contact, simply select the **Type** of customer contact, enter a brief **Comment**, and press the **Add Contact** button.

After the contact is added, the date / time of the new contact will be displayed in the **Last** area. You can use the Go To button to drill into the newly added contact where you can setup reminders or indicate the contact should remain open until future resolution.

Financial Information Dashboard Zone

The **Financial Zone** that appears on the dashboard contains the same information that is described in the Financial Information Zone on the account information portal.

Alert Dashboard Zone

The **Alert Zone** that appears on the dashboard contains the same information that is described in the Alert Zone on the account information portal.

Setting Up Bill Print Groups

Bill print groups allow you to categorize an account's service agreements into groups for bill print purposes.

> **Bill print groups are optional.** Typically, only accounts with many SAs will use bill print groups because the standard bill print priority is sufficient for accounts with a limited number of SAs. Refer to SA Type - Billing for more information about the standard bill print priority.

Let's use an example to clarify the bill print group concept. Consider a local government's account. This account would have many service agreements (some for the police department, others for the court system, others for the department of public works, etc.).

If you don't create a bill print group for this customer, their bill segments will be printed in the order dictated by each segment's service agreement's SA type's bill print priority. If you create a bill print group for this customer, you can define the customer's desired categories (e.g., police, courts, DPW, etc.) and then link each of the account's SAs to the appropriate category.

> **Nomenclature.** We refer to the categories under a bill print group as "subgroups". A bill print group can have an unlimited number of subgroups. When you create a subgroup, you define its relative bill print priority and the associated verbiage to print on the bill (assuming you print information about the subgroup on the bill).

We'd like to highlight the following characteristics of bill print groups:

- A bill print group is associated with a specific account. If multiple customers have the exact categorization preferences, you will have to set up multiple bill print groups.

- Over time, a customer could have many bill print groups. This would happen if a customer's bill categorization preferences change over time. We'd like to stress that while an account can have multiple bill print groups, only one will be used by the bill print process (the one effective on the bill date).

- Bill print groups only affect printed bills. Bill print groups do not affect the order in which service agreements appear on the bill maintenance transaction.

- If new service agreements are added after a bill print group is set up for an account, they will not be linked to a subgroup. If you neglect to link the new service agreements to one of the bill print group's subgroups they will be printed under the "default" subgroup (every bill print group must have one default subgroup to cater for this situation).

Important! While the system supports the definition of bill print groups and the categorization of an account's service agreements into the various subgroups, the base package's bill print extract does NOT take advantage of this information.

The topics in this section describe how to set up a bill print group and how to link an account's service agreements to its subgroups.

Contents

Bill Print Group - Main

Open **Customer Information, Bill Print Group** to maintain an account's bill print group and subgroups. After defining this information, transfer to the **SA Sub Group** tab to link the account's service agreements to the subgroups.

Description of Page

The **Bill Print Group ID** is displayed on every page. This value only appears after the bill print group exists on the database. The ID is a system-assigned random number that stays with a bill print group for life.

Enter the **Account ID** associated with the bill print group.

Use **Effective Date** to define when the bill print group is effective for the account. This date is important as it allows a customer to change their preferences over time. For example, if the customer wants to change the number of subgroups on a given date, you would simply add a new bill print group effective on this date and then define the new subgroups (and link each service agreement to one of the subgroups).

Use **Status** to define if the bill print group is *Active* or *Inactive*. You would only use the *Inactive* value if the bill print group is no longer needed (as there is no delete action on this transaction).

Enter a brief **Description** of the bill print group.

Use **Comments** to describe anything special about the bill print group.

The grid contains the bill print group's subgroups. The following information should be defined for each subgroup:

- **Bill Print Sub Group.** This is the unique identifier of the bill print subgroup.

- **Sub Group Bill Print Priority.** This is the relative print priority of the subgroup in respect of the other subgroups.

- **Use as Default.** Turn on this switch for the default sub group. A bill print group must have one and only one default subgroup. The default group is used by the bill print process if it detects a service agreement that is not linked to a subgroup (it links this service agreement to the default subgroup).

- **Sub Group Description.** This is a brief description of the subgroup.

- **Description on Bill.** This is the verbiage that will print on the bill (assuming you print something on your bills for the subgroup).

After defining the bill print group's subgroups, navigate to the **SA Sub Group** tab to link the account's service agreements to the subgroups.

Bill Print Group - SA Sub Group

This page is used to link the account's service agreements to one of the bill print group's subgroups.

Open **Customer Information, Bill Print Group** and navigate to the **SA Sub Group** page to maintain this information.

Description of Page

The **Bill Print Group's ID**, **Account ID** and **Effective Date** are displayed at the top of the page.

The filters control the service agreements that appear in the **SAs in Bill Print Group** grid. The following points describe the various options:

- Use the **SA Filter** to define the types of service agreements that appear in the grid. The following options are available:

  - *Address.* Use this option to restrict service agreements to those linked to service points associated with a given **Address**, **City** and/or **Postal** code. Note, you can specify any combination of these fields.

  - *All.* Use this option if you do not wish to restrict service agreements based on service agreement attributes.

  - *Bill Print Sub Group.* Use this option to restrict service agreements to those that are linked to a given **Bill Print Sub Group**.

  - *Geographic Type.* Use this option to restrict service agreements to those linked to service points associated with a given **Geo Type** and **Value**.

  - *SA Type.* Use this option to restrict service agreements to those linked to a given **CIS Division** and **SA Type**.

- Use **Status Filter** to restrict the service agreements based on their status. The following options are available:

  - *All*. This option shows all service agreements regardless of status.

  - Refer to Service Agreement Lifecycle for the various status values.

Don't forget to click the search button after changing the filters.

The **SAs in Bill Print Group** contains an entry for every non-cancelled service agreement linked to the account that is linked to one of the bill print group's subgroups. The following information appears in the grid:

- Use **Bill Print Sub Group** to define the subgroup associated with the service agreement.

- Use **Sequence** when there is more than one service agreement in the subgroup. The sequence controls the order in which the service agreement's financial information appears on the bill.

- The **SA Information** column provides a brief description of the service agreement.

- The **Service Agreement** column contains the unique identifier of the service agreement.

- The **Premise Information** column contains the characteristic premise associated with the bill segment's service agreement.

The next set of filters control the service agreements that appear in the **SAs Not in Bill Print Group** grid. The following points describe the various options:

- Use the **SA Filter** to define the types of service agreements that appear in the grid. The following options are available:

  - *Address.* Use this option to restrict service agreements to those linked to service points associated with a given **Address**, **City** and/or **Postal** code. Note, you can specify any combination of these fields.

  - *All.* Use this option if you do not wish to restrict service agreements based on service agreement attributes.

  - *Geographic Type.* Use this option to restrict service agreements to those linked to service points associated with a given **Geo Type** and **Value**.

  - *SA Type.* Use this option to restrict service agreements to those linked to a given **CIS Division** and **SA Type**.

- Use **Status Filter** to restrict the service agreements based on their status. The following options are available:

  - *All*. This option shows all service agreements regardless of status.

  - Refer to [Service Agreement Lifecycle](#) for the various status values.

Don't forget to click the search button after changing the filters.

The **SAs Not in Bill Print Group** contains an entry for every non-cancelled service agreement linked to the account that is NOT linked to one of the bill print group's subgroups. The following information appears in the grid:

- Use **Bill Print Sub Group** to define the subgroup associated with the service agreement.

- Use **Sequence** when there is more than one service agreement in the subgroup. The sequence controls the order in which the service agreement's financial information appears on the bill.

- The **SA Information** column provides a brief description of the service agreement.

- The **Service Agreement** column contains the unique identifier of the service agreement.

- The **Premise Information** column contains the characteristic premise associated with the bill segment's service agreement.

Landlord Reversion

Landlord reversion occurs when a landlord would like to have service reverted to his/her name when a tenant moves out. The landlord defines his/her reversion preferences using a [landlord agreement](#).

- A landlord's preferences can differ for each type of service. For example, you can indicate that a specific landlord always wants electric and gas service reverted to his/her account when a tenant stops service. However, they do not want water service to revert.

- A landlord's preferences can also be seasonal. For example, you can indicate water service should only revert to the landlord's account during the winter.

The account to use for the reversion of service is defined on the landlord agreement.

Assuming that you have plugged-in a landlord reversion algorithm on SA type, the system uses the information defined on landlord agreement to create a pending start service agreement(s) for the landlord when service for the existing tenant is stopped.

The following examples illustrate how your organization's landlord reversion algorithm might handle various scenarios for a premise that defines a landlord agreement that indicates service should be reverted:

- When the existing customer calls to stop service and no new customer is scheduled to move in, a pending start service agreement is created for the landlord.

- When a new customer calls in to start service

  - If the start date matches the outgoing customer's start date, the ***pending start*** service agreement for the landlord is canceled

  - If the start date is earlier than the outgoing customer's stop date, the ***pending start*** service agreement for the landlord is ***canceled*** and the stop date of the outgoing customer is changed to match the new date

  - If the start date is later than the outgoing customer's stop date, the ***pending start*** service agreement for the landlord is updated with a stop date that matches the new customer's start date

- If changes are made to start or stop dates for the tenants' service agreements, a service agreement for the landlord may need to be created or canceled

  - If the change in dates causes a gap in service that did not exist before, a landlord service agreement is created to cover the gap

  - If the change in dates means that the tenants are now starting and stopping on the same date (and there used to be a gap), a landlord service agreement is canceled

- If the new customer cancels their pending stop, a landlord service agreement is created (if one did not exist) or the landlord SA's stop date is removed (if the new customer's start date resulted in a gap that was being covered by the landlord.

Setting Up Landlord Agreements

The landlord agreement page is used to maintain a landlord's service reversion preferences.

> **A landlord could have many landlord agreements.** A landlord will have at least one landlord agreement. However, if the landlord has different service reversion preferences for different properties, you can create multiple landlord agreements - one for each set of preferences. After a landlord's reversion preferences have been defined, link the landlord agreement record to the respective premises.

Use **Customer Information, Landlord Agreement** to open this page.

Description of Page

Landlord and **Landlord ID** only appear after the landlord is added to the database. **Landlord ID** is a system-assigned random number that stays with the landlord agreement for life. **Landlord** is the description of the landlord agreement.

If the premise management module is not turned off, a message is displayed indicating the number of premises linked to this landlord. Clicking the hyperlink message text transfers you to the premise management page, which helps you to manage the premises linked to the landlord.

Enter a **Description** of the landlord agreement.

Use **Account ID** to define the account to use when service is reverted to the landlord. This should be one of the landlord's accounts.

The grid that follows contains one row for each type of service to be reverted to the landlord's account. Any service point whose service type is not referenced in this scroll will NOT revert to the landlord's account when a tenant stops service. For each row define the following:

- **Service Type** defines the type of service point that will revert to the landlord's account when a tenant stops service. Note, a service point inherits its service type from its SP Type.

- Turn on **Seasonal** if the service should only revert to the landlords account during a specific season of the year. When turned on, you must define the **Start Month/Day** and the **End Month/Day** of the effective season.

> **Note.** The month and day must be entered in the format MM/DD. For example, if a season starts on March 1, you must enter the value as 03/01.

Using The Premise Replicator

You use the premise replicator to create many copies of a premise and its service points.

Perform the following steps to replicate a premise:

- Add a premise.

- Add one or more service points to the premise.

- Use the premise replicator to create copies of the premise and its service points.

The topics in this section describe how to use the premise replicator.

Contents

Premise Replicator - Main Information

You use this page to create many copies of a given premise and its service points.

> **Warning!** The system warns you if you attempt to create. However, this is just a warning as you may want to generate similar premises and then update them with, for example, a unique apartment number on Premise - Main Information.

Use **Customer Information, Premise Replicator** to open this page.

Description of Page

Choose the **Premise** that serves as the template premise.

> **Recommendation.** Carefully verify the template premise using the other pages in this page before you save the replicated premises. After you save the replicated premises, any corrections could prove time consuming.

The two sections at the top of the page determine the number of replica premises to be created and the address information that will be set up for each premise. The left section is used to define how the system will create the part of the address that is *different* for each replica premise. The right section defines the parts of the address that will be the *same* for each replica premise.

In the left section:

Use the **Replicate** option to control how the position of the replicated number in the first address line:

- Choose *Street Number* if the replicated number should prefix the **Base** value in the first address line of the premise. For example, if you have a **Start #** of *1020* and a **Base** value of *Main St* and you choose the *Street Number* option, the first replicated premise will be *1020 Main St*.

- Choose *Apartment Number* if the replicated number should suffix the **Base** value in the first address line of the premise. For example, if you have a **Start #** of *1020* and a **Base** value of *101 Main St, Apt.* and you choose the *Apartment Number* option, the first replicated premise will be *101 Main St, Apt. 1020*.

Indicate the **Number Of Premises** you wish to create.

Use **Base** to define the information that will appear at the end of the first address line on each of the replicated premises. Use **Start #** to define the number assigned to the first copy of the premise. Use **Increment** to define the value to increment successive numbers by. The first and last address lines to be created by the replicator are displayed below.

For example, if the first address you want to create is 101 Derby St, and the last address is 199 Derby and you want to do the odd numbered side of the street, you'd enter the following parameters:

Number of Premises would be *50*

Address Suffix would be *Derby St*

Start From would be *101*

Increment by would be *2*

The right section displays the rest of the address information that will be copied onto each replicated premise. This information is defaulted from the template premise that you selected. The Address 1 field is not shown because you define the information to be entered there in the previous section, as explained above. The remaining fields, however, may be edited if so desired.

After entering the parameters, click the **Replicate** button to generate your new premises. You can use the sections at the bottom of the page to view the premises that will be created when you click save. The left section will show how Address Line 1 will look on the first 10 premises. If you are creating more than 10 premises, the right section will show how Address Line 1 will look on the last 10 premises. If everything looks clean, click save.

Premise Replicator - Premise

The Premise page is a display only page provided to let you confirm that the premise you selected on the add dialog is the one to be used as the template by the replicator. Use **Customer Information, Premise Replicator, Premise** to open this page.

Description of Page
This is a display only page that displays key information about the premise being replicated.

Premise Replicator - Premise SPs

This is a display only page provided to let you confirm that the premise you selected on the add dialog is the one to be used as the template by the replicator. Use **Customer Information, Premise Replicator, Premise SPs** to open this page.

Description of Page
This is a display only page that displays the details about the template premise's service points.

Start / Stop

The topics in this section describe how to start and stop service.

Order or Start / Stop? Please see Order versus Start / Stop for a discussion of the pros and cons of using the order transaction versus the start / stop transaction to start service.

Contents
The Big Picture Of Starting Service
The Big Picture Of Stopping Service
Start/Stop Maintenance

The Big Picture Of Starting Service

Almost all requests to start service involve a conversation between a customer and a customer service representative (CSR). During this conversation, the following is defined:

- WHO will pay for the service (i.e., the account).

- WHERE the service is consumed (i.e., the premise). Note, this is only required for premise-oriented services.

- WHEN the service is requested (i.e., the start date).

- WHAT TYPE of service is desired (i.e., the service agreement and service points).

- HOW MUCH will be paid for the service (i.e., the rate and contract riders).

After the conversation is complete, one or more service agreements in the state of ***pending start*** will exist. If the service agreement uses service points, field activities may also be created.

In this section, we provide background information about the start process. For information about the page used to start service, refer to Start Stop Maintenance.

Contents

The Lifecycle Of A Pending Start Service Agreement

When you request a new service for a customer, a pending start service agreement is created. The following diagram illustrates the lifecycle of a typical pending start service agreement:
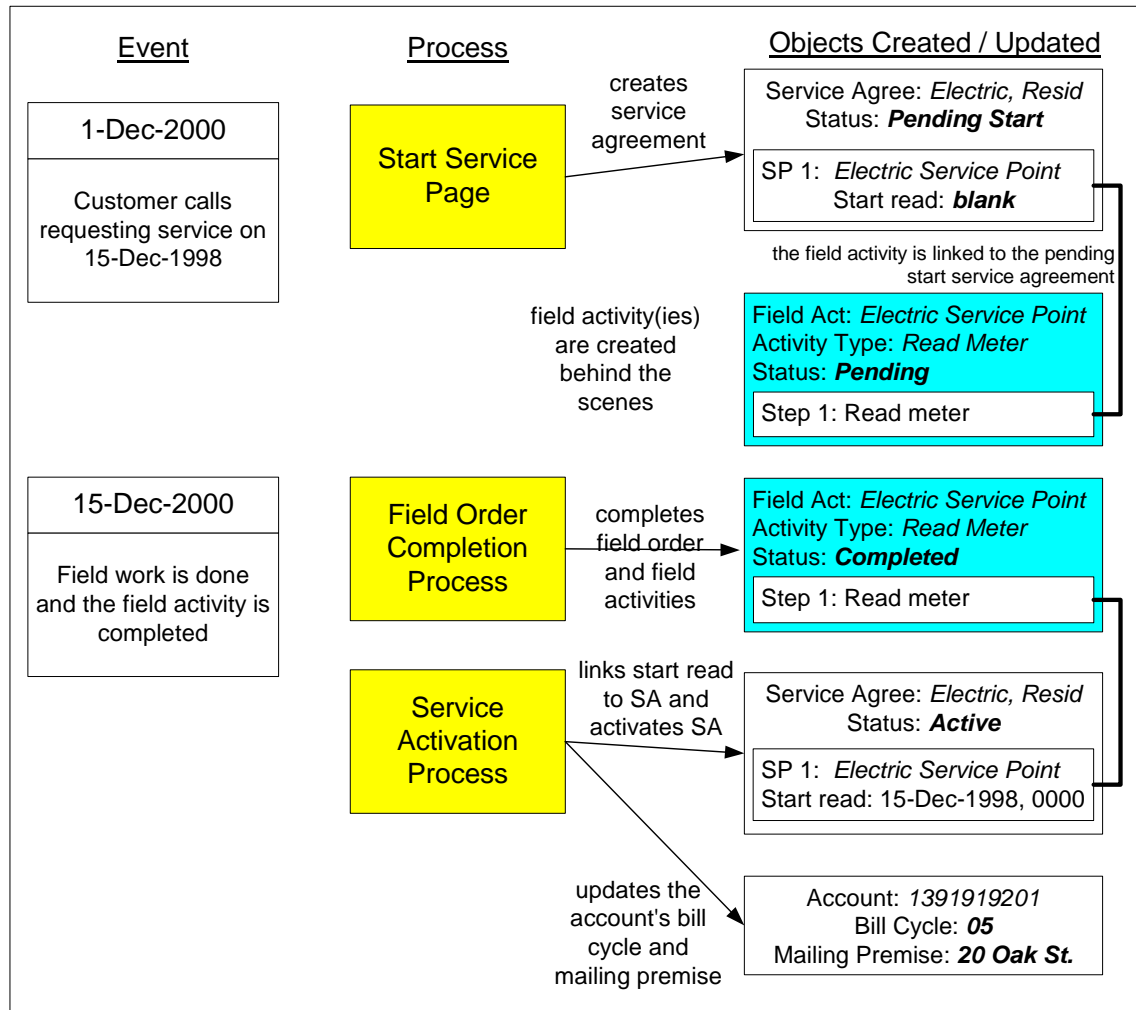
The above diagram is referenced in the topics that follow.

Starting Service & Field Activities

When you initiate a request to start service, the system creates a service agreement in the state of *pending start*. If the service agreement is service point-oriented, *pending* field activities necessary to start will be created at some point prior to the service agreement being activated. The question is when? The contents of this section provide information about when they are created and what types of activities are created.

When you enable the Control Central alert algorithm, C1-PEND-STRT, an alert displays when there is a pending start service agreement linked to the account. This algorithm is plugged-in on the installation record.

Contents

What Type Of Start Field Activities Are Created

The type of the service point (e.g., electric residential, gas industrial) and the state of service (e.g., disconnected / no meter, connected / meter installed) at the service point dictate the type of field activity. For example, if the service point doesn't currently have a meter, the new field activity should request a meter installation. Whereas if there's already a meter installed, but it's turned off, the type of field activity should be to turn on the meter.

If you've set up your system properly, the system creates the appropriate field activity given the type and state of the service point; you shouldn't have to be aware of field activities.

In addition to being linked to the service points, these field activities are also linked to the service agreement / service point relationship so that the system can automatically activate the service agreement when the field activities are *complete*.

Back-to-Back. We use the term *back-to-back* to describe the situation when a single field activity supports both the stop and start service requests. The fieldwork algorithm delivered with the base package sets up a back-to-back situation by default when it is aware of both the start AND stop customers at a premise.

For more information about the field activities associated with your SP types, refer to Setting Up Field Activity Type Profiles. Refer to The System Activates Most Service Agreements Behind-The-Scenes for information about how the system monitors field activities linked to a service agreement. Refer to The Lifecycle Of Field Activities And Field Orders for information about how field activities are dispatched and completed.

When Start Field Activities Are Created

Field activities will be created when the *pending start* service agreement is created if the following conditions are true:

- The Create Field Activity Start Stop switch is enabled on the installation record. Refer to Installation Options - Main for more information.

- The appropriate create fieldwork creation algorithm is defined on the service agreement's SA type. Refer to SA Type - Algorithms for more information.

If the Create Field Activity Start Stop switch is NOT enabled on the installation record, field activities will NOT be created when the *pending start* is saved. Rather, a background process (referred to by the batch ID of **PSASPM**) creates the field activities shortly before the start date. The number of days before the start date on which field activities will be created is defined on the service agreement's SA type's fieldwork creation algorithm.

A fail safe. If any person or process attempts to activate a *pending start* service agreement and neither of the above events has taken place, field activities will be created when the user attempts to activate the *pending start*. The creation of the field activities will prevent the service agreement from being activated as described under The System Activates Most Service Agreements Behind The Scenes.

You must set up the algorithm! Field activities will only be created if you have defined the appropriate field work creation algorithm on the service agreement's SA type. The algorithm that is supplied with the base package checks if the service agreement / service point already has a start read or a start field activity, if so, field activities will not be created (the field work has already been initiated).

How To Start Service Using A Scheduled Meter Read

Another option exists for starting service when all that is required is a meter reading. If the requested start date is close to a scheduled meter read date, you can forego a special trip into the field to get the reading. The system can use the scheduled meter read as long as it is close enough to the start date (you can determine how "close enough" is defined using a parameter on the batch process described below).

If the start date does not exactly match the date that the meter was read, it will prorate the reading, store it as a meter read of type *system prorated*, and will link it to the SA/SP so that the service agreement can be started. A special batch process (called **FANRMRCO**) exists to perform the analysis of whether or not a reading is available and if its date is close enough (the number of days is an input parameter to the process). It performs the proration as well and creates the special meter reads.

Refer to Background Processes for more information on this process.

To use scheduled reads to start service, you need to set up and use a special field activity type: "Meter Read Near Cycle" – it will not be eligible for dispatch and its only step type is "read meter". The base package supplied field activity creation algorithm accepts this field activity type as an input parameter. Start (and stop) events are then created with field activities that use this field activity type. The batch process mentioned above looks for field activities of this type and tries to use a scheduled meter read to complete them.

Note: if FANRMRCO cannot find a reading in the specified time period, it will cancel the special field activity and create a normal activity according to the field activity profile. If it finds a peak demand type reading or a consumption type reading, it posts a To Do entry. The type of To Do entry is defined as a parameter of the batch process.

Activating Pending Starts

When you initiate a request to start service, the system initiates a service agreement in the state of *pending start*. A pending start service agreement remains in this state until everything necessary to start service is defined in the system. At that time, the service agreement can be activated.

Contents

What Is Necessary To Start Service?

The service agreement's SA type defines what is necessary to start service:

- For SA types that have service points, all field activities linked to the service point must be *complete* before the service agreement can be activated. If field activities are linked to the service agreement, the system automatically links the appropriate billable read to the service point as its start read when the field activity is complete. (The completed field activity should have a read linked to it. If it is billable, it is used as the start read.)

- For SA types that don't have service points (e.g., charitable donations, deposits, one-time charges), everything necessary to activate the service agreement is defined when you initiate the request to start service. These types of service agreements can be activated immediately.

Warning! If the completed field activity linked to the SA / SP doesn't have an associated read (for whatever reason), the system still activates the service agreement but leaves the SA/SP without a starting read. It does this because it relies on billing to create a bill segment error the first time it attempts to bill the service agreement.

Warning! If a service agreement has required SA relationship types (e.g., if an energy supply service agreement must have a SA relationship defining the distribution company), the system activates the service agreement even when these required relationships are not defined. It does this because it counts on billing to create a bill segment error the first time it attempts to bill the service agreement (billing creates an *error* bill segment for a service agreement if it does not have its required SA relationships defined).

The System Activates Most Service Agreements Behind-The-Scenes

Service agreements are activated by one of the following methods:

- The SA activation background process (referred to by the batch control ID of SAACT) automatically activates *pending start* service agreements once it detects that everything necessary to start service is defined in the system. This is the most common method for activating service agreements. This process runs as often as your organization desires (but it should run at least daily).

Sub SAs are not handled by the SA activation background process.   If your organization uses the SA relationship functionality and you have service providers that necessitate sub service agreements, you should be aware that the SA activation background process only activates normal and master SAs; sub SAs are activated by the analyze SA relationships background process (described in the next bullet point).

- If your organization uses the SA relationship functionality and you have service providers that necessitate sub service agreements, the analyze SA relationships background process (referred to by the batch control ID of ANLYZSAR) automatically activates *pending start* sub SAs if their master SA is *active*.

- You can automatically activate a service agreement when it's created if you plug-in an SA creation algorithm of type SACR-AT on the SA type. Because everything necessary to start service must be defined in the system before a service agreement can be activated, this method only works for SA types that don't have service points (e.g., charitable donations, deposits, one-time charges, etc.). If this algorithm is not plugged in on an SA type, service agreements of that type are activated by the SA activation background process or manually.

- You can activate a service agreement manually (assuming everything that's necessary to activate service is in place). Simply open Service Agreement - Main and click the **Activate SA** button. This is only necessary if you do not want to wait until the SA activation background process next runs.

What Happens At Activation Time?

When a service agreement is activated, the following takes place:

- If the service agreement has start-oriented field activities linked to its service points, billable read(s) from the field activity(s) are linked to the service agreement's service points as their start reads. If there are no associated billable reads, the system still starts the service agreement knowing that billing will generate an error when the service agreement is billed.

- The service agreement's state is changed from *pending start* to *active*.

- If the account's bill cycle is not protected and the service agreement has a metered service point, the bill cycle will be changed to reflect the service point's *service cycle*'s bill cycle.

- If the account's mailing premise is not protected and the service agreement has a service point whose premise is a mailing premise, the mailing premise is changed to reflect the service point's premise.

- If the account's division is not protected, the division is changed to reflect the service agreement's SA type's division.

- If there is a start adjustment defined on the service agreement's start option, an adjustment is levied.

- The main customer's billing address is changed to reflect the value specified on the Start/Stop page (and this may involve changing the main customer's override mailing address on their person record).

What Happens After A SA Is Started?

Refer to The Lifecycle Of A Service Agreement for more information about a service agreement's lifecycle.

The Big Picture Of Stopping Service

To stop service you must define:

- WHO pays for the service (i.e., the account).

- WHEN service should stop (i.e., the stop start date).

- WHAT services to stop (i.e., the premise or specific service agreements).

After the above is defined in the system, the state of one or more service agreements will be changed to **_pending stop_**. If the service agreement uses service points, field activities may also be created.

In this section, we provide background information about the stop process. For information about the page used to stop service, refer to Start Stop Maintenance.

Contents

The Lifecycle Of A Pending Stop Service Agreement

When you request to stop service for a customer, the status of an existing service agreement becomes **_pending stop_**. The following diagram illustrates the lifecycle of a typical pending stop service agreement:
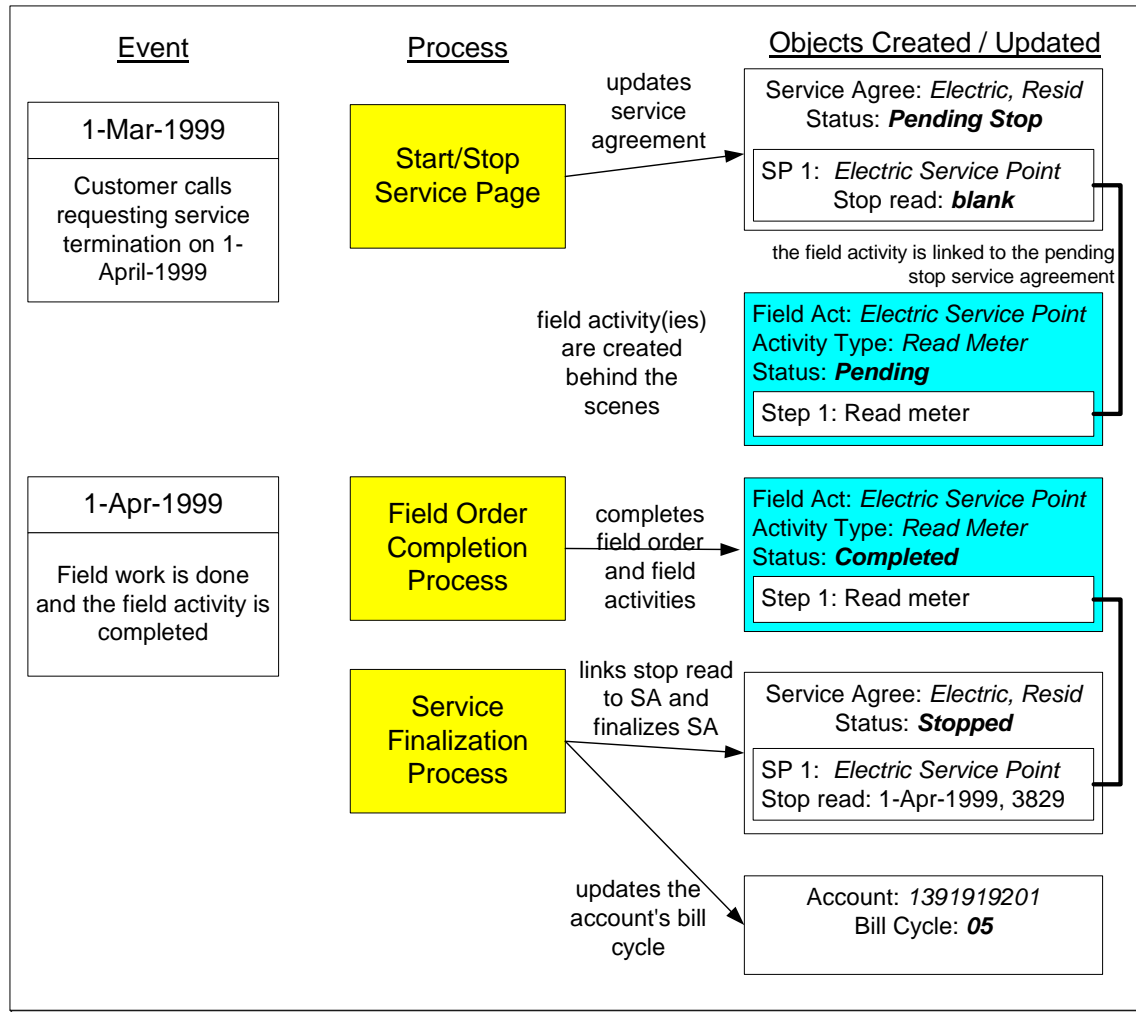
The above diagram is referenced in the topics that follow.

Stopping Service & Field Activities

When you initiate a request to stop service, the system changes the service agreement to the state of *pending stop*. If the service agreement is service point-oriented, *pending* field activities necessary to stop will be created at some point prior to the service agreement being stopped. The question is when? The contents of this section provide information about when they are created and what types of activities are created.

Contents

What Type Of Stop Field Activities Are Created

The type of the service point (e.g., electric residential, gas industrial) and the state of service (e.g., disconnected / no meter, connected / meter installed) at the service point dictate the type of field activity. For example, an industrial electric meter may require a different type of field activity to stop service than does a residential gas meter.

If you've set up your system properly, the system creates the appropriate field activity given the type and state of the service point; you shouldn't have to be aware of field activities.

In addition to being linked to the service points, these field activities are also linked to the service agreement / service point relationship so that the system can automatically stop the service agreement when the field activities are *complete*.

Back-to-Back. We use the term *back-to-back* to describe the situation when a single field activity supports both the stop and start service requests. The fieldwork algorithm delivered with the base package sets up a back-to-back situation by default when it is aware of both the start and stop customers at a premise.

For more information about the field activities associated with your SP types, refer to Setting Up Field Activity Type Profiles. Refer to The System Finalizes Most Service Agreements Behind-The-Scenes for information about how the system monitors field activities linked to a service agreement. Refer to The Lifecycle Of Field Activities And Field Orders for information about how field activities are dispatched and completed.

When Stop Field Activities Are Created

Field activities will be created when the *pending stop* service agreement is recorded when the following conditions are true:

- The Create Field Activity Start Stop switch is enabled on the installation record. Refer to Installation Options - System for more information.

- The appropriate create fieldwork creation algorithm is defined on the service agreement's SA type. Refer to SA Type - Algorithms for more information.

If the Create Field Activity Start Stop switch is NOT enabled on the installation record, field activities will NOT be created when the *pending stop* is saved. Rather, a background process (referred to by the batch ID of *PSASPM*) creates the field activities shortly before the stop date. The number of days before the stop date on which field activities will be created is defined on the service agreement's SA type's fieldwork creation algorithm.

More information about the Create Field Activity Start Stop switch on the installation record. When this switch is on (and the user doesn't override it), pending field activities will be created when a start or stop is recorded (as opposed to shortly before the start / stop date). You might want to turn this switch off if it's possible for the state of the service point (or its meter / item) to change between the time service is requested and the actual service date. Why? Because the state of the SP and its meter / item affects the type of field activity that is created. For example, if a customer wants to start service and there is no meter at the metered service point, an "install meter" field activity is created. However, if by the time the install date comes around, a meter has been installed by some other means; this field activity is inappropriate. This is why if you might want to set up the system to wait until shortly before the service date to create the field activity (i.e., it reduces the likelihood that an inappropriate field activity is created).

A fail safe. If any person or process attempts to finalize a ***pending stop*** service agreement and neither of the above events has taken place, field activities will be created when the user attempts to finalize the ***pending stop***. The creation of the field activities will prevent the service agreement from being stopped as described under <u>The System Finalizes Most Service Agreements Behind The Scenes</u>.

You must set up the algorithm! Field activities will only be created if you have defined the appropriate field work creation algorithm on the service agreement's SA type. The algorithm that is supplied with the base package checks if the service agreement / service point already has a stop read or a stop field activity, if so, field activities will not be created (the field work has already been initiated).

How To Stop Service Using A Scheduled Meter Read

Another option exists for stopping service when all that is required is a meter reading. If the requested stop date is close to a scheduled meter read date, you can forego a special trip into the field to get the reading. Refer to <u>How To Start Service Using A Scheduled Meter Read</u> for more information; the stop service option works in the same way and uses the same field activity type.

Finalizing Pending Stops

When you initiate a request to stop service, the system changes the service agreement's state to ***pending stop***. A ***pending stop*** service agreement remains in this state until everything necessary to stop service is defined in the system. At that time, the system automatically changes the state of the service agreement to ***stopped,*** and at that time the service agreement can be final billed.

So, how does the system know that "everything necessary" is in the system? In this section we provide the answer and explain the many other things that may take place at ***pending stop*** finalization.

Contents

The System Finalizes Most Service Agreements Behind-The-Scenes

The SA activation background process (referred to by the batch control code <u>SAACT</u>) finalizes a ***pending stop*** service agreement when everything necessary is in place. The service agreement's SA Type defines what's necessary:

- For SA Types that don't have service points (e.g., charitable donations, deposits, third party billing), everything necessary to finalize the service agreement is defined when you initiate the request to stop service. These types of service agreements can be finalized immediately.

- For SA Types that have service points, all field activities linked to the service point must be ***complete***. If field activities are linked to the service agreement, the system will automatically link the appropriate billable read to the service point as its stop read when the field activity is ***complete***.

Warning! If the ***completed*** field activity linked to the SA / SP doesn't have an associated read (for whatever reason), the system still stops the service agreement but leaves the SA/SP without a stop read. It does this because it counts on billing to create a bill segment error when it attempts to final bill the service agreement.

When the SA activation background process detects that everything necessary to stop service is in place, it automatically *stops* the service agreement. This process runs as often as your organization desires (but it should run at least daily).

> **Sub SAs are not handled by the SA activation background process.**   If your organization uses the SA relationship functionality and you have service providers that necessitate sub service agreements, you should be aware that the SA activation background process only stops normal and master SAs; sub SAs are stopped by the analyze SA relationships background process.

You can stop a service agreement real-time (assuming everything that's necessary to stop service is in place). Simply open Service Agreement - Main and click the **Stop** button.

What Happens At Finalization Time?

When a service agreement is finalized, the following takes place:

- If the service agreement has stop-oriented field activities linked to its service points, billable read(s) from the field activity(s) are linked to the service agreement's service points as their stop reads. If there are no associated billable reads, the system still stops the service agreement knowing that billing will generate an error when the service agreement is billed. Note, you can see the field activities that are linked to a service agreement using Service Agreement - Service Point.

- If the service agreement's SA type has a SA Stop algorithm, the algorithm is executed.

- If the service agreement is for a non-billed budget (i.e., the SA type has a special role of *Non-billed Budget*), the system removes all covered SAs from the non-billed budget. Refer to Stopping Non-billed Budgets for more information.

- If the service agreement is covered by a non-billed budget, the SA is removed from the non-billed budget. Refer to Stopping a Covered SA for more information.

- When the last active service agreement covered by a non-billed budget is *stopped*, the non-billed budget will be stopped (i.e., its state will be changed from *active* to *pending stop*).

- The service agreement's state will be changed from *pending stop* to *stopped*.

- If the service agreement has an *active* severance process, the process and its severance events will be canceled.

- If the service agreement is linked to an *active* collection process, the service agreement is "removed" from the collection process. If the collection process has no other active service agreements, it is *canceled*.

- When the last service agreement linked to an account is *stopped*, the account's bill cycle will be changed so that the account will be final billed when billing next executes. The system selects the latest open bill cycle where the Freeze and Complete switch value matches the value of the Freeze and Complete switch of the account's current bill cycle. In addition, the account's protect bill cycle flag is set to *No* so that the next time this account starts service, its bill cycle will be set based on the new service point's service cycle.

- The main customer's billing address will be changed to reflect the value specified on the Start/Stop page (and this may involve changing the main customer's override mailing address on their person record).

- If the service agreement is for a deposit (i.e., the SA type has a special role of **Cash Deposit**), the system calculates interest through the stop date. In addition, the SA's current balance is synchronized with its payoff balance (using the sync adjustment code defined on the service agreement's SA type).

- When the last active service agreement governed by a deposit class is **stopped**, all **active** deposit service agreements governed by the same deposit class will be stopped (i.e., their state will be changed from **active** to **pending stop**). These **pending stop** deposit service agreement will then be stopped (as per the above points).

- When a service agreement is stopped, the system automatically cancels the budget. Refer to Canceling A Budget for more information.

What Happens After A Service Agreement Is Stopped?

Refer to The Lifecycle Of A Service Agreement for more information about a service agreement's lifecycle.

Start/Stop Maintenance

You use the start/stop page to both start and stop service.

This page handles a variety of scenarios, including:

- Starting some or all services at a premise. Note, the system will automatically stop the existing customer when you indicate a new customer is starting.

- Stopping some or all services at a premise. Note, the system will automatically revert service to a landlord's account when you indicate a tenant is stopping.

- Starting non-premise-oriented services.

- Stopping non-premise-oriented services.

- Changing the mailing address associated with the account's main customer.

Refer to The Big Picture Of Starting Service for more information about starting service. Refer to The Big Picture Of Stopping Service for more information about stopping service.

The topics in the section describe the start/stop page in detail.

Contents

Start/Stop - Main

> The **Description of Page** section that appears below simply describes the fields on this page. Refer to How To for a description of how to perform common start/stop functions.

Use **Customer Information, Start Stop** to open this page.

Description of Page

The **Account ID** and the primary name of the **Account**'s main customer are displayed at the top of the page.

If the total number of pending start / stops for the account does not exceed the start stop details threshold defined in Installation Options, the grid contains an entry for every **Pending Start** and **Pending Stop** service agreement linked to the **Account ID**.

If information appears on the right portion of the grid, that means that "reciprocal relationships" exist. The following points describe potential reciprocal relationships:

- A reciprocal will be shown for a **Pending Start** service agreement if the **Pending Start** service agreement has at least one service point and if another service agreement is found that satisfies the following criteria:

  - The status of the service agreement is not **Canceled** or **Active**,

  - The service agreement is linked to all of the **Pending Start** service agreement's service points (and all SA/SP records have the same stop date as defined on the qualifying service agreement).

  - The service agreement's stop date is on/before the start date.

  - The service agreement's SA type has a service type that is the same as the **Pending Start** service agreement's service type.

  Note: if multiple service agreements meet the above criteria, the latest qualifying service agreement is shown as the reciprocal.

- A reciprocal will be shown for a **Pending Stop** service agreement if the **Pending Stop** service agreement has at least one service point and if another service agreement is found that satisfies the following criteria:

  - The status of the service agreement is not **Canceled**

  - The service agreement is linked to all of the **Pending Stop** service agreement's service points (and they all have the same start date as defined on the qualifying service agreement).

  - The service agreement's start date is on/after the stop date.

  - The service agreement's SA type has a service type that is the same as the **Pending Stop** service agreement's service type.

  Note: if multiple service agreements meet the above criteria, the earliest qualifying service agreement is shown as the reciprocal.

> **Note.** If multiple reciprocals exist for a given SA, none of the reciprocals will be shown. In this situation, an appropriate message is displayed highlighting this situation. The existence of multiple reciprocals is rare, but it could happen, for example, if multiple customers are paying for a service point's service (where one customer pays for 60% of the metered consumption and the other pays for the remaining 40%).

The following columns appear in the grid:

Drill Down (button)

Click this button to drill down into details of the pending start / stop SA. This button transfers you to the **Pending SA** tab.

Action

An icon will be displayed to highlight if the associated SA is a pending start or a pending stop. The 🟢 icon appears if the SA is a pending start. The 🔴 icon appears if the SA is a pending stop. If there is a reciprocal SA for the pending start, the 🔴 icon appears adjacent; clicking it will cause the SA grid to scroll to the left (so that you can see the pending stop). If there is a reciprocal SA for the pending stop, the 🟢 icon appears adjacent; clicking it will cause the SA grid to scroll to the left (so that you can see the pending start).

Date

This is the start date for pending start service agreements and the stop date for pending stop service agreements.

Cancel

Turn on this switch if you wish to cancel the pending start / stop.

> **Field activities will be cancelled too.** If you cancel a pending start / stop that has field activities, the field activities will also be cancelled. Refer to Starting Service & Field Activities for the details about how the system automatically creates the field activities to support start service requests. Refer to Stopping Service & Field Activities for the details about how the system creates the field activities to support stop service requests.
>
> **System-generated reciprocals will be cancelled too.** If you cancel a pending start / stop that has a SYSTEM-GENERATED reciprocal SA, the reciprocal will also be cancelled.

Premise Information

If a characteristic premise is linked to the service agreement, summary information about the pending start / stop SA's characteristic premise is displayed.

SA Information

Summary information about the pending start / stop SA is displayed.

Action	If this column is blank, then there is no reciprocal start/stop for the service agreement whose details appear to the left. If this column is not blank, then the information that appears to the right describes the reciprocal SA of the SA to the left. If a reciprocal SA exists, two icons will always appear: if a ⬤⬤ combination appears, the SA to the left is a pending stop (and clicking the ⬤ icon will cause the pending stop to appear); if a ⬤⬤ combination appears, the SA to the left is a pending start (and clicking the ⬤ icon will cause the pending start to appear).
Date	This is the start date for pending start service agreements and the stop date for pending stop service agreements.
Cancel	Turn on this switch if you wish to cancel the pending start / stop.

> **Field activities will be cancelled too.** If you cancel a pending start / stop that has field activities, the field activities will also be cancelled. Refer to Starting Service & Field Activities for the details about how the system automatically creates the field activities to support start service requests. Refer to Stopping Service & Field Activities for the details about how the system creates the field activities to support stop service requests.
>
> **System-generated reciprocals will be cancelled too.** If you cancel a pending start / stop that has a SYSTEM-GENERATED reciprocal SA, the reciprocal will also be cancelled.

Account Info	The name of the main customer associated with the reciprocal's service agreement's account is displayed.
Premise Information	Summary information about the pending start / stop premise is displayed.
SA Information	Summary information about the pending start / stop SA is displayed.

If the total number of pending start / stops for the account exceeds the start stop details threshold defined in Installation Options, the **Total** number of **Pending Starts** and **Total** number of **Pending Stops** is displayed together with a grid containing a summary of the pending start and pending stops.

The grid contains an entry for every group of *Pending Start* / *Pending Stop* service agreement linked to the **Account ID** with the same pending start / pending stop date, action, premise, and CIS division/SA Type.

The following columns appear in the grid:

Date	This is the start date for pending start service agreements and the stop date for pending stop service agreements.
Action	An icon will be displayed to highlight if the associated SA(s) are pending start or pending stop. The 🟢 icon appears if the SA(s) are a pending start. The 🔴 icon appears if the SA(s) are a pending stop. Click on the icon to navigate to the <u>Start Stop - Pending SA</u> tab where the associated pending start / pending stop service agreements will be displayed.
Premise Information	Summary information about the pending start / stop premise is displayed.
CIS Division / SA Type	This is the CIS division and service agreement type of the pending start / pending stop service agreements.
Total	This is the total number of service agreements with the same **Date**, **Action**, **Premise**, and **CIS Division / SA Type**.

Following the *Pending Start / Pending Stop* grid are two sections; one is used to start service, the other is used to stop service.

The following points describe the fields in the <u>start</u> service section (refer to <u>How To</u> for a description of how to perform common start functions).

- Use **Start Date** to define the date on which you want service to commence.

- Use **Start Method** to define what you want to start. Valid values are:

  - *Start Premise SPs*. Use this method if you want to start selected services at a premise. This method allows you to control the display of the service agreements to be started, providing a manageable view when there are many service agreements to be started at a premise.

  - *Start a Premise*. Use this method if you want to start services at a premise.

  - *Start a SA*. Use this method if you want to start a non-premise-oriented service (e.g., a deposit, a charitable contribution, a one-time charge).

- If you have selected the *Start Premise SPs* or *Start a Premise* option, use **Address** and **City** to select the premise. Refer to <u>Control Central - Main</u> for suggestions in respect of how to use these fields. The selected address and premise ID appear below the selection.

- If you have selected the *Start a SA* option, use **CIS Division** and **SA Type** to define the type of service agreement you wish to start.

> **Warning!** Take special care when adding a new service agreement to specify the appropriate CIS Division / SA Type as it will affect how the customer is billed, what rate can be specified, how overdue debt is collected, and much more. After the service agreement is activated, you may not change its SA type.

- Use **Requested by** to define who requested the stop (e.g., *Customer*, *Jane Smith*).

- Click the **Start** button to start service. When you click this button, the <u>Start Confirmation</u> page appears.

The following points describe the fields in the <u>stop</u> service section (refer to <u>How To</u> for a description of how to perform common stop functions).

- Use **Stop Date** to define the date on which you want service to stop.

- Use **Stop Method** to define what you want to stop. Valid values are:

  - ***Stop Selected SAs***. Use this method if you want to stop selected service agreements linked to the account.

  - ***Stop a Premise***. Use this method if you want to stop ALL services at a premise.

  - ***Stop a SA***. Use this method if you want to stop a specific SA.

  - ***Stop all Active SAs***. Use this method if you want to stop ALL service agreements linked to the account.

- If you have selected the ***Stop a Premise*** option, choose the **Premise ID**. You can optionally choose a specific premise if you selected the ***Stop Selected SAs*** option.

- If you have selected the ***Stop a SA*** option, choose the **SA ID**.

- Use **Requested by** to define who requested the stop (e.g., ***Customer***, ***Jane Smith***).

- Click the **Stop** button to stop service.

Start/Stop - Start Confirmation

The Start SA Confirmation page appears after a user clicks the **Start** button on <u>Start/Stop - Main</u>. This page presents a summary of the service agreement(s) that will be created if the **Start** button on this page is clicked. Refer to <u>How To</u> for a description of how to perform common start functions.

Description of Page

The **Account ID** and the primary name of the account's main customer are displayed at the top of the page.

The **Start Date** is the date on which the service is scheduled to start.

Start Requested By contains the name of the person who requested the start.

The **SAs to Start** scroll contains an entry for every service agreement that will be created if you click the **Start** button. If you do not want a service agreement to be created, click the – button (or turn off **Start this SA**). If you'd like to start a non-premise oriented service agreement, click the + button. The following fields appear on this page:

Start this SA	Turn this switch on if you want this type of service agreement to be created. Turn this switch off if you do not want this type of service agreement to be created.
	If you used a **Start Method** of ***Start a SA*** on the Start/Stop page, this switch will be turned on by default.

If you used a **Start Method** of ***Start a Premise*** (or ***Start Premise SPs***) and this is the first customer at a premise, this switch will be turned on for all service agreements that appear in the scroll. However, if there was a previous customer at the premise, this switch is only turned on for those types of service agreements used by the previous customer (we assume the new customer only wants the services used by the previous customer). Service agreements that are possible, but were not used by the previous customer, will appear in the scroll with this switch turned off.

CIS Division / SA Type

These fields define the type of service agreement that will be created. If you change the CIS Division, you must change the SA Type to reflect one of the services that the division manages.

If the SA is linked to a service point, the SA types are restricted based on the type(s) of service points (SP) the system has associated with the service agreement (as indicated in the message box). If there are no SPs, only SA types that don't use SPs are displayed. If there is a single SP, only SA types valid for the related SP Type are displayed. If there are multiple SPs, only SA types valid for all related SP Types are displayed.

> **Default Note.** If the service is linked to a service point, the SA Type defaults based on the SP Type. Refer to SP Type - SA Type for more information.

Start Option

Some SA Types have start options. A start option defines the rate and contract terms defaulted on the service agreement. This field will be gray if the SA type does not use start options.

Total Amount to Bill

Use this field if the service agreement is supposed to bill a given amount over its lifetime. This is typically used for deposit service agreements to define the amount of the deposit that should be billed. If the deposit is billed in installments, the installment amount is specified in the next field. This field is gray if the respective SA type doesn't use the Total Amount to Bill option.

This button is only appears if the SA type has a "special role" of ***Cash Deposit*** and references a deposit class. When clicked, the system attempts to calculate a recommended deposit amount by calling the recommended deposit amount algorithm that is plugged in on the SA type's deposit class.

Customer Read   Use this value to define if the customer reads his or her own meter. Valid values are *Yes* and *No*. This field does not appear for some SA types.

Allow Estimates   Turn on this switch if it's OK for the system to estimate this service agreement's consumption if a real meter read is missing at billing time. If the SA type does not allow estimates, this does not appear.

Recurring Charge Amount   This field's label is dynamic based on the content of the Recurring Charge Amount Label on the respective SA Type. This field is gray if the respective SA type doesn't use the Recurring Charge option. This field is typically used only for the following types of service agreements:

- Service agreements on a levelized payment plan. This field contains the amount charged each month for the service regardless of the actual amount owed.

- Merchandise service agreements on an installment plan. This field contains the installment amount.

- Deposit service agreements on an installment plan. This field contains the installment amount.

- Charitable contribution service agreement. This field contains the contribution amount.

Default note. The recurring charge amount defaults based on the **Start Option**.

SIC Code   Select the SIC code associated with the customer. This is typically used only for commercial and industrial customers.

Business Activity   Enter a description of the business activity at the location where this service is being started.

SA Information   This is a display-only area that provides information about the specific pending start SA. For example, information about the service points linked to the SA will be displayed for SP-oriented service agreements.

Messages   This is a display-only area that that provides information about the account's start / stop situation in general. For example, if there are multiple accounts paying for service at the premise an appropriate message will be displayed.

When you click the **Start** button, the system performs the following for every service:

- A service agreement is created effective on the start date.

- If a start option is specified, the service agreement's rate and contract terms are populated using information on the option. If a start option is not specified, the service agreement's rate is populated with the SA type's default rate.

- Service points are linked to the service agreement (if the service agreement is service point-oriented). The SA/SP start date for each service point is the same as the SA's start date.

If you use a **Start Method** of *Start Premise SPs* on <u>Start/Stop - Main</u>, the **SAs to Start** are displayed in a grid; you can control the service agreements that appear using filter options. You may want to use the filter if you have a premise with a large number of service agreements to start.

Premise Info displays summary information about the premise at which services are to be started.

The section beneath **Premise Info** provides you with options that control which service agreements appear in the grid. The following points describe the various options:

- Use the **SP Type Filter** to restrict the service agreements that appear in the grid based on the SP type of the service points that will be linked to the service agreement. The following options are available:

  - *All*. Use this option if you do not wish to restrict service agreements based on service point type.

  - *Specific SP Type*. Use this option to restrict service agreements to those that will be linked to service points of a specific **SP Type**.

- Use the **Geographic Type Filter** to restrict the service agreements that appear in the grid based on a geographic type and value of the service points that will be linked to the service agreement. The following options are available:

  - *All*. Use this option if you do not wish to restrict service agreements based on a geographic type and value.

  - *<Geographic Type>*. Use this option to restrict service agreements to those that will be linked to service points associated with the selected geographic type and **Geographic Value**.

- Select whether to *Include* or *Exclude* service agreements that are linked to service points where **Service Exists Already**. These service agreements are those that would be not be started by default. Refer to the description of the **Start this SA** checkbox for more information on service agreements that would be not be started by default.

Don't forget to click the search button after changing the filters.

The **Select All** / **Clear All** buttons are used to select service agreements to start. These buttons are enabled if at least one service agreement is displayed in the grid.

> **30 service agreements at a time.** Clicking **Select All** selects the first 30 service agreements in the grid. If more than 30 service agreements exist, you must select and start them in batches.

The grid that displays contains the **SAs to Start** that match your filter criteria. Click on the drill down button to open the **Start SA Confirmation Details** page.

The fields in the grid on the Start SA Confirmation page and on the Start SA Confirmation Details page are as described above for the **SAs to Start** scroll. Differences are highlighted here:

SP Info   This is summary information about the service point at which service is to be started.

SP Identifier   The service point's SP type's identifying geographic type and value. Refer to Setting Up Service Point Types. Up to three geo types and values are displayed in the SAs to Start grid.

Click the **Start** button on the Start SA Confirmation page to start the selected SAs. Click on the **Close** button to return to the main page - any changes made on this page since the last time you clicked **Start** are discarded.

Start/Stop - Stop Confirmation

If you choose the stop method of *Stop Selected SAs*, the Stop SA Confirmation page appears after a user clicks the **Stop** button on Start/Stop - Main. This page presents a summary of the service agreement(s) that will be stopped if the **Stop** button on this page is clicked. Refer to How To for a description of how to perform common start stop functions.

Description of Page

The **Account ID** and the primary name of the account's main customer are displayed at the top of the page.

The **Stop Date** is the date on which the service is scheduled to stop.

Requested By contains the name of the person who requested the stop.

The section beneath **Requested By** provides you with options that control which service agreements appear in the grid. The following points describe the various options:

- Use the **Premise Filter** to restrict the service agreements to those that are linked to a specific characteristic premise. The following options are available:

    - *All*. Use this option if you do not wish to restrict service agreements based on premise.

    - *No Premise*. Use this option to restrict service agreements to those that do not have a characteristic premise.

    - *Specific Premise*. Use this option to restrict service agreements to those with a characteristic premise of **Premise ID**.

- Use the **SA Type Filter** to restrict service agreements to those of a given SA Type.

    - *All*. Use this option if you do not wish to restrict service agreements based on SA Type.

    - *Specific SA Type*. Use this option to restrict service agreements to those of a given **CIS Division** and **SA Type**.

- Use the **Geographic Type Filter** to restrict the service agreements that appear in the grid based on the geographic type and value of the service points that are linked to the service agreement. The following options are available:

    - *All*. Use this option if you do not wish to restrict service agreements based on a geographic type and value.

    - *<Geographic Type>*. Use this option to restrict service agreements to those that will be linked to service points / premises associated with the selected geographic type and **Geographic Value**.

Don't forget to click the search button after changing the filters.

The **Select All** / **Clear All** buttons are used to select service agreements to stop. These buttons are enabled if at least one service agreement is displayed in the grid.

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30 service agreements at a time. Clicking **Select All** selects the first 30 service agreements in the grid. If more than 30 service agreements exist, you must select and stop them in batches.

The grid that follows contains the service agreements to stop that match your filter criteria. The following information appears in the grid:

Select Box   Use this checkbox to select service agreements that you want to stop.

Premise Information   Summary information about the pending stop premise is displayed.

SA Information   Summary information about the pending stop SA is displayed.

SP Identifier   The service point's SP type's identifying geographic type and value. Refer to Setting Up Service Point Types. Up to three geo types and values are displayed.

Click the **Stop** button on the Stop SA Confirmation page to stop the selected SAs. Click on the **Close** button to return to the main page - any changes made on this page since the last time you clicked **Stop** are discarded.

Start/Stop - Address/Phone

Open **Customer Information, Start Stop, Address/Phone** to change basic information about a customer while you are starting or stopping service.

A subset of person and account information. This page features a subset of person and account fields that typically change when a customer moves. You can always use the Person or Account transactions to change this information.

This information is held in limbo. The information on this page will only be updated on the respective person / account when the first service agreement linked to the account is activated or stopped (i.e., this information is held in limbo until the pending start / pending stop is activated / stopped).

Main customer information. The information on this page is associated with the account's main customer (as defined on Account – Person Information). If you need to change information about any other person linked to the account, you must transfer to Account – Person Information and make the changes there.

Use **Bill Route Type** to indicate how the bill is sent to the customer. If the **Bill Route Type** you select indicates that bills are routed via fax, make sure you specify a fax number in the **Telephone Numbers** below (note, the system knows which of a person's phone numbers is a fax number by the phone type). If the **Bill Route Type** you select indicates that bills are routed via Email, make sure to specify the person's **Email Address** below. If the **Bill Route Type** you selected indicates that bills are routed via the postal service, select the appropriate **Address Source**. This field is protected if bills are routed via email or fax. You have the following options:

- Choose *Mailing Premise on Account* if bills should be sent to the account's mailing premise. This address is displayed below.

- Choose *Person* if bills should be sent to the person's mailing address. This address is displayed below.

- Choose *Account Override* if bills should be sent to the account person's override address. This address is displayed below. Typically, you would only choose this option if the person has multiple accounts and each account's bills should be sent to a different address.

If the **Address Source** is *Person* or *Account Override*, the respective address fields are displayed and may be changed. If the **Address Source** is *Mailing Premise on Account*, the account's mailing premise is displayed and cannot be modified. Refer to Premise – Main Information for information about these fields.

> **Default note.** If you switch the **Bill Route Type** from a non-postal to postal routed, the **Address Source** defaults to the bill address source defined on the account (if one exists) or *Mailing Premise on Account* if bill address source is not specified for the main customer.

> Refer to Setting Up Bill Route Types for more information about bill route types.

Specify the customer's **Email Address**. This can be used to route bills to the customer via email (if your bill routing software supports this function).

Telephone Numbers are used by Control Central to look for accounts and persons. If the person has more than 20 phone numbers, the first 20 will be shown as display only with a message indicating that more phone numbers exist until you save your start or stop. Once the start or stop has been saved, you are able to modify the phone number collection.

The following fields display:

- **Phone Type** indicates the type of phone number, e.g., Home, Mobile, Business, …

- Use **Phone Number** to define the telephone number. Enter the telephone number in the format described by the **Phone Format**.

> **Formatting is performed by a plug-in.** The format that is applied to a **Phone Number** is controlled by the algorithm that is plugged in on the respective Phone Type. If you prefer a different format, your system administrator should configure this algorithm appropriately.

- Enter the **Extension**, if any, of the telephone number.

Start/Stop - Pending SA

If you need to change additional information about the pending start or stop SAs, navigate to the **Pending SA** tab. Alternatively, you can click the Drill Down button on the SA grid of the **Main** tab.

Description of Page

If the total number of pending start / stops for the account does not exceed the start stop details threshold defined in Installation Options, an entry appears in the scroll for each entry in the SA grid on the main page. Use the **Pending Start/Stop SA** navigation arrow buttons to select the pending SA you want to review or modify. This page is split between the primary SA on the top, and the reciprocal SA on the bottom. The following fields are available.

Primary SA:

SA Info	Summary information about the pending start / stop SA is displayed.
Cancel	Turn on this switch if you wish to cancel the pending start / stop.
Date	This is the start date for pending start service agreements and the stop date for pending stop service agreements.
Reason	This column indicates if the pending start / stop is *System Generated* or *Customer Requested*. System-generated starts are created when a tenant stops service at a premise covered by a landlord agreement. System-generated stops are created when a customer requests a start at a premise where the existing customer hadn't already requested a stop.
CIS Division / SA Type	These fields define the type of service agreement that will be created. These fields will be gray if the service agreement is pending stop.
	If you change the CIS Division, you must change the SA Type to reflect one of the services that the division manages.
	If the SA is linked to a service point, the SA types are restricted based on the type(s) of service points (SP) the system has associated with the service agreement (as indicated in the message box). If there are no SPs, only SA types that don't use SPs are displayed. If there is a single SP, only SA types valid for the related SP Type are displayed. If there are multiple SPs, only SA types valid for all related SP Types are displayed.

Start Option	Some SA Types have start options. A start option defines the rate and contract terms defaulted on the service agreement. This field will be gray if the SA type does not use start options or if the service agreement is pending stop.
Premise	Summary information about the pending start / stop premise is displayed.

Reciprocal SA:

SA Info	Summary information about the pending start / stop SA is displayed.
Cancel	Turn on this switch if you wish to cancel the pending start / stop.
Date	This is the start date for pending start service agreements and the stop date for pending stop service agreements.
Reason	This column indicates if the pending start / stop is *System Generated* or *Customer Requested*. System-generated starts are created when a tenant stops service at a premise covered by a landlord agreement. System-generated stops are created when a customer requests a start at a premise where the existing customer hadn't already requested a stop.
CIS Division / SA Type	These fields define the type of service agreement that will be created or stopped. This field will be gray if the service agreement is pending stop.
	If you change the CIS Division, you must change the SA Type to reflect one of the services that the division manages.
	If the SA is linked to a service point, the SA types are restricted based on the type(s) of service points (SP) the system has associated with the service agreement (as indicated in the message box). If there are no SPs, only SA types that don't use SP's are displayed. If there is a single SP, only SA types valid for the related SP Type are displayed. If there are multiple SPs, only SA types valid for all related SP Types are displayed.
Start Option	Some SA Types have start options. A start option defines the rate and contract terms defaulted on the service agreement. This field will be gray if the SA type does not use start options or if the service agreement is pending stop.

Premise

Summary information about the pending start / stop premise is displayed.

Account

The name of the main customer associated with the reciprocal's service agreement's account is displayed.

If the total number of pending start / stops for the account exceeds the start stop details threshold defined in Installation Options, the pending start / stop SAs and their reciprocal SAs are displayed in a grid; you can control the service agreements that appear using filter options.

The section beneath **Account** provides you with options that control which service agreements appear in the grid. The following points describe the various options:

- Use the **SA Action Filter** to restrict the service agreements that appear in the grid to pending starts or pending stops. The following options are available:

  - *All*. Use this option if you do not wish to restrict service agreements based on SA Action.

  - *Start*. Use this option to restrict service agreements to pending starts.

  - *Stop*. Use this option to restrict service agreements to pending stops.

- Use the date filter to restrict service agreements to those that will start or stop between the **From Date** and the **To Date**.

- Use the **Premise Filter** to restrict the service agreements to those that are linked to a specific characteristic premise. The following options are available:

  - *All*. Use this option if you do not wish to restrict service agreements based on premise.

  - *No Premise*. Use this option to restrict service agreements to those that do not have a characteristic premise.

  - *Specific Premise*. Use this option to restrict service agreements to those with a characteristic premise of **Premise ID**.

- Use the **SA Type Filter** to restrict service agreements to those of a given SA Type.

  - *All*. Use this option if you do not wish to restrict service agreements based on SA Type.

  - *Specific SA Type*. Use this option to restrict service agreements to those of a given **CIS Division** and **SA Type**.

- Use the **Geographic Type Filter** to restrict the service agreements that appear in the grid based on the geographic type and value of the service points that are linked to the service agreement. The following options are available:

  - *All*. Use this option if you do not wish to restrict service agreements based on a geographic type and value.

  - *<Geographic Type>*. Use this option to restrict service agreements to those that will be linked to service points / premises associated with the selected geographic type and **Geographic Value**.

Don't forget to click the search button after changing the filters.

The **Select All** / **Clear All** buttons are used to select service agreements if you plan on issuing any of the mass update actions at the bottom of the page. These buttons are enabled if at least one service agreement is displayed in the grid.

> **30 service agreements at a time.** Clicking **Select All** selects the first 30 service agreements in the grid. If more than 30 service agreements exist, you must select and start them in batches.

The grid that displays contains the service agreements that match your search criteria. Click on the drill down button to open the **Pending SA Details** page.

Please refer to the **Pending Start/Stop SA** scroll for a description of the fields in the pending start/stop SA grid on the Pending SA tab and on the Pending SA Details page. Additional fields are described here:

Pending SAs Grid:

- **Select box**. Use this checkbox to select service agreements for mass update.

- The **Action** icons highlight if the associated SA is a pending start or a pending stop and if there are reciprocal SAs. Refer to the action icon on Start Stop - Main.

Mass Update Buttons:

Use the **Cancel Selected** button to cancel the selected pending start / stops together with any associated reciprocal pending start / stops. This button is enabled if you have selected one or more pending SAs.

Use the **Change Start/Stop Date** button to change the start / stop date for the selected pending start / stop service agreements. If a selected start / stop has a reciprocal SA, its start / stop date is also changed. This button is enabled if you have selected one or more pending SAs.

Start/Stop - Pending Field Activity

When you start / stop service point-oriented service, field activities are typically created. You can view every non-cancelled, non-complete field activity linked to the account's service agreements on the **Pending Field Activity** page.

> **Note.** The field activities are NOT limited to those associated with starting / stopping service. So, if a customer has a pending "cut for non payment" field activity, it would also appear on this page.

Description of Page

An entry appears in the scroll for every *Pending* and *Held* field activity linked to the account's service agreements. The information in the **Field Activity** column contains a summary of the field activity and its service point. The information in the **How Used** column describes the purpose of the field activity (e.g., *Start Activity*, *Stop Activity*, *Severance Activity*).

If the total number of pending start / stops for the account exceeds the start stop details threshold defined in Installation Options, you can control the field activities that appear using filter options.

The section beneath **Account** provides you with options that control which field activities appear in the grid. The following points describe the various options:

- Use the **Schedule Date** filter to restrict the field activities that appear in the grid to those that are scheduled between. The following options are available:

  - *All*. Use this option if you do not wish to restrict field activities to a specific schedule date.

  - *Specific Date*. Use this option to restrict the field activities to those with a schedule date between the **From Date** and the **To Date**.

- Use the **Premise Filter** to restrict the field activities to those that are linked to service points at a specific premise. The following options are available:

  - *All*. Use this option if you do not wish to restrict field activities based on premise.

    - *Specific Premise*. Use this option to restrict field activities to those linked to a service point at the given **Premise ID**.

- Use the **SP Type Filter** to restrict field activities to those that are linked to service points of a given SP Type.

  - *All*. Use this option if you do not wish to restrict field activities based on SP Type.

  - *Specific SA Type*. Use this option to restrict field activities to those of a given **SP Type**.

- Use the **Geographic Type Filter** to restrict the field activities that appear in the grid based on the geographic type and value of the service points that are linked to the service agreement. The following options are available:

  - *All*. Use this option if you do not wish to restrict field activities based on a geographic type and value.

  - *<Geographic Type>*. Use this option to restrict field activities to those that are linked to service points / premises associated with the selected geographic type and **Geographic Value**.

Don't forget to click the search button after changing the filters.

How To

The topics in this section describe how to perform common start/stop functions.

Contents

How To Start Service At A Premise

The following instructions specifically reference the *Start a Premise* **Start Method**. You can also use the **Start Method** *Start Premise's SPs* and its corresponding user interface.

You navigate through the pages as follows:

- Use Control Central - Main to look for the customer. If the customer exists, click the Start Service button to transfer to Start/Stop. If the customer doesn't exist, add a new person/account by following the instructions under How To Add A New Customer From Control Central.

- Specify the **Start Date**, **Start Method (***Start a Premise***)**, and select a premise (by entering the premise **Address** and clicking the search button).

- Click the **Start** button to review the various service agreements that will be created.

> **Service agreements are created.** Each row in the scroll is associated with a service agreement. When you close the page, the system creates new service agreements in the state of ***pending start***.

- If you're starting service at a premise, the system automatically populates the Start Confirmation page with information about every service agreement to be created. To do this, we make a basic assumption - the customer wants every service at the premise. If this assumption is incorrect, simply remove the service agreement from the scroll (by turning off the **Start this SA** switch) before closing the page.

> **Automatically stop the existing customer.** If there's a customer currently paying for service at the premise, the system automatically sets up the stop information for the existing customer. The stop date of the existing customer is the start date of the new customer. If you don't want to stop the existing customer, simply indicate such in the scroll.

> **Warning!** Take special care when adding a new service agreement to specify the appropriate CIS Division and SA Type as it will affect how the customer is billed, what rate can be specified, how overdue debt is collected, and much more. After the service agreement is activated, you may not change its CIS Division / SA type.

> Refer to [Starting Service & Field Activities](#) for the details about how the system automatically creates the field activities to support start service requests.

How To Stop Service At A Premise

The following instructions specifically reference the ***Stop a Premise*** **Stop Method**. You can also use the **Stop Method** ***Start Selected SAs*** and its corresponding user interface.

You navigate through the pages as follows:

- Use [Control Central - Main](#) to find the customer. Click the Stop Service button to transfer to Start/Stop.

- Specify the **Stop Date**, **Stop Method (*Stop a Premise*)**, and select a **Premise** (the premise will have been pre-selected for you if you drilled down from Control Central).

- Click the **Stop** button to stop service at the premise.

- When you click the stop button, the system changes the status of each service agreement to ***pending stop*** and sets the stop date accordingly. If we stopped a service agreement that we shouldn't have, simply cancel the stop by checking the **Cancel** column in the grid (and save the page)

> **Landlord reversion.** If you stop service at a premise that references a landlord agreement, the system will automatically create pending start service agreements for the landlord for those service types covered by the landlord agreement.

> Refer to [Stopping Service & Field Activities](#) for the details about how the system creates the field activities to support stop service requests.

How To Start A Deposit

Charging a customer for a deposit involves creating a service agreement. Deposit service agreements are just like other service agreements in many ways:

- The system bills the customer for the deposit using information on the service agreement.

- The customer pays for the billed amount.

- If the customer doesn't pay, credit & collections starts a collection process to encourage the customer to pay.

Deposit service agreements differ from regular service agreements in the following ways:

- Deposit service agreements typically don't cause a receivable account to be affected when the deposit is billed. It is only when the deposit is paid that a financial transaction occurs (debit cash, credit deposit payable).

- Deposit service agreements have a credit balance when the billed amount is paid (the deposit paid by the customer is a liability of your company - it owes the customer this money).

- Deposit service agreements may be billed in installments or in a lump sum.

Creating a deposit service agreement involves the following steps:

- Select the account on Control Central and open Start/Stop.

- Enter a **Start Date** and **Start Method** of ***Start a Premise***.

- Indicate the premise that the deposit service agreement will cover using the Address and click the **Start** button.

- After you click the **Start** button, the Start Confirmation page will appear:

  - Choose an appropriate **CIS Division / SA Type** for the deposit service agreement.

  - If **Start Options** have been created for the CIS Division / SA Type, you need only select the appropriate option and close the page. The system will use the information on the start option to populate the service agreement's billing parameters (e.g., the total deposit due, the installment amount, etc.).

  - If **Start Options** have not been created for the CIS Division / SA Type, you must define the total amount of the deposit and the installment amount, if any. You define the total amount of the deposit in **Total Amount To Bill**. You can have the system recommend a deposit amount by pushing the 🛍 that appears adjacent to this field.

  - If you allow the customer to pay the deposit in installments, define the Installment Amount (the prompt for this field is defined on the SA type and therefore will differ depending on how you've set up the system). After defining this information, close the page. The system will use the information you entered to create a deposit service agreement.

> **Note.** The above information related to starting a deposit assumes that the deposit SA Type is set up as a premise-based service. If your company does not associate a deposit with a specific premise, you will need to set up your SA Type for the deposit accordingly. Then, you will need to use a Start Method of Start a SA.

How To Start A Charitable Contribution

If a customer elects to contribute money to a charitable organization, you must create a service agreement. Charitable contribution service agreements are just like other service agreements in many ways:

- The system bills the customer for the elected contribution amount using information on the service agreement.

- The customer pays the billed amount.

- If the customer doesn't pay, credit & collections may start a collection process to encourage the customer to pay (depending upon how the charitable contributions debt class has been set up on your system).

Charitable contribution service agreements differ from regular service agreements in the following ways:

- Charitable contribution service agreements typically don't cause a receivable account to be affected when the charitable contribution is billed. It is only when the charitable contribution is paid that a financial transaction occurs (debit cash, credit charitable contribution payable).

- Charitable contribution service agreements have no balance when the billed amount is paid because the money is being forwarded to a charity.

Creating a charitable contribution service agreement involves the following steps:

- Select the account on Control Central and open Start/Stop.

- Enter a **Start Date** and **Start Method** of *Start a SA*.

- Indicate the **CIS Division** / **SA Type** of the charitable contribution agreement and click the **Start** button.

- After you click the **Start** button, the Start Confirmation page will appear:

  - If **Start Options** have been created for the CIS Division / SA Type, you need only select the appropriate option and close the page. The system will use the information on the start option to populate the service agreement's billing parameters (i.e., the charitable contribution amount to be periodically billed).

  - If **Start Options** have not been created for the CIS Division / SA Type, you must define the charitable contribution amount (the prompt for this field is defined on the SA type and therefore will differ depending on how you've set up the system). After defining this information, close the page. The system will use the information you entered to create a charitable contribution service agreement.

How To Start A One-Time Charge Service Agreement

You create a one-time charge (i.e., billable charge) whenever a customer should be charged for a service that occurs outside the normal course of business. For example, you would create a billable charge to charge a contractor for the repair of a ruptured gas line.

A billable charge must reference a service agreement. This service agreement behaves just like any other service agreement:

- **Bill segments are created for the service agreement.** Whenever billing is performed for an account with billable charge service agreements, the system creates a bill segment for each unbilled billable charges.

- **Payments are distributed to the service agreement.** Payments made by an account are distributed to its billable charge service agreements just like any other service agreement.

- **Overdue debt is monitored.** The credit and collections process monitors billable charge service agreements for overdue debt and responds accordingly when overdue debt is detected.

Therefore, in order to levy a one-time charge, the customer must have a billable charge service agreement. If one already exists (because of a previous billable charge), you don't have to create a new service agreement. Rather, transfer to the Billable Charge page and add a billable charge for the service agreement. If the customer doesn't already have billable charge service agreement, create one by performing the following steps:

- Select the account on Control Central and open Start/Stop.

- Enter a **Start Date** and **Start Method** of *Start a SA*.

- Indicate the **CIS Division** / **SA Type** of the billable charge service agreement and click the **Start** button.

- After you click the **Start** button, the Start Confirmation page will appear. Simply close the confirmation page to save the agreement.

- After the billable charge service agreement has been created, add a billable charge to it (the easiest way is to use the SA context menu). Refer to Maintaining Billable Charges for more information.

How To Start Service When Multiple Service Points Measure Consumption

When you start service at a premise, the system automatically links service points to service agreements in the same manner as existed for the previous customer. So, if the previous customer amalgamated consumption of three service points and billed this under a single service agreement, the system will create the same configuration for the new customer.

This works fine when the unusual service point configurations have already been set up for the previous customer. However, it doesn't work when the premise is new. So, if you have a new premise that has multiple service points whose consumption needs to be amalgamated under a single service agreement, do the following:

- Start service for only one of the service points to be linked to the service agreement. When you start service, the system creates a service agreement, links the service point to it, and links a field activity to the service point.

- For every service point that wasn't linked to the service agreement:

  - Create a field activity to start service at the service point.

  - Link the service point to the pending service agreement and link the field activity to the service point on the service agreement. Both of these tasks are done on Service Agreement - SA / SP.

> **That's it.** The activation process will automatically activate the service agreement when the fieldwork is complete on all of its service points.

The Big Picture Of Customer Contacts

Customer contacts are used to record when and why a customer contacted your company. This information is used for both audit and statistical purposes. The topics in this section provide details about how customer contacts are created and used in the system.

Contents

Customer Contacts Are Associated With Persons, NOT Accounts

Customer contacts are associated with a Person, not with an Account. To associate a customer contact record with an account, you must select a person related to that account. Unless you have specific reasons to do otherwise, the main customer is usually your best choice.

How Customer Contacts Are Created

You can add a Customer Contact at any time using either of the following methods:

- Use the customer contact maintenance page.

- Use the Customer Contact Zone on the dashboard.

In addition to manually adding customer contacts, your implementation team can set up plug-in algorithms that create customer contacts when certain events transpire. For example, you can plug-in an algorithm on the customer class object that creates a customer contact whenever an order is completed. Because the number and type of plug-ins can be customized for your implementation, we cannot provide a concise list of all such algorithms.

In addition to the above, a variety of events can trigger the creation of a customer contact. Refer to Customer Contacts Are Used To Trigger Letters for the details.

Customer Contacts Are Used To Trigger Letters

In order to send a letter to a customer, a customer contact must be created for the customer. These types of customer contacts reference a customer contact type that, in turn, references a letter template. The letter template controls the type of information that is merged into the "form letter" and how the letter is physically produced. Refer to Printing Letters for more information about letter templates and how letters are physically produced.

Customer contacts that trigger letters can be produced by any of the method described under How Customer Contacts Are Created. While a user can create this type of customer contact (e.g., if a customer requests a form to sign-up for automatic payment), the primary sources of customer contacts that trigger letters are via system events and algorithms. Besides algorithms, the following system events may generate customer contacts automatically:

- **Collection events.** When a customer falls in arrears, the system creates a collection process. A collection process is a series of events meant to encourage the customer to pay their outstanding debt. A classic collection event is one that creates a customer contact that, in turn, causes a letter to be sent to the customer requesting payment. Refer to The Big Picture Of Collection Events for more information.

- **Severance events.** The last event in a collection process typically creates a severance process for each service agreement that's in arrears. A severance process is a series of events that leads to service being severed. A classic severance event is one that creates a customer contact that, in turn, causes a letter to be sent to the customer warning of impending cutoff (or telling them they've been cutoff and the terms necessary to reinstate service). Refer to The Big Picture Of Severance Events for more information.

- **Write-off events.** After a customer has been final billed, a write-off process will be created. A write-off process is a series of events that leads to the debt being written off. A classic write-off event is one that creates a customer contact that, in turn, causes a letter to be sent to the customer informing them of that their debt has been referred to a collection agency. Refer to The Big Picture Of Write Off Events for more information.

Your implementation team can introduce plug-in algorithms to create a customer contact when certain events take place. If the created customer contact references a letter template, a letter will be triggered. Because the number and type of plug-ins can be customized for your implementation, we cannot provide a concise list of all such algorithms.

A Customer Contact May Trigger Reminders

If you want the system to remind you (via a To Do entry) about a customer-related issue, you can set up a "reminder" on a customer contact. To do this, follow these steps:

- Determine if you need a new customer contact or if you can reuse one that already exists. If you need a new customer contact, use any of the "online methods" described under How Customer Contacts Are Created.

- Add an entry to the customer contact's log. This log entry should be set up as follows:

  - If the To Do entry should be addressed to a specific user, choose a **Reminder** type of *Send to User* and enter the user's **User ID**.

  - If the To Do entry should be addressed to a group of users, choose a **Reminder** type of *Send to Role* and enter the user group's **To Do Role**.

  - Use **Trigger Date** to define the latest date on which the To Do entry should be created. The reason we indicated this should be the latest date is because the background process that's responsible for creating these To Do entries has a parameter called "lead time". This parameter is used to define the number of days before the **Trigger Date** that the To Do entry should be created. Note, the batch control ID of *TD-CCCB* is used to refer to this background process.

A To Do entry will then be created on a future date.

Customer Contacts Can Be Used As Case Files

If a customer calls with a complaint (e.g., they suspect their bill is too high), you can start a "case file" for the complaint by creating a customer contact. This customer contact should be marked as "open".

> **Alerts.** Customer contacts that are marked as being open cause an alert to appear when the customer is displayed on control central.

Over time, as you work on the case, you can add entries to the customer contact's log to describe your progress.

You can use the customer contact's reminder functionality to remind you to check out the case on a future date (or dates).

When the case is resolved, you simply turn off the customer contact's open indicator and add an appropriate entry to the log describing the resolution.

Maintaining Customer Contacts

Customer contacts are used to record when and why a customer contacted your company. This information is used for both audit and statistical purposes. The topics in this section describe how to maintain customer contacts. Refer to The Big Picture Of Customer Contacts for background information about customer contacts.

Contents
Customer Contact - Main
Customer Contact - Log
Customer Contact - Characteristics

Customer Contact - Main

Open **Customer Information, Customer Contact** to maintain a customer contact.

> **The dashboard.** A zone exists in the dashboard that can be used to easily create new customer contacts.

Description of Page
Enter the **Person ID** of the person associated with the customer contact.

Select a **Preferred Contact Method** to indicate how the person prefers to be contacted. The following options are available:

- *Email.* If this method is selected, the Contact Person's email address appears adjacent.

- *Fax.* If this method is selected, the Contact Person's fax number appears (the system knows which of a person's phone numbers is a fax number by the phone type).

- *Not Applicable.* If the person doesn't want to be contacted (or the contact method is unusual), use this option. You might want to consider describing the situation in the Contact Instructions.

- *Phone.* If this method is selected, the Contact Person's phone number appears.

- *Postal.* If this method is selected, the Contact Person's address appears. Refer to Where Does The Address Come From for a description of which address the system displays.

- *SMS.* If this method is selected, the Contact Person's short message service (SMS) information displays.

Turn on the **Open** switch if the event that necessitated the contact hasn't been resolved. For example, if a customer calls with a high bill complaint and you can't resolve it immediately, you would turn on the **Open** switch and enter an appropriate entry in the **Log**. Refer to Customer Contacts Can Be Used As Case Files for more information.

Enter the **Contact Date** and **Contact Time**.

Default note. The current date and time are defaulted.

The **User ID** of the user who created the contact is displayed adjacent to **Contact Date / Time**.

Every customer contact has a **Contact Type** that classifies the record for reporting purposes. Every contact type, in turn, references a **Contact Class**. The class categorizes customer contacts into larger groupings for reporting purposes.

Adding a customer contact may cause a letter to be generated. You can set up a customer contact type to generate a form letter whenever a customer contact of this type is added. In fact, this is the only way to generate a letter in the system. Refer to Customer Contacts Are Used To Trigger Letters for more information.

Use **Comments** to describe the contact.

If the customer contact was created by a collection event, a severance event or a write-off event or is referenced by a field activity step, the **Related Records** contains information about the associated record.

If a letter template is associated with the customer contact type / class:

- **Letter Information** describes the status of the letter (i.e., whether it has been printed or not).

- If the letter has been printed and you want to reprint, please turn on the reprint switch (this will cause the letter to be reprinted the next time the letter print background process executes).

- If your implementation team has plugged-in an Online Letter Image algorithm on Installation Options - Algorithms, the **Display Letter** button appears. When clicked, the image of the letter is rendered in a PDF and displayed in an Adobe reader. Refer to Technical Implementation Of Online Letter Production for a technical description of how letter images are produced.

The grid that follows contains a diary of past (and future) events related to the customer contact. Refer to A Customer Contact May Trigger Reminders and Customer Contacts Can Be Used As Case Files for more information about when you would use this log.

There are two ways to add a row to the log:

- You can click the + button to add a new row.

- You can navigate to the **Log** tab and insert a new row into the scroll.

Regardless of the method used to add a log entry, the following information appears on a log entry:

- **Create Date / Time** is the date and time when the log entry was created.

- **Created by** identifies the user that created the log entry.

- Use **Comments** to describe the reason for the log entry. If you have lengthy comments, we recommend navigating to the **Log** tab (by clicking the adjacent Go To button) as there is a larger input field on this page.

- The remaining fields are only used if you want the system to remind you about this customer contact on a future date. If you enter these fields, the system will create a To Do entry to remind you about the customer contact.

  - If the To Do entry should be addressed to a specific user, choose a **Reminder** type of *Send to User* and enter the user's **User ID**.

  - If the To Do entry should be addressed to a group of users, choose a **Reminder** type of *Send to Role* and enter the user group's **To Do Role**.

  - Use **Trigger Date** to define the latest date on which the To Do entry should be created. The reason we indicated this should be the latest date is because the background process that's responsible for creating these To Do entries has a parameter called "lead time". This parameter is used to define the number of days before the **Trigger Date** that the To Do entry should be created. Note, the batch control ID of *TD-CCCB* is used to refer to this background process.

> **Multiple reminders.** You can set up multiple reminders on a customer contact. For example, you can indicate that you want to be reminded every Monday for the next 4 weeks to check on the issue that caused a given customer contact to arise. You'd do this be entering 4 log entries where each as the desired **Trigger Date**.

Customer Contact - Log

The log contains a diary of past (and future) events related to the customer contact. Open **Customer Information, Customer Contact** and navigate to the **Log** tab to maintain a customer contact's log. Note, you can also maintain this information on the **Main** tab.

> Refer to A Customer Contact May Trigger Reminders and Customer Contacts Can Be Used As Case Files for more information about when you would use this log.

Description of Page

Date / Time is a display-only field that contains the date and time when the log entry was created.

Log ID is the system-assigned, unique identifier of the log entry.

Created by is a display-only field that contains the ID and name of the user who created the log entry.

Use **Comments** to describe the reason for the log entry.

The remaining fields are only used if you want the system to remind you about this customer contact on a future date. If you enter these fields, the system will create a To Do entry to remind you about the customer contact.

- If the To Do entry should be addressed to a specific user, choose a **Reminder** type of ***Send to User*** and enter the user's ID in **Send To**.

- If the To Do entry should be addressed to a group of users, choose a **Reminder** type of ***Send to Role*** and enter the user group's To Do Role in **Send To**.

- Use **Trigger Date** to define the latest date on which the To Do entry should be created. The reason we indicated this should be the latest date is because the background process that's responsible for creating these To Do entries has a parameter called "lead time". This parameter is used to define the number of days before the **Trigger Date** that the To Do entry should be created. Note, the batch control ID of ***TD-CCCB*** is used to refer to this background process.

Customer Contact - Characteristics

Open **Customer Information, Customer Contact** and navigate to the **Characteristic** tab to maintain a customer contact's characteristics.

> **Note.** We do not anticipate a great deal of use for characteristics on customer contacts. The primary purpose of catering for characteristics on this object is to allow a customer contact that triggers a letter to be able to extract information from any object in the system. For example, if you have an algorithm / background process that wants to generate a letter in respect of a given premise, you could create a customer contact and reference the premise as a characteristic value. Then, when the information is extracted for the letter, the extract algorithm could extract fields from the premise to merge onto the letter.

Description of Page

> **Note.** You can only choose characteristic types defined as permissible on a customer contact. Refer to Setting Up Characteristic Types & Their Values for more information about characteristic types. In addition, the characteristic type must also be defined as valid for the customer contact's type. Refer to Setting Up Customer Contact Types for more information about customer contact type.

The following fields display:

Characteristic Type   Indicate the type of characteristic.

Characteristic Value   Indicate the value of the characteristic.

Printing Letters

As described under Customer Contacts Are Used To Trigger Letters, you must create a customer contact whenever you want to send a letter to a customer. The contents of this section describe the technical implementation of letter production.

Contents

Letter Templates Control The Information Merged Onto Letters

Customer contacts that trigger letters reference a customer contact type that, in turn, references a letter template. The letter template controls the following:

- It contains an algorithm that is responsible for extracting the information merged onto your letters. Specifically, algorithms of this type create the "flat file records" that are passed to your letter print software. Algorithms of this type are called under the following scenarios:

    - The background process that builds the flat file that's passed to your letter print software calls these algorithms to construct the "flat file records" for each letter.

    - If your letter print software has the ability to construct a real-time image of a letter (in a PDF), you can plug-in an *Online Letter Image* algorithm on the Installation Record. This type of algorithm will call the letter's letter template's extract algorithm to extract the information that is merged onto the letter. Refer to Technical Implementation Of Online Letter Image for the details.

    You can create letters online using an external reporting tool such as BI Publisher or Crystal reports. Refer to Letter Print - BI Publisher and Crystal Sample Welcome Letters - CI_LTRGN_ENG REPORT for more information about the sample template.

    Refer to The Doc 1 Records for examples of the record layouts passed to the Doc 1 print software.

- It contains the ID of the background process that builds the flat file that's passed to your letter print software. The base package example of this process (known by the batch control ID of LTRPRT) simply calls each customer contact's letter template's extract algorithm to format the information placed onto the flat file.

BI Publisher and Crystal Reports Versus DOC 1

Using BI Publisher and Crystal Reports as your external reporting tool to display an online letter image differs from using DOC 1 printing software as follows:

- An extract file is not required when using BI Publisher or Crystal Reports. The sample reports provided to use with these external report tools do not have to extract information from another object to merge into a letter.

- Generating letters in batch is not supported yet.

Refer to Letter Print - BI Publisher and Crystal Sample Welcome Letters - CI_LTRGN_ENG REPORT for more information.

Where Does The Address Come From?

The following points describes the source of a letter's address:

- For letters generated as a result of collection events, severance events, write-off events and overdue events, the address is extracted as follows:

  - The respective Account – Person record is retrieved for the letter recipient (note, the account ID is retrieved from the related collection / severance / write-off / overdue process).

  - If the person has a seasonal address effective on the business date, the letter's address is the respective seasonal address.

  - If the address source is **Mailing Premise on Account**, the letter's address is the account's mailing premise.

  - If the address source is **Account Override**, the letter's address is the override address on the respective Account – Person record.

  - If the address source is **Person**, the letter's address is the person's mailing address.

  - If the address source is not defined, the person's mailing address is used.

  - If an address was not populated as a result of the above, the letter is not produced and a warning is issued by the background process responsible for creating the letter extract file.

- For all other types of letters, the address is extracted as follows:

  - If the letter's person has a seasonal address effective on the business date, the letter's address is the respective seasonal address.

  - If the letter's person has a mailing address, it is used.

  - Otherwise, the system checks if the letter's person has at least one account where the person is the main customer and the account has at least one active service agreement. If so, the logic described above is executed for the first such account found.

  - If an address was not populated as a result of the above, the letter is not produced and a warning is issued by the background process responsible for creating the letter extract file.

Technical Implementation Of Online Letter Images

Users can view an image of any letter that is sent to a customer if you set up the following:

- Plug-in an **Online Letter Image** construction algorithm on the Installation Record. Refer to ONLD-LT for an example of such an algorithm. Note, if your letter print software is not capable of producing a PDF containing an image of a letter, users will not be able to view images of letters.

- Plug-in the appropriate extract algorithm on each letter template. Algorithms of this type format the records that contain the customer information that is passed to your printing software.

When you plug-in these algorithms, a button appears on Customer Contact - Main for customer contacts whose customer contact type references a letter template. When a user clicks this button, the following takes place:

- The installation record's **Online Letter Image** construction algorithm is executed.

- This algorithm calls the customer contact's letter template's extract algorithm. This algorithm constructs the information that's merged onto the letter and returns it to the **_Online Letter Image_** algorithm. This algorithm, in turn, passes it to your letter print software.

- Your letter print software renders an image of the letter in a PDF and returns it to the **_Online Letter Image_** algorithm.

- And finally, the **_Online Letter Image_** algorithm displays the PDF in a separate Adobe session.

Technical Implementation Of Batch Letter Production

The batch process that extracts letter information (known by the batch control ID of LTRPRT) reads all customer contact records in a given run number that are marked with its batch control ID. For each customer contact, it creates numerous records on a flat file. These records contain the customer information that is merged onto your letters.

The information that is placed on each record is controlled by the customer contact's letter template's extraction algorithm. Refer to Letter Templates Control The Information On Letters for more information.

The records on the flat file can be constructed in either the Doc 1 format (to be used by the Doc 1 software), or in MS Word's field delimited format. The format that's used is controlled by a parameter supplied to the **_LTRPRT_** background process.

- The Doc1 flat file is created with multiple records of various record types for every customer contact record.

- The Word flat file is created with one record for every customer contact record processed. Each of the fields is delimited by a special character (e.g. "~").

> **Alternate print / routing methods.** If you require different print formats, you must create new letter extract algorithms and plug them in on your letter template.

Reproducing The Letter Print Flat File

You can reproduce the flat file containing the information sent to your printing software at any time. Simply request the respective extract batch process and specify the run number associated with the historic run.

How To Reprint A Specific Letter

If you need to reprint a specific letter, navigate to Customer Contact - Main and turn on the **Reprint** switch (and save the customer contact). Alternatively, if your implementation has enabled the online creation of letter images, you can also click the **Display Letter** button on this page and then print the resultant PDF on your local printer.

The Doc 1 Records

Alternate print / routing methods. This section describes the format of letter extract records that are constructed by base-package algorithms that are passed to the Doc 1 software (which actually produces the letters). If you require different print formats, you must create new letter extract algorithms and plug them in on your letter templates.

Alternate letter print flat file format. The algorithms responsible for creating the letter extract records can produce the output in either Doc1 format (described below) or in Word format (see The Word Records). The Doc1 flat file is created with multiple records of various record types for every customer contact record processed. The Word flat file is created with one record for every customer contact record processed. These algorithms extract the same fields for both formats. However, the Word flat file has all fields for a letter compressed into one record; where each field is delimited by a tilde ("~"). You control which format is used by the parameters you supply to the respective background processes that call these algorithms. For Doc 1 format, set FIELD-DELIM-SW=N and CNTL-REC-SW=Y. For Word format, set FIELD-DELIM-SW=Y and CNTL-REC-SW=N.

Numerous types of records are interfaced to the Doc 1 letter print software. However, they all share a common structure:

- The first 4 bytes are called the **Printer Key**. This field is a record type used by the Doc 1 letter template.

- The next 26 bytes are called the **Sort Key**. This field is used to ensure the various records used to construct a printed letter appear in the correct order in the interface file.

- The next 12 bytes are called the **Mailing Key**.

- The next 3 bytes are a filler that is available for future use.

- The remaining bytes contain the **Letter Information** that appears on the printed letter. The type of information differs for each type of record.

The topics in this section describe each component.

Contents
Printer Keys (Record Types)
Sort Key
Mailing Key
Letter Information

Printer Keys (Record Types)

The following table defines each printer key (i.e., record type) on the letter extract flat file.

Record Type	Description	Notes
0010	Global extract information	Required. 1 per flat file.
1000	Letter record	Required. 1 per letter.
1100	Mailing Information	Required. 1 per letter.

Note	Record types 1200 through 1600 only exist if the letter was triggered as a result of a collection event, a severance event, a write-off event, a workflow event or an overdue process event, respectively. These record types are mutually exclusive and it is possible for none to exist (meaning that the letter was triggered by a user-created customer contact and therefore has no extract merge information).	
1200	Collection Process/Event	Optional. 0 or 1 record will exist – see Note above.
1300	Severance Process/Event	Optional. 0 or 1 record will exist – see Note above.
1400	Write-off Process/Event	Optional. 0 or 1 record will exist – see Note above.
1500	Workflow Process/Event	Optional. 0 or 1 record will exist – see Note above.
1600	Overdue Process/Event	Optional. 0 or 1 record will exist – see Note above.
9990	End of Letter record	Required. 1 per letter (dummy).

Sort Key

The letter print records need to be sorted in the right sequence in order for DOC1 to process them. The following is a description of the portion of each record that is responsible for performing this task.

The following table defines the structure of the sort key that appears on each letter print record. Please note that different components are filled in for each printer key.

Field Name	Format	Source/Value/Description
LTR_TMPL_CD	A12	
CC_ID	A10	
CC Record Group	A2	This field forces the letter's records into the correct order. Values: 10 – General Letter information 20 – Mailing information 30 – Credit and Collections information 40 – Workflow information 99 – End Letter
C&C Record Group	A2	This field forces the subordinate records into the correct order. Values: 10 – Collection Process/Event information 30 – Severance Process/Event information 40 – Write Off Process/Event information 50 – Overdue Process/Event information

Mailing Key

Mailing key contains the postal code.

Letter Information

The topics in this section describe the information that appears on each letter extract record type.

Contents

Global Information Record

This is a "header" record that contains information about the extract run as a whole.

> **Note.** Please be aware that if you do not sort your extract file by **CIS Sort Key** after it is produced, this record will physically be the last record on the extract file. Also note that this record will only be produced by the various letter extract processes if you supply the appropriate parameter value (CNTL-REC-SW=Y). Refer to Extract Processes for more information about the letter extract programs.

Field Name	Format	Source/Value/Description
Print Key	A4	"0010"
CIS Sort Key	A26	This is blank for this record type only.
CIS Mailing Key	A15	This is blank for this record type only.
BATCH_CD	A8	CI_BATCH_INST / The CIS Batch Process that called the Letter Extract COBOL routine
BATCH_NBR	N10	CI_BATCH_INST / A sequence number for serial instances of a Batch Process over time
BATCH_RERUN_NBR	N10	CI_BATCH_INST / The number of times a particular batch has been re-run since its initial run
Letter Count [Artificial]	N10	Total number of letters in this extract
Date/Time [Artificial]	A26	System time of extraction.
CC Id Start [Artificial]	A10	The lowest CC ID in a particular thread in the extract
CC Id End [Artificial]	A10	The highest CC ID in a particular thread in the extract
BATCH_THREAD_NBR	N10	CI_BATCH_THD / Identifies a thread distinctly within a group of threads
Thread Count [Artificial]	N10	Total number of threads in the extract run

Letter Record

One record is produced for every letter to be printed.

Field Name	Format	Source/Value/Description
Print Key	A4	"1000"
CIS Sort Key	A26	
CIS Mailing Key	A15	
CC_ID	A10	CI_CC / System-assigned identifier for a Customer Contact.
PER_ID	A10	CI_CC / System-assigned identifier for the Person who will receive the letter.
CC_DT	D10	CI_CC / The date of the Customer Contact.
CC_TM	T15	CI_CC / The time of the Customer Contact.
CC_CL_CD	A4	CI_CC / The category of contact.
CC_TYPE_CD	A12	CI_CC / The type of contact within the category.
LTR_TMPL_CD	A12	CI_CC / The template of the letter.
LTR_DT	D10	From the current system date/time – the date to print on the letter.

Mailing Information Record

One record is produced for every letter to be printed.

Field Name	Format	Source/Value/Description
Print Key	A4	"1100"
CIS Sort Key	A26	
CIS Mailing Key	A15	
ENTITY_NAME1	A64	If an override mailing name has been specified on the CI_PER row, this field contains the first line of the person's override mailing name (OVRD_MAIL_NAME1). Otherwise, the person's primary name is used (ENTITY_NAME).
ENTITY_NAME2	A64	If an override mailing name has been specified on the CI_PER row, this field contains the 2nd line of the person's override mailing name (OVRD_MAIL_NAME2). Otherwise, this field is blank.
ENTITY_NAME3	A64	If an override mailing name has been specified on the CI_PER row, this field contains the 3rd line of the person's override mailing name (OVRD_MAIL_NAME3). Otherwise, this field is blank.
ADDRESS_SBR	A361	See below for the fields. Refer to Where Does The Address Come From? for the source of the address information.

Collection Process / Event Record

This record contains information about the collection process and event that triggered the letter. If the letter was not triggered by a collection event, this record will not be created. So, there will be at most one collection event record for a letter.

Field Name	Format	Source/Value/Description
Print Key	A4	"1200"
CIS Sort Key	A26	
CIS Mailing Key	A15	

Field Name	Format	Source/Value/Description
COLL_PROC_ID	A10	CI_COLL_EVT_CC / Collection process that triggered the letter.
EVT_SEQ	N3	CI_COLL_EVT_CC / Collection event that triggered the letter.
ACCT_ID	N10	CI_COLL_PROC / Account being collected on.
COLL_CL_CNTL_CD	C20	CI_COLL_PROC / Collection class control of the collection process.
DEBT_CL_CD	C4	CI_COLL_CL_CNTL / Class of debt being collected.
DESCR	C30	CI_DEBT_CL.DESCR / Description of the debt class.
CRE_DTTM	DT26	CI_COLL_PROC / Date/time that the collection process was created.
COLL_ARS_DT	D10	CI_COLL_PROC / Debt date for which this collection process was created.
AMOUNT_AMT	N13.2	Amount still owed for the collection process. This is the amount the customer must pay to have the collection process canceled. This is calculated by the same routine used by the Collection Process Monitor.
CURRENCY_CD	C3	CI_COLL_PROC / Currency for the amount.

Severance Process / Event Record

This record contains information about the severance process and event that triggered the letter. If the letter was not triggered by a severance event, this record will not be created. So, there will be at most one severance event record for a letter.

Field Name	Format	Source/Value/Description
Print Key	A4	"1300"
CIS Sort Key	A26	
CIS Mailing Key	A15	
SEV_PROC_ID	A10	CI_SEV_EVT_CC / Severance process that triggered the letter.
EVT_SEQ	N3	CI_SEV_EVT_CC / Severance event that triggered the letter.
SA_ID	A10	CI_SEV_PROC / SA being severed.
ACCT_ID	A10	CI_SA / SA's account.
MULTI_PREM_SW	A1	Y or N. This is set to "Y" if the SA is currently linked to multiple premises through its SA/SP, otherwise to "N".
BUSINESS_UNIT	A5	CI_SA / Business unit of the SA.
SA_TYPE_CD	A4	CI_SA / Type of SA.
SA_TYPE_DESCR	A30	CI_SA_TYPE.DESCR / Description of the SA type.
CRE_DTTM	DT26	CI_SEV_PROC / Date/time that the collection process was created.
SEV_ARS_DT	D10	CI_SEV_PROC / Debt date for which this severance process was created.
AMOUNT_AMT	N13.2	Amount still owed for the severance process. This is amount the customer must pay to have the severance process canceled. This is calculated by the same routine used by the Severance Process Monitor.
CURRENCY_CD	C3	CI_SEV_PROC / Currency for the amount.

Field Name	Format	Source/Value/Description
ADDRESS_SBR		Address Subrecord.
		CI_PREM / The address of the characteristic premise for the SA. This is assumed to be the premise that will be cut.

Write Off Process / Event Record

This record contains information about the write off process and event that triggered the letter. If the letter was not triggered by a write-off event, this record will not be created. So, there will be at most one write-off event record for a letter.

Field Name	Format	Source/Value/Description
Print Key	A4	"1400"
CIS Sort Key	A26	
CIS Mailing Key	A15	
WO_PROC_ID	A10	CI_WO_EVT_CC / Write Off Event that triggered the letter.
EVT_SEQ	N3	CI_WO_EVT_CC / Write Off Event that triggered the letter.
ACCT_ID	N10	CI_WO_PROC / Account whose SAs are being written off.
WO_CNTL_CD	C20	CI_WO_PROC / WO control code of the write off process.
WO_DEBT_CL_CD	C4	CI_WO_CNTL / Write Off debt class of the SAs being written off.
DESCR	C30	CI_WO_DEBT_CL.DESCR / Description of the write off debt class.
CRE_DTTM	DT26	CI_WO_PROC / Date/time that the write off process was created.
WO_BALANCE	N13.2	Amount still owed on the SAs linked to the write off process. This is calculated by the same routine that creates an agency referral, (Determine Referral Amount routine (CIPLWRAN)).
CURRENCY_CD	C3	CI_COLL_PROC / Currency for the amount.

Workflow Process / Event Record

This record contains information about the workflow process and event that triggered the letter. If the letter was not triggered by a workflow event, this record will not be created. So, there will be at most one workflow event record for a letter.

Field Name	Format	Source/Value/Description
Print Key	A4	"1500"
CIS Sort Key	A26	
CIS Mailing Key	A15	
WF_PROC_ID	A10	CI_WF_EVT / Workflow Event whose event context is the customer contact being processed.
EVT_SEQ	N3	CI_WF_EVT / / Workflow Event whose event context is the customer contact being processed.
WF_PP_CD	A12	CI_WF_PROC / Workflow process profile of the workflow process.
NT_UP_XTYPE_CD	A30	CI_WF_PROC / Notification Upload Type that caused the creation of this process.
DESCR50	A50	CI_NT_UP_XTYPE/ Description of the notification upload type.

Field Name	Format	Source/Value/Description
CRE_DTTM	DT26	CI_WF_PROC / Date/time that the workflow process was created.
CTXT_VAL_ACCT	A50	CI_WF_PROC_CTXT /Context value where the value of the context flag is ACCT.
CTXT_VAL_MSA	A50	CI_WF_PROC_CTXT /Context value where the value of the context flag is MSA.
CTXT_VAL_SPR	A50	CI_WF_PROC_CTXT /CTXT_VAL where the value of the context flag is SPR.
SPR_DESCR50	A50	CI_SPR/DESCR50.
CTXT_VAL_SP	A50	CI_WF_PROC_CTXT /CTXT_VAL where the value of the context flag is SP.
CTXT_VAL_XACC	A50	CI_WF_PROC_CTXT /CTXT_VAL where the value of the context flag is XACC.

Overdue Process / Event Record

This record contains information about the overdue process and event that triggered the letter. If the letter was not triggered by an overdue event, this record will not be created. So, there will be at most one overdue event record for a letter.

Refer to the sample overdue process event extract algorithm for information about the fields below whose source is *Extract Algorithm*.

Field Name	Format	Source/Value/Description
Print Key	A4	"1600"
CIS Sort Key	A26	
CIS Mailing Key	A15	
OD_PROC_ID	A10	CI_OD_PROC_LOG / Overdue process that triggered the letter.
OD_EVT_SEQ	N3	CI_OD_PROC_LOG / Overdue event that triggered the letter.
ACCT_ID	N10	CI_OD_PROC / Account being collected on.
OD_PROC_TEMPL_CD	A12	CI_OD_PROC / Overdue process template.
DESCR	C30	CI_OD_PROC_TEMPL / Description of the overdue process template.
CRE_DTTM	DT26	CI_OD_PROC / Date/time that the overdue process was created.
Original Unpaid Amt	N13.2	*Extract Algorithm* / Amount owed on all objects being collected by the overdue process when the overdue process was created.
Unpaid Amt	N13.2	*Extract Algorithm* / Amount still owed on all objected being collected by the overdue process.
CURRENCY_CD	C3	CI_OD_PROC / Currency for the amount.
Info String 1		*Extract Algorithm* / Info about object 1 being collected
Info String 2		*Extract Algorithm* / Info about object 2 being collected
Info String 3		*Extract Algorithm* / Info about object 3 being collected
Info String 4		*Extract Algorithm* / Info about object 4 being collected
Info String 5		*Extract Algorithm* / Info about object 5 being collected

End of Letter Record

Field Name	Format	Source/Value/Description
Print Key	A4	"9990"
CIS Sort Key	A26	
CIS Mailing Key	A15	

Definition of Address Subrecord

Used in mailing address and service address, total length = 361 bytes

Field Name	Format	Description
COUNTRY	A3	
ADDRESS1	A64	
ADDRESS2	A64	
ADDRESS3	A64	
ADDRESS4	A64	
CITY	A30	
NUM1	A6	
NUM2	A4	
HOUSE_TYPE	A2	
COUNTY	A30	
STATE	A6	
POSTAL	A12	
GEO_CODE	A11	
IN_CITY_LIMIT	A1	

The Word Records

Alternate print / routing methods. This section describes the format of letter extract records that are constructed by base-package algorithms that are passed to Word, the software that actually produces the letters. If you require different print formats, you must create new letter extract algorithms and plug them in on your letter templates.

Alternate letter print flat file format. The algorithms responsible for creating the letter extract records can produce the output in either Doc1 format (see The Doc 1 Records) or in Word format (see below). The Doc1 flat file is created with multiple records of various record types for every customer contact record processed. The Word flat file is created with one record for every customer contact record processed. These algorithms extract the same fields for both formats. However, the Word flat file has all fields for a letter compressed into one record; where each field is delimited by a tilde ("~"). You control which format is used by the parameters you supply to the respective background processes that call these algorithms. For Doc 1 format, set FIELD-DELIM-SW=N and CNTL-REC-SW=Y. For Word format, set FIELD-DELIM-SW=Y and CNTL-REC-SW=N.

One record is produced for every letter to be printed. The fields on each record are delimited with a tilde (~). The following table shows the format of the fields:

Field Name	Maximum Size	Source/Value/Description
POSTAL	A12	
ENTITY_NAME1	A64	CI_PER_NAME1 / Primary name of the person on the Customer Contact record.
ENTITY_NAME2	A64	CI_PER_NAME2 / Primary name of the person on the Customer Contact record.
ENTITY_NAME3	A64	CI_PER_NAME3 / Primary name of the person on the Customer Contact record.
COUNTRY	A3	The next group of fields (COUNTRY through IN_CITY_LIMIT) contain the letter's address.
ADDRESS1	A64	
ADDRESS2	A64	
ADDRESS3	A64	
ADDRESS4	A64	
CITY	A30	
NUM1	A6	
NUM2	A4	
HOUSE_TYPE	A2	
COUNTY	A30	
STATE	A6	
POSTAL	A12	
GEO_CODE	A11	
IN_CITY_LIMIT	A1	
CC_ID	A10	CI_CC / System-assigned identifier for a Customer Contact.
PER_ID	A10	CI_CC / System-assigned identifier for the Person who will receive the letter.
CC_DT	See Note	CI_CC / The date of the Customer Contact formatted as <month> DD, YYYY.
CC_TM	T15	CI_CC / The time of the Customer Contact.
CC_CL_CD	A4	CI_CC / The category of contact.
CC_TYPE_CD	A12	CI_CC / The type of contact within the category.
LTR_TMPL_CD	A12	CI_CC / The template of the letter.
LTR_DT	See Note	From the current system date/time – the date to print on the letter formatted as <month> DD, YYYY.

Certain types of letters may have additional fields. The topics that follow describe the additional fields that suffix the above fields:

Contents

Additional Fields For A Collection Process / Event Letter

The following table describes additional fields that suffix letter extract records associated with a collection event.

Field Name	Maximum Size	Source/Value/Description
COLL_PROC_ID	A10	CI_COLL_EVT_CC / Collection process that triggered the letter.
EVT_SEQ	N3	CI_COLL_EVT_CC / Collection event that triggered the letter.
ACCT_ID	N10	CI_COLL_PROC / Account being collected on.
COLL_CL_CNTL_CD	C20	CI_COLL_PROC / Collection class control of the collection process.
DEBT_CL_CD	C4	CI_COLL_CL_CNTL / Class of debt being collected.
DESCR	C30	CI_DEBT_CL.DESCR / Description of the debt class.
CRE_DTTM	DT26	CI_COLL_PROC / Date/time that the collection process was created.
COLL_ARS_DT	See Note	CI_COLL_PROC / Debt date for which this collection process was created formatted as <month> DD, YYYY.
AMOUNT_AMT	N13.2	Amount still owed for the collection process. This is the amount the customer must pay to have the collection process canceled. This is calculated by the same routine used by the Collection Process Monitor.
CURRENCY_CD	C3	CI_COLL_PROC / Currency for the amount.

Additional Fields For A Severance Process / Event Letter

The following table describes additional fields that suffix letter extract records associated with a severance event.

Field Name	Format	Source/Value/Description
SEV_PROC_ID	A10	CI_SEV_EVT_CC / Severance process that triggered the letter.
EVT_SEQ	N3	CI_SEV_EVT_CC / Severance event that triggered the letter.
SA_ID	A10	CI_SEV_PROC / SA being severed.
ACCT_ID	A10	CI_SA / SA's account.
MULTI_PREM_SW	A1	Y or N. This is set to "Y" if the SA is currently linked to multiple premises through its SA/SP, otherwise to "N".
BUSINESS_UNIT	A5	CI_SA / Business unit of the SA.
SA_TYPE_CD	A4	CI_SA / Type of SA.
SA_TYPE_DESCR	A30	CI_SA_TYPE.DESCR / Description of the SA type.
CRE_DTTM	DT26	CI_SEV_PROC / Date/time that the collection process was created.
SEV_ARS_DT	See Note	CI_SEV_PROC / Debt date for which this severance process was

Field Name	Format	Source/Value/Description
		created formatted as <month> DD, YYYY.
AMOUNT_AMT	N13.2	Amount still owed for the severance process. This is amount the customer must pay to have the severance process canceled. This is calculated by the same routine used by the Severance Process Monitor.
CURRENCY_CD	C3	CI_SEV_PROC / Currency for the amount.
ADDRESS_SBR		Address Subrecord.
		CI_PREM / The address of the characteristic premise for the SA. This is assumed to be the premise that will be cut.

Additional Fields For A Write Off Process / Event Letter

The following table describes additional fields that suffix letter extract records associated with a write-off event.

Field Name	Format	Source/Value/Description
WO_PROC_ID	A10	CI_WO_EVT_CC / Write Off Event that triggered the letter.
EVT_SEQ	N3	CI_WO_EVT_CC / Write Off Event that triggered the letter.
ACCT_ID	N10	CI_WO_PROC / Account whose SAs are being written off.
WO_CNTL_CD	C20	CI_WO_PROC / WO control code of the write off process.
WO_DEBT_CL_CD	C4	CI_WO_CNTL / Write Off debt class of the SAs being written off.
DESCR	C30	CI_WO_DEBT_CL.DESCR / Description of the write off debt class.
CRE_DTTM	DT26	CI_WO_PROC / Date/time that the write off process was created.
WO_BALANCE	N13.2	Amount still owed on the SAs linked to the write off process. This is calculated by the same routine that creates an agency referral, (Determine Referral Amount routine (CIPLWRAN)).
CURRENCY_CD	C3	CI_COLL_PROC / Currency for the amount.

Additional Fields For A Workflow Process / Event Letter

The following table describes additional fields that suffix letter extract records associated with a workflow event.

Field Name	Format	Source/Value/Description
WF_PROC_ID	A10	CI_WF_EVT / Workflow Event whose event context is the customer contact being processed.
EVT_SEQ	N3	CI_WF_EVT / / Workflow Event whose event context is the customer contact being processed.
WF_PP_CD	A12	CI_WF_PROC / Workflow process profile of the workflow process.
NT_UP_XTYPE_CD	A30	CI_WF_PROC / Notification Upload Type that caused the creation of this process.
DESCR50	A50	CI_NT_UP_XTYPE/ Description of the notification upload type.
CRE_DTTM	DT26	CI_WF_PROC / Date/time that the workflow process was created.
CTXT_VAL_ACCT	A50	CI_WF_PROC_CTXT /Context value where the value of the context

Field Name	Format	Source/Value/Description
		flag is ACCT.
CTXT_VAL_MSA	A50	CI_WF_PROC_CTXT /Context value where the value of the context flag is MSA.
CTXT_VAL_SPR	A50	CI_WF_PROC_CTXT /CTXT_VAL where the value of the context flag is SPR.
SPR_DESCR50	A50	CI_SPR/DESCR50.
CTXT_VAL_SP	A50	CI_WF_PROC_CTXT /CTXT_VAL where the value of the context flag is SP.
CTXT_VAL_XACC	A50	CI_WF_PROC_CTXT /CTXT_VAL where the value of the context flag is XACC.

Additional Fields For An Overdue Process / Event Letter

The following table describes additional fields that suffix letter extract records associated with an overdue event.

Field Name	Format	Source/Value/Description
OD_PROC_ID	A10	CI_OD_PROC_LOG / Overdue process that triggered the letter.
OD_EVT_SEQ	N3	CI_OD_PROC_LOG / Overdue event that triggered the letter.
ACCT_ID	N10	CI_OD_PROC / Account being collected on.
OD_PROC_TEMPL_CD	A12	CI_OD_PROC / Overdue process template.
DESCR	C30	CI_OD_PROC_TEMPL / Description of the overdue process template.
CRE_DTTM	See Note.	CI_OD_PROC / Date/time that the overdue process was created formatted as <month> DD, YYYY.
Original Unpaid Amt	N13.2	*Extract Algorithm* / Amount owed on all objects being collected by the overdue process when the overdue process was created.
Unpaid Amt	N13.2	*Extract Algorithm* / Amount still owed on all objected being collected by the overdue process.
CURRENCY_CD	C3	CI_OD_PROC / Currency for the amount.
Info String 1		*Extract Algorithm* / Info about object 1 being collected
Info String 2		*Extract Algorithm* / Info about object 2 being collected
Info String 3		*Extract Algorithm* / Info about object 3 being collected
Info String 4		*Extract Algorithm* / Info about object 4 being collected
Info String 5		*Extract Algorithm* / Info about object 5 being collected

Maintaining Declarations

The declaration page allows you to define a declaration percentage for a combination of account, premise, service type, declaration type and date range. The declaration may be used by algorithms to adjust certain calculations in the system. For example you may give certain customers a reduced VAT rate. The declaration is used to indicate the reduced rate for the qualifying customer.

Open **Customer Information, Declaration** to add or update a declaration.

Applicable for UK market. This page is intended for the United Kingdom market. Other markets may disregard this transaction.

Description of Page

The **Declaration Info** is a concatenation of important information about the declaration record. The **Declaration ID** is a system-assigned random number that uniquely identifies this record.

Use **Account ID** to indicate the account for this declaration.

Use **Premise ID** to indicate the premise for this declaration.

The **Service Type** controls the service agreements covered by this declaration. All service agreements for this account and premise whose service point is for this service type are covered.

Use the **Declaration Type** to indicate the type of declaration. The system includes the declaration types *CCL Relief* and *Reduced Rate VAT*.

Note. The values for this field are customizable using the Lookup table. This field name is DCL_TYPE_FLG.

Enter the **Start Date** and **End Date** to indicate the effective period of this declaration. The start date defaults to the current date.

Enter the **Declaration Percentage**.

If this declaration is related to an external document, indicate the **Document Reference**.

This bottom of this page contains a tree that shows information about all the declarations linked to this account. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Meter Management

In addition to **meters**, the system also supports the definition and installation of non-metered devices. We use the term **item** to reference these non-metered devices. In this section, we describe how you set up and install both types of devices at service points.

Contents

Background Topics

The topics in this section provide background information about a variety of meter and item related issues.

Contents

Meters versus Items versus Equipment

Refer to The Big Picture of Meters, Items and Equipment for the details.

Meters & The V

The "V". The "V" is the nickname given to the demographic and geographic information that forms the heart of your CIS system. This section assumes you are familiar with the "V". If you aren't, refer to Understanding The "V".

Over time, a meter may be installed at many service points and a service point may have many meters installed at it (but at any instant in time, only one meter may be installed at a service point).

The meter installed at a service point measures the consumption used at a service point. It's quite possible for a single meter's consumption to be billed on multiple service agreements because its service point may be linked to multiple service agreements. This is necessary, for example, when water consumption is used to bill both water and sewage service agreements. Another example might be when electric consumption is used to bill both transportation and energy service agreements.

The following illustration will help you visualize the relationship between a meter and the "V".
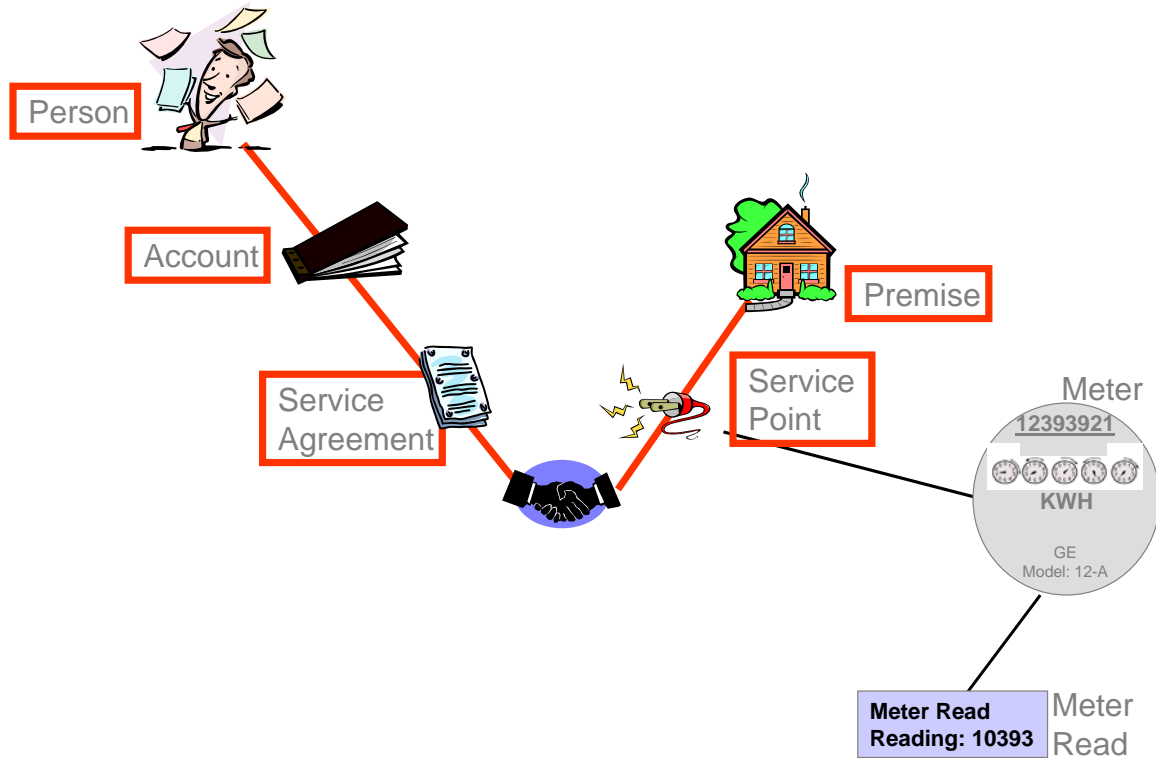
Items & The V

> **The "V".** The "V" is the nickname given to the demographic and geographic information that forms the heart of your CIS system. This section assumes you are familiar with the "V". If you aren't, refer to Understanding The "V".

If there are charges in your rates based on the number and type of items installed at a service point (e.g., lamp charges), you must use either of the following techniques:

- If the item is badged (i.e., uniquely identified), you would set up an item and link it to an *item-based* service point. An item-based service point may have zero or one item installed at any instant in time. Over time, an item-based service point may have many badged items installed and removed. Refer to Installing / Removing An Item for more information.

- If the item does not have a unique identifier, you do NOT have to set up phony items for it. Rather, you can use the system's multi-item functionality and simply define the number of each TYPE of item that is installed at a service point. Refer to Service Points With Multiple Items for an illustration of such a service point.

Note. Another way to think of an item is something that does NOT measure consumption, but impacts billing in some way. Examples include streetlights, light poles, and security cameras.
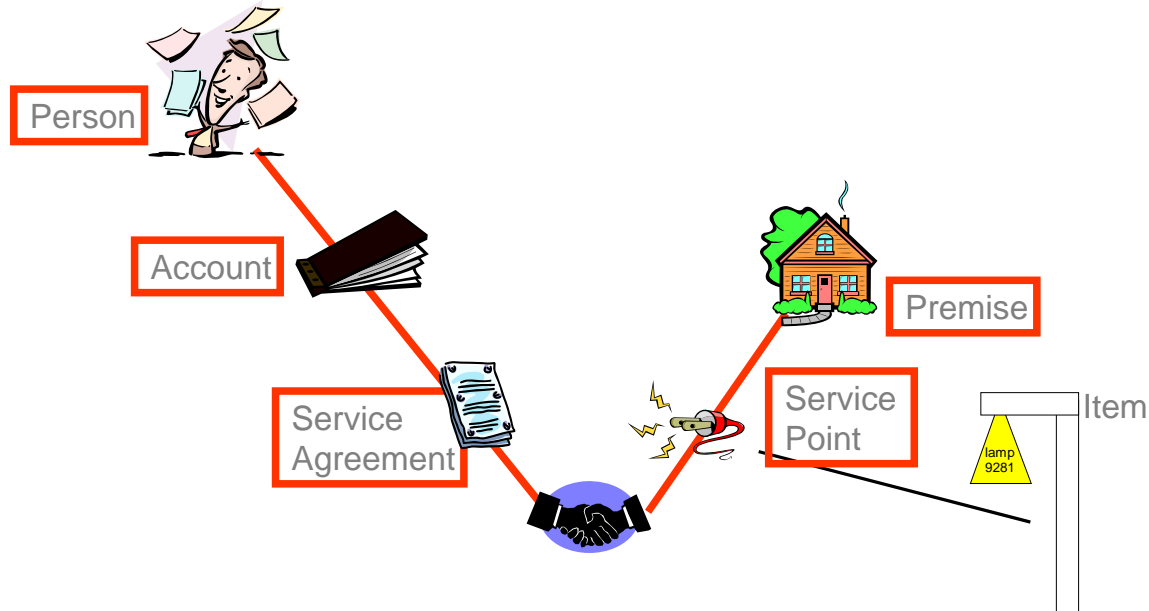
Warning! The above example illustrated a service point that has a single item installed at it at any one point in time. We use the term "**badged item**" to reference the thing that can be installed at such a service point (because it has a unique ID that appears on a badge). In addition to badged items, you can install an unlimited number of **non-badged** items at any type of service point. Refer to Service Points (SPs) for more information.

Gaining Access To The V Using Meter/Item Search

The topics in this section describe the Meter/Item Search page.

Meter/Item Search - Main

Definition of a "device". In the following discussion, we refer to meters and items interchangeably using the term "device".

This page contains functionality that helps you:

- Find where a device is installed and who pays for the device.

- Find the devices associated with a person, account, premise or service point.

- Navigate to pages that contain information related to a device, its service point, its account(s) and its service agreement(s). For example,

    - After finding the meters related to account *1929210192*, you could navigate to the page where a meter read is added for one of the meters.

    - After finding the account that pays for lamp *BY10291*, you could navigate to Control Central to view summary information about the customer.

    - Etc.

> **For more information** about the relationships between devices and your customers and premises, refer to Understanding The "V", Meters and The V, and Items and The V.

To look for a device or the customer associated with a device, open **Meter, Meter/Item Search**.

Description of Page

The top half of the page is where you enter criteria used to search for a device.

In **Search Type**, you define the type of devices that you want to search for. You have the following options:

All	This value means that you want to search for meters AND items. You'd use this, for example, if you wanted to search for all meters and items linked to a given customer. This is the default value.
Meter	This value means that you want to search for meters (and exclude items).
Item	This value means that you want to search for items (and exclude meters).

After defining the appropriate **Search Type**, you then define how to search for the device. The following search methods are available:

> **Closed service agreements are ignored.** When the system displays a device's **Account** and **Service Agreement Information**, it ignores closed service agreements. This means that if a device is installed at a service point that is only linked to closed service agreements, no **Account** or **Service Agreement Information** will be displayed for the device.

Search Method	Description
Person Name	Use this field to search for the devices associated with an account using a person's name. The person may be the main customer on the account or a third party related to the account.
	You can enter all or part of the person's name. If the person is a business, enter all or part of the business name. If the person is a human, you must enter the name in the format Last,First (e.g., *Walton,Richard*).
	The name search is not case sensitive.
	This search method cannot be combined with other search methods.

Search Method	Description
	Please be aware that only persons whose accounts have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed at a person's account(s) are displayed, even if the device has been subsequently replaced.
Account ID	Use this field to search for the devices associated with a given account ID.
	You can enter all or part of the account ID.
	This search method cannot be combined with other search methods.
	Please be aware that only accounts that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed at an account are displayed, even if the device has been subsequently replaced.
SA ID	Use this field to search for the devices associated with a given service agreement ID.
	You can enter all or part of the SA ID.
	This search method cannot be combined with other search methods.
	Please be aware that only service agreements that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed a service agreement are displayed, even if the device has been subsequently replaced.
SP ID	Use this field to search for the devices associated with a given service point ID.
	You can enter all or part of the SP ID.
	This search method cannot be combined with other search methods.
	Please be aware that only service points that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed a service point are displayed, even if the device has been subsequently replaced.
Premise ID	Use this field to search for the devices associated with a given premise ID.
	You can enter all or part of the premise ID.
	This search method cannot be combined with other search methods.
	Please be aware that only premises that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed at a premise are displayed, even if the device has been subsequently replaced.
Address	Use this field to search for the devices installed at a premise using the first line of a service address.
	You can enter all or part of the first line of the address. For example, if you're looking for 324 Hawthorne Lane, you can enter *324 Haw* rather than the entire address.
	The address search is not case sensitive.
	Address may be combined with the **City** and **Postal** search methods. Otherwise, this search method cannot be combined with other search methods.
	Please be aware that only premises that have devices installed will appear in the

Search Method	Description
	search results at the bottom of the page.
	Also note, ALL devices that were ever installed at the premise are displayed, even if the device has been subsequently replaced.
City	Use this field to search for the devices installed at a premise using a city name associated with a service address.
	You can enter all or part of the city name. For example, if you're looking for someone in San Francisco; you can enter *San Fra*, *San F*, *San Francisco*, etc.
	The city search is not case sensitive.
	We strongly recommend qualifying a **City** search with and **Address** or **Postal** code, otherwise the resultant list can be too large to deal with. Otherwise, this search method cannot be combined with other search methods.
	Please be aware that only premises that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed at the premise are displayed, even if the device has been subsequently replaced.
Postal	Use this field to search for the devices installed at a premise using a postal code associated with a service address.
	You can enter all or part of the postal code.
	The postal code search is case sensitive.
	We strongly recommend qualifying a **Postal** search with and **Address** or **City**, otherwise the resultant list can be too large to deal with. Otherwise, this search method cannot be combined with other search methods.
	Please be aware that only premises that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed at the premise are displayed, even if the device has been subsequently replaced.
Badge Number	Use this field to find where a device is installed and who pays for the device by entering the device's badge number.
	You can enter all or part of the device's badge number.
	This search option is case sensitive.
	This search method cannot be combined with other search methods.
	Also note,
	- For meters, only customers associated with the latest configuration of the meter are displayed.
	- For items, all customers associated with the item are displayed.
SP Geo Type / Value	Use this field to search for the devices installed at a service point by using one of the service point's Geo Types / Values. Refer to Service Point – Geographic Information for more information about Geo Types / Values.
	If you use this method, you must define a **SP Geo Type**, however you can enter all or part of the **Geo Value**.
	This search option is case sensitive.

Search Method	Description
	This search method cannot be combined with other search methods.
	Please be aware that only service points that have devices installed will appear in the search results at the bottom of the page.
	Also note, ALL devices that were ever installed at the service point are displayed, even if the device has been subsequently replaced.
Meter ID Type / Number	Use this field to find where a meter is installed and who pays for the meter by entering one of the meter's alternate ID's. Refer to Meter – Meter ID for more information about Meter ID Types / Numbers.
	If you use this method, you must define a **Meter ID Type**, however you can enter all or part of the **Number**.
	This search option is case sensitive.
	This search method cannot be combined with other search methods.
	Also note, only customers associated with the latest configuration of the meter are displayed.

The system shows the results of your search request in the grid at the bottom of the page. The following information appears in the grid:

> **Use the context menus to navigate elsewhere.** Please be aware that the context menus that prefix each cell provide a simple means to navigate to pages related to the meters / service points / accounts / service agreements.

Meter / Item Information   This contains a concatenation of important information about the device. This information includes (but is not necessarily limited to) the device's type, badge number, serial number, and status.

SP Information   This contains a concatenation of important information about the service point at which the device is installed. This information includes (but is not necessarily limited to) the service point's type, service cycle, premise address, and premise type. If the meter has never been installed at a service point, this column will be blank.

Account Information   This contains a concatenation of important information about the account who pays for the device. This information includes (but is not necessarily limited to) the name of the main customer linked to the account, the customer class, and account ID. If the meter has never been installed at a service point or the service point is not linked to a service agreement, this column will be blank.

SA Information	This contains a concatenation of important information about the service agreement that is linked to the device. This information includes (but is not necessarily limited to) the division / SA type, start option, status, and effective period. If the meter has never been installed at a service point or the service point is not linked to a service agreement, this column will be blank.
Blank column	This column contains a "go to" button that will transfer you to the SA / SP page where you can see details about this service point's relationship to the service agreement.
Geographic Value	This column only appears if you have used the **SP Geo Type/Value** search option. It will contain the geographic value associated with the service point.
Meter ID Number	This column only appears if you have used the **Meter ID Type / Number** search option. It will contain the meter ID number associated with the meter.

Maintaining Meters

Meter records contain information about your meters. The topics in this section describe the pages on which meter-related information is maintained.

After you have set up the core meter information, navigate to Maintaining Meter Configurations to define how the meter's registers are configured.

If you need to create several copies of a given meter and its configuration, navigate to Meter Replicator - Main Information.

Contents

Meter - Main Information

The Main page contains core meter information. Open this page using **Meter, Meter**.

Description of Page
The following meter information is displayed at the top of the page:

Meter Info	The description of the meter type concatenated with the meter's badge number and status.

Meter ID   This is a system-assigned random number that stays with a meter for life. This value only appears after the meter exists on the database.

Premise ID   The unique identifier of the premise at which the meter is installed (or was last installed).

> **Who pays for service?** Use the Premise Context Menu to navigate to Control Central to see information about the customer linked to the current/last service point at which the meter is/was installed.

Service Point   Information about the service point at which the meter is installed (or was last installed).

Install Date   The date the meter was installed at its last location.

Removal Date   The date the meter was removed from its last location.

The remaining fields are maintained on the remainder of this page.

The **Badge Number** is the identifier stamped on the meter. This is NOT the manufacturer's serial number. Rather, it's the number on the badge that typically appears on the face of the meter. This number is what most operators use to identify the meter.

> **Duplicate Badge Numbers.** If the meter's meter type allows duplicate badge numbers, multiple meters of a given meter type may have the same badge number. Otherwise, duplicate badge numbers are not allowed for a given meter type.

Indicate the **Meter Type**. This field is very important as it defines the type of service associated with this meter. It also defines characteristics common to all meters of a given type and the type of equipment that can be linked to the meter.

Use the **Meter Status** to indicate if the meter is *Active*, *Ordered*, or *Retired*.

> **Note**. The values for the meter status field are customizable using the Lookup table. This field name is MTR_STATUS_FLG.

Define the meter's **Manufacturer** and **Model**.

Enter the manufacturer's **Serial Number**.

Use **Date Received** to define the date on which the meter was received from the manufacturer.

Use **Date Retired** to define the date when the meter is retired from service. This field is gray when the meter status is *Active* or *Ordered*.

Use **Retire Reason** to define why the meter was retired from service. This field is gray when the meter status is *Active* or *Ordered*.

Use **Comments** to describe unusual characteristics of the meter.

The **Meter Configuration** scroll/grid combination contains an overview of the meter's configurations and each configuration's registers. This information is not modifiable on this page. To modify this information, use the **Meter Configuration** context menu to transfer to the **Meter Configuration** page. Refer to Meter Configuration Maintenance for a description of the fields in the scroll and grid.

Meter - Meter ID

A meter may have alternate ID's other than its badge number. If it does, each alternate form of ID is defined using the **Meter, Meter, Meter ID** page.

Description of Page

To modify a meter ID, simply move to a field and change its value. To add a new alternate form of identity, click + to insert a row, then fill in the information for each field. The following fields display:

Meter ID Type   Indicate the type of meter ID.

Meter ID Number   Indicate the alternate meter id.

Where Used

The data on this page is used by the meter read upload process to identify the meter configuration that is being read. Refer to Uploading Meter Reads for more information.

Meter - Characteristics

The characteristics page contains information that describes miscellaneous information about the meter. Use **Meter, Meter, Characteristics** to open this page.

Description of Page
Meter Info is a concatenation of the meter's meter type and badge number.

Meter ID is the system-assigned random number that stays with a meter for life. This value only appears after the item exists on the database.

To modify a characteristic, simply move to a field and change its value. To add a new characteristic, click the + button to insert a row, then fill in the information for each field. The following fields display:

Effective Date   Indicate the date on which the characteristic value becomes effective. The meter's date received defaults.

Characteristic Type   Indicate the type of characteristic.

Characteristic Value   Indicate the value of the characteristic.

> **Default note.** If the meter's meter type has required characteristics, the respective characteristic types will default in the above grid.

Meter - SP Installation History

The SP Installation History is an information-only page that shows the history of service points at which the meter has been installed. Use **Meter, Meter, SP Installation History** to open this page.

This page shows the history of the service points at which the meter has been installed. No fields on this page may be modified.

Meter - Equipment

The equipment page contains the equipment that is linked to the meter. Use **Meter, Meter, Equipment** to open this page. Refer to Equipment May Be Associated With Meters for more information.

Description of Page

To modify a piece of equipment, simply move to a field and change its value. To add a new piece of equipment, press + to insert a row, then fill in the information for each field. The following fields display:

Equipment ID   Indicate the unique identifier of the equipment.

> **Note.** This is actually the unique ID of an item as an item must be set up for each piece of equipment that can be linked to a meter. Only items with an item type defined on the meter's meter type's equipment collection may be defined (in other words, the valid types of equipment are defined on the meter's meter type).

Badge Number   This is a display-only field that contains the equipment's badge number.

Equipment Type   This is a display-only field that contains a description of the equipment's item type.

Equipment Count   This field should be *1* except when you are using an item to define a generic piece of equipment. If you use an item to define a generic piece of equipment, you can indicate the number of such generic pieces of equipment that are associated with this meter.

Install Date   Define the date that the equipment was installed at the meter.

Removal Date   Define the date that the equipment was removed from the meter.

Comment   Enter a comment to explain anything unusual about the piece of equipment.

Meter - Location History

The meter location history page has two purposes:

- You can view the history of the service points and stock locations at which a meter has been located.

- You can change a meter's current stock location if it is not installed at a service point.

It's important to be aware that location history is only recorded when the meter's meter type indicates that its location is tracked. Refer to The Big Picture of Asset Inventory for further information.

Use **Meter, Meter, Location History** to open this page.

Description of Page
The rows in the grid show where the meter has been located over its lifetime. The following types of rows may be displayed:

- When a meter is installed at a service point, a stock location history record is created with a **Location History Type** of *SP Install*.

  - **Location Date/Time** is the time of installation. This may not be modified.

  - **Location** is the service point at which the meter is installed. This may not be modified.

- When a meter is removed from a service point, a stock location history record is created with a **Location History Type** of *SP Removal*.

  - **Location Date/Time** is the time of removal. This may not be modified.

  - **Location** is a stock location. This value is defaulted based on the service point's postal defaults. You may change this **Location** if the defaulted value is incorrect.

- When a new meter is added, you must create a location history record to define the stock location at which the meter is stored.

  - Enter the **Date/Time** the meter was received.

  - The **Location History Type** is defaulted to *Stock*.

  - Use **Location** to define the stock location where the item is being stored.

- If a meter is transferred from one stock location to another, you must create a location history record as described above.

To create a new location history record, click the + button to insert a row, then fill in the information for each field.

> **Note**. **Location history may have gaps**. A meter's Stock Location History Is Created Behind the Scenes and is only created if stock location is being tracked.

Meter - Meter Tree

The meter tree page contains high-level information about various objects linked to the meter.
Use **Meter, Meter, Meter Tree** to open this page.

Description of Page

This page is dedicated to a tree that shows the various objects linked to the meter. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Maintaining Meter Configurations

A meter's registers are defined in respect of an effective-dated meter configuration. When you reconfigure a meter's registers, you add a new configuration with an effective date equal to the reconfiguration date. Whenever you add a configuration, you must specify how *all* of the registers look on the configuration date; you don't just specify those registers that have changed.

Every meter must have at least one configuration, otherwise the system doesn't know what it measures and meter reads cannot be specified for the meter. A meter without meter reads cannot be billed (or linked to a service agreement!).

A meter configuration has one or more registers. The number is dependent on how many things are measured. For example, if you have a meter that measures kilowatt-hours and kilovolt-amperes, its configuration will have two registers.

For more information about meter configurations, refer to The Structure of a Meter.

Contents
Changing A Configuration
Meter Configuration Maintenance
Validating Register Constants

Changing A Configuration

Because meter configurations are effective-dated, you have to deal with the difference between correcting an incorrect configuration and introducing a new configuration.

- You *correct* a configuration if you entered some part of the information about the configuration in error (e.g. a five-digit register is recorded as having four digits).

- You introduce a *new* configuration when you reconfigure the meter. All of the existing information was accurate at the time it was entered, but now something about the meter's configuration has changed. The historical information is retained intact, and the new configuration has its own unique identity on the system.

You are allowed to correct an historical configuration, but be careful. You see, meter reads reference a configuration and its registers. If you change an historical register's unit of measure, you are changing the unit of measure of *all of the meter reads* associated with this register - past *and* future. This system allows you to do this, just be aware of what you're doing.

You cannot introduce a configuration while the meter is installed at a service point (i.e., the effective date of the configuration cannot overlap with the effective date period of any SP Installation History). Think about it, you can't reconfigure the meter while it's measuring consumption. To reconfigure a meter after it's been installed at a service point:

- Remove the meter from the service point using SP / Meter Installation. To do this, you'll be required to specify a meter read showing how the registers looked when the meter was removed (and you can do this from this page).

- Next, add a new meter configuration using Meter Configuration Maintenance effective on the reconfiguration date. Specify how the registers look after reconfiguration on the new configuration.

- If you need to reinstall the meter at the service point, return to SP / Meter Installation and add a new installation. To do this, you'll be required to specify a meter read showing how the registers look at installation time (and you can do this from this page). As you know, the registers are typically reset at installation, but we haven't made this assumption in the system.

> **Field activities simplify life.** Rather than remembering the steps necessary to perform a meter reconfiguration on an installed meter, you should have a field activity type set up with the three steps. If such an activity type exists, you simply create a field activity referencing this type and when you complete it, you can do the 3 steps all at once.

Meter Configuration Maintenance

All meters must have an initial configuration that should be effective as of the date the meter was received. If you reconfigure the meter in the future, you must add a new effective-dated configuration to reflect how the meter is configured.

> **Warning!** Do not attempt to maintain a meter configuration unless you are familiar with the concepts discussed in Changing A Configuration.

Contents
Meter Configuration - Main Information
Meter Configuration - Meter Configuration Tree

Meter Configuration - Main Information

Open **Meter, Meter Configuration** to maintain a meter's configuration.

Please be aware that the information maintained on meter configurations associated with interval meters is slightly different than that for regular meters. The topics in this section describe how this page behaves for both types of meters.

Contents
Regular (Non Interval) Meter Configuration Maintenance
Interval Meter Configuration Maintenance

Regular (Non Interval) Meter Configuration Maintenance
The following discussion describes how the **Meter Configuration** page behaves for regular (non interval) meters.

> **Note.** A meter is viewed as being an interval meter if its meter type indicates interval registers are allowed.

Description of Page
The following meter configuration information is displayed at the top of the page:

Meter Configuration	The description of the meter type concatenated with the meter's badge number, the meter configuration effective date, the description of the meter configuration type and the number of registers.
Meter Configuration ID	This is a system-generated unique identifier for the meter configuration. This value is assigned when the meter configuration is added to the database.
Meter ID	The system-generated unique identifier for the meter.
Effective Date / Time	Defines the date and time the configuration becomes effective.
Meter Configuration Type	Controls the types of registers that may be defined on this meter configuration. When you select a meter configuration type, the system defaults these attributes in the register grid. Refer to Setting Up Meter Configuration Types for more information.

The **Registers** accordion contains information about the meter configuration's registers. To modify existing register information, click on the register's summary bar and then move to a field and change its value. To add a new register, click the + button in the accordion to insert a row then fill in the information for each field. The following fields display:

- **Sequence** defines the relative physical position of the register with respect to the other registers, if any.

- Use **Unit of Measure** (UOM) to define the unit of measure in which the register is calibrated.

- Use **Time of Use** (TOU) to define the time-of-use code, if any, that specifies a particular time of day during which the register measures consumption.

- **Register Constant** is used to derive billable consumption. Measured consumption is multiplied by this number to derive billable consumption.

- Use **Consumptive/Subtractive** to define how the system calculates consumption from the register's meter reads. For *Subtractive* registers, the system has to subtract the previous read from the current read. For *Consumptive* registers, the dial reading indicates how much was consumed and no subtraction is necessary.

  Most of your registers will be set to *Subtractive* unless you sell electricity. For most electric meters, kWh registers will be set to *Subtractive*, and KW meters will be set to *Consumptive*.

- Use **How To Use** to control how billing uses the consumption from the register. Use *Additive* if billing adds the register's consumption to other register's consumption (with the same UOM and TOU value). Use *Subtractive* if billing subtracts the register's consumption from other register's consumption (with the same UOM and TOU value). Use *Peak* if billing compares this register's consumption against other register's consumption (with the same UOM and TOU value) and uses the higher consumption value. Use *Check* if billing ignores the consumption associated with this register.

  Most of your registers will be set to *Additive* unless you sell electricity. On electric meters, kWh registers will be set to *Additive*, KW meters will be set to *Peak*.

- Use **Digits Left/Right** to define the number of digits to the left and right of decimal place. This information is used to validate meter readings to ensure they do not exceed the dial's capacity.

- **Full Scale** is typically only specified on demand meters (but can be specified on any type). It is downloaded to the meter reading devices so they can warn the reader if the resulting consumption is close to or exceeds the register's maximum capacity.

- **Read Out Type** defines how the readings are displayed on the register.

- **Protocol** defines how the register is read.

- **Tolerance** is typically only specified on demand meters (but can be specified on any type). It is downloaded to the meter reading devices so they can warn the reader if the resulting consumption is close to or exceeds the tolerance of the register.

- **Channel ID** is used to record an external id that may exist for the register.

- **Register ID** is the unique system-assigned identifier of the register. This value is allocated when the register is added to the database. Note, the adjacent context menu is disabled for non-interval registers.

Characteristics

The **Characteristics** collection on the Meter Configuration page contains information that describes miscellaneous information about the meter configuration.

The following fields display:

Characteristic Type	Indicate the type of characteristic.
Sequence	Controls the order in which characteristics of the same type are displayed.
Characteristic Value	Indicate the value of the characteristic.

Interval Meter Configuration Maintenance

The following discussion describes how the **Meter Configuration** page behaves for interval meters.

> **Note.** A meter is viewed as being an interval meter if its meter type indicates interval registers are allowed.

Description of Page

This section only highlights the fields that are different from regular (non interval) meter configurations.

Use the **Complete Data Sets** button if you have *Pending* datasets for the interval registers linked to the meter configuration and you would like the system to *Complete* them. When this button is clicked, all validation algorithms defined on the registers' **Interval Register Types** will be executed. If no errors are detected from the interval register types' validation algorithms OR if none of the interval register types contains validation algorithms, the *pending* data sets will be marked as *complete*. Refer to Validation of Register Data **for more information** about the validation algorithms.

The **Registers** accordion contains information about the meter configuration's registers. The following fields are unique to interval registers or have special behavior for interval registers:

- Turn on **Interval** if this register can have interval datasets associated with it.

- Use **Interval Register Type** to define the interval register type that controls business rules associated with an interval register's datasets. This field is disabled if **Interval** is turned off.

- Use **Time of Use** (TOU) to define the time-of-use code if any, that specifies a particular time of day during which the register measures consumption. This field is disabled if **Interval** is turned on.

- **Channel ID** is used to specify an external id for the register. It can be used, for example, to store the MV-90 channel ID suffix related to a specific register for interval meters.

Meter Configuration - Meter Configuration Tree

Open **Meter, Meter Configuration** and navigate to the **Meter Configuration Tree** tab to view a meter configuration's tree.

Description of Page

At the top of the page is a summary description of the Meter Configuration. At the right is the system-generated unique **Meter Configuration ID** for the meter.

This page displays a tree view of registers linked to the **Meter Configuration**. The root node displays the ID of the meter configuration along with its standard description.

The register nodes contained in the tree view are hyperlinks that navigate to the **Registers** accordion on the Meter Configuration - Main Information page.

- If any non-interval registers are associated with the meter configuration, a node is displayed for each register.

- If any interval registers are associated with the meter configuration, a node is displayed for each register. Expanding this node displays information about data sets linked to the interval register.

  - The **Pending Data Sets** node displays if any of the data sets linked to the register are *pending*. Expanding this node displays each *pending* data set.

  - The **Error Data Sets** node displays if any of the data sets linked to the register are in *error*. Expanding this node displays each *error* data set.

  - The **Data Created Through** node displays the date of the latest complete interval as of the current date. Expanding this node displays the last 10 *complete* data sets.

Validating Register Constants

You can validate the register constants of all installed electric meters, by service cycle (the service cycle of the service points in which the meters are installed). This allows you to check and confirm, in mass, the entered constants for all meters.

This background process (known by the batch control ID of REGCNST) selects all electric service points on the input service cycle. It uses CT (current transformer) and PT (potential transformer) equipment linked to SP to calculate register constant using the formula:

Calculated Register Constant = Product of all CT, PT ratios * Dial Constant

If the calculated register constant doesn't match to the actual register constant, a To Do entry is created.

In order for the process to know how to find the correct equipment and the correct ratios, control tables need to be set up appropriately and parameters for the background processes need to be defined accordingly.

- Equipment is set up through the use of Items. You will define an Item Type to be used for CT equipment and another to be used for PT equipment.

- The CT Ratio will need to be defined using a Characteristic Type for the CT Item.

- The PT Ratio will need to be defined using a Characteristic Type for the PT Item.

- The Dial Constant will need to be defined using a Characteristic Type for the Meter.

In order for the background process to work correctly, the following input parameters will need to be populated:

- Service Cycle

- Item Type to identify the CT Equipment

- Item Type to identify the PT Equipment

- Characteristic Type to identify the CT Ratio

- Characteristic Type to identify the PT Ratio

- Characteristic Type to identify the Dial Constant

- To Do Type and To Do Role

Refer to Register Constant Validation Process **for more information**.

Maintaining Items

Item records contain information describing badged items that exist at service points. Item records are also used to describe equipment that is linked to meters, service points, and other items.

Refer to Equipment versus Badged Items for more information.

The topics in this section describe the pages on which item-related information is maintained.

Contents

Item - Main Information

The Main page contains core item information. To open this page, use **Meter, Item**.

Description of Page

The following item information is displayed at the top of the page:

Item Info	A concatenation of the item's item type, badge number and status.
Item ID	This is a system-assigned random number that stays with an item for life. This value only appears after the item exists on the database.
Premise ID	The unique identifier of the premise at which the item is installed.
Service Point	Information about the service point at which the item is installed.
Install Date	The date the item was installed at its current location.
Removal Date	The date the item was removed from its last location.

The remaining fields are maintained on the remainder of this page.

Use **Badge Number** to define the identifier stamped on the item. This is NOT the manufacturer's serial number. Rather, it's the number on the badge that typically appears on the face of the item. This number is what most operators use to identify the item.

Indicate the **Item Type**. This field is important as it defines the type of service associated with this item. It also defines characteristics common to all items of a given type and the type of equipment that can be linked to the item.

Use the **Item Status** to indicate if the item is *Active*, *Ordered*, or *Retired*.

Define the item's **Manufacturer** and **Model**.

Enter manufacturer's **Serial Number**.

Use **Date Received** to define the date on which the item was received from the manufacturer.

Use **Date Retired** to define the date when the item is retired from service. This field is gray when the item status is *Active* or *Ordered*.

Use **Retire Reason** to define why the item was retired from service. This field is gray when the item status is *Active* or *Ordered*.

Enter any comments about the item in the **Comments**.

The tree at the bottom of the page is only relevant for items used to define pieces of equipment as it contains the following information:

- Every service point to which a piece of equipment is linked

- Every meter to which a piece of equipment is linked

- Every item to which a piece of equipment is linked

Item - Characteristics

The characteristics page contains information that describes miscellaneous information about the item. Use **Maintain Items, Item, Characteristics** to open this page.

Description of Page

Item Info is a concatenation of the item's item type, badge number and status.

Item ID is the system-assigned random number that stays with an item for life. This value only appears after the item exists on the database.

To modify a characteristic, simply move to a field and change its value. To add a new characteristic, click the + button to insert a row, then fill in the information for each field. The following fields display:

Effective Date	Indicate the date on which the characteristic value becomes effective. The item's date received defaults.
Characteristic Type	Indicate the type of characteristic.
Characteristic Value	Indicate the value of the characteristic.

> **Default note.** If the item's item type has required characteristics, the respective characteristic types will default in the above grid.

Item - SP Installation History

The SP Installation History is an information-only page that shows the history of service points at which the item has been installed. Use **Item, Item, SP Installation History** to open this page.

This page shows the history of the service points at which the item has been installed. No fields on this page may be modified.

Item - Equipment

The equipment page contains the equipment that is linked to the item. Use **Meter, Item, Equipment** to open this page. Refer to Equipment May Be Associated With Other Items for more information.

Description of Page

To modify a piece of equipment, simply move to a field and change its value. To add a new piece of equipment, click + to insert a row, then fill in the information for each field. The following fields display:

Equipment ID	Indicate the unique identifier of the equipment.

> **Note.** This is actually the unique ID of an item as an item must be set up for each piece of equipment that can be linked to an item. Only items with an item type defined on the item's item type's equipment collection may be defined (in other words, the valid types of equipment are defined on the item's item type).

Badge Number	This is a display-only field that contains the equipment's badge number.
Equipment Type	This is a display-only field that contains a description of the equipment's item type.
Equipment Count	This field should be *1* except when you are using an item to define a generic piece of equipment. If you use an item to define a generic piece of equipment, you can indicate the number of such generic pieces of equipment that are associated with this item.
Install Date	Define the date that the equipment was installed at the item.
Removal Date	Define the date that the equipment was removed from the item.
Comments	Use comments to explain anything unusual about the piece of equipment.

Item - Location History

The item location history page has two purposes:

- You can view the history of the service points and stock locations at which an item has been located.

- You can change an item's current stock location if it is not installed at a service point.

It's important to be aware that location history is only recorded when the item's item type indicates that its location is tracked. Refer to The Big Picture of Asset Inventory for further information.

Use **Meter, Item, Location History** to open this page.

Description of Page

The rows in the grid show where the item has been located over its lifetime. The following types of rows may be displayed:

- When an item is installed at a service point, a stock location history record is created with a **Location History Type** of *SP Install*.

  - **Location Date/Time** is the time of installation. This may not be modified.

  - **Location** is the service point at which the meter is installed. This may not be modified.

- When an item is removed from a service point, a stock location history record is created with a **Location History Type** of *SP Removal*.

  - **Location Date/Time** is the time of removal. This may not be modified.

  - **Location** is a stock location. This value is defaulted based on the service point's postal defaults. You may change this **Location** if the defaulted value is incorrect.

- When a new item is added, you must create a location history record to define the stock location at which the item is stored.

- Enter the **Date/Time** the item was received.

- The **Location History Type** is defaulted to *Stock*.

- Use **Location** to define the stock location where the item is being stored.

- If an item is transferred from one stock location to another, you must create a location history record as described above.

To create a new location history record, click the + button to insert a row, then fill in the information for each field.

Note. **Location history may have gaps**. An item's Stock Location History Is Created Behind the Scenes and is only created if stock location is being tracked.

Installing / Removing A Meter

The installation of a meter is a small part of the process of starting / stopping service. This process begins when a customer requests service at a metered service point that is, at present, without service. It continues with the creation of a field activity required to connect service. When the system is advised of the results of the field activity, it creates a SP / Meter history record (which you can see on this page).

The removal of a meter from a service point involves an exactly analogous process where you use the SP / Meter Installation page to indicate when the meter was removed (and the dial readings at that time).

The remainder of this section is limited to a discussion about how to use the SP / Meter Installation page.

For more information about starting / stopping service, refer to The Big Picture Of Starting Service and The Big Picture Of Stopping Service. For more information about how the results of a field activity are advised to the system, refer to How Does A Field Order Get Completed?. **For more information** about setting up field activity types to install and remove meters from service points, refer to Setting Up Field Activity Types.

Contents
SP / Meter Installation
SP Meter Installation History

SP / Meter Installation

The system automatically updates the information on this page when field activities that affect a meter's installation status (i.e., installs, removes, on/offs) are completed via Field Activity Upload Staging. You should only have to change the information on this page when you need to fine-tune what the system sets up by default.

Open **Meter, SP/Meter Installation** to update a meter's installation information.

Description of Page
The following information is displayed at the top of the page:

SP/Meter History   This is a concatenation of meter and service point information. This information only appears after the SP/item history record exists on the database.

SP/Meter History ID   This is a system-assigned random number that stays with a SP/meter history record for life. This value only appears after the SP/meter history record exists on the database.

The remaining fields are maintained on the remainder of this page.

Service Point ID is the ID of the service point at which the meter is installed.

> **SP Type Restrictions.** The service point's SP Type controls whether or not a meter can be installed at the service point, and if so, what type of meter can be installed. Refer to [Setting Up Service Point Types](#) for more information.

Meter Configuration ID indirectly identifies the meter that is installed at the service point. A configuration may be associated with exactly one meter at any given point in time. Therefore, identifying the configuration also identifies the meter. Adjacent to the configuration ID is summary information about the configuration and the meter with which it is currently associated. This information consists of the description of the meter type of the meter, the meter's badge number, the effective date and time of the configuration, and the number of registers.

Use the **Installation** information to define the readings on the meter's register(s) when the meter is installed. To do this you must:

- Enter the installation **Meter Read ID** that shows how the meter's register(s) look at installation time. If you need to view or modify the read, click the context menu and transfer to the meter read.

> The installation date and time of the meter is the installation meter read's date/time.

- Use **Meter On/Off Status** to define if the meter is turned on or off when it's INITIALLY installed. Valid values are *On* and *Off*. This status does not affect billing in any way. It is purely informational.

- Override the **Installation Constant** (i.e., set it to a value other than *1*), if equipment is linked to this service point that affects the calculation of the constant used to manipulate the meter's consumption at billing time. It's important to be aware that this value is multiplied by the meter's registers' respective constants when billing determines the amount of consumption associated with a meter. Typically, only large industrial service points will have a value other than *1*. Note that when you want to change the installation constant for a service point you must perform an 'office exchange'. This means that you should remove the current meter and reinstall it. On the new install, specify the new installation constant – this way billing will recognize the new constant and adjust the billable quantities correctly.

> **Default note.** The **Installation Constant** defaults to a value of *1* for the first meter configuration installed at a service point. The installation constant for subsequent meter configurations is defaulted to the value of the latest meter configuration's installation constant.

> **Warning!** Entering a meter configuration and install meter read is an important part of installing a meter at a service point. However, if the installation was done in order to activate a service agreement, you also must reference the install meter read as the start read on the respective service agreement / service point linkage. The system sets this linkage up for you if: a) the meter installation is done as part of a field activity, and b) the field activity is linked to the service agreement / service point linkage as its start activity. Refer to Starting Service & Field Activities for more information.

Use the **Removal** information to define the readings on the meter's registers when the meter is removed. To do this you must:

- Enter the removal **Meter Read ID** that shows how the meter's register(s) look at removal time. If you need to view or modify the read, click the context menu and transfer to the meter read.

> The removal date and time of the meter is the removal meter read's date/time.

> **Warning!** Entering a removal meter read is an important part of removing a meter. However, if the removal was done in order to stop service, you must also reference the removal meter read as the stop read on the respective service agreement / service point linkage. The system sets this linkage up for you if: a) the meter removal is done as part of a field activity, and b) the field activity is linked to the service agreement / service point linkage as its stop activity. Refer to Starting Service & Field Activities for more information.

- **Stock Location** only appears if the meter's meter type tracks location. Enter the stock location where the meter is stored upon removal. Refer to The Big Picture Of Asset Inventory for more information.

The **Meter On/Off History** grid contains the history of when the meter has been turned on and off while it's installed at a service point.

When a meter's on/off status changes, insert a new entry into the grid by clicking the + button. Then,

- Enter the **On/Off Meter Read ID** that shows how the meter's dials look when the status is changed. When this field is populated, the meter **Read Date/Time** appears adjacent to it.

- Use **Meter On/Off Status** to define if the meter is turned on or off. Valid values are *On* and *Off*.

A unique **Sequence** number is given to each entry after the information is saved.

> **Warning!** The on/off status does not affect billing in any way. So, for example, if you turn a meter off and never expire the service agreement / service point link, the meter will still be amalgamated by billing (although it's consumption should be zero). This is intentional as many meters are turned off as part of the credit and collections process when a customer is delinquent (but the service point is still linked to the service agreement in case the customer pays up).

SP Meter Installation History

The SP installation history page is an information-only page that shows the meters that have been installed at the service point. Use **Meter, SP / Meter Installation, SP Installation History** to open this page.

Description of Page

This page shows the history of the meters that have been installed at the service point. No fields on this page may be modified.

Installing / Removing An Item

The installation of an item is a small part of the process of starting / stopping service. This process begins when a customer requests service at an item-based service point without an item. It continues with the creation of a field activity to connect service. When the system is advised of the results of the field activity, it creates a SP / Item history record (which you can see on this page).

The removal of an item from a service point involves an exact analogy where you use the SP / Item Installation page to indicate when the item was removed.

The remainder of this section is limited to a discussion about how to use the SP / Item Installation page.

For more information about starting / stopping service, refer to The Big Picture Of Starting Service and The Big Picture Of Stopping Service.   For more information about how the results of a field activity are advised to the system, refer to How Does A Field Order Get Completed?. **For more information** about setting up field activity types to install and remove meters from service points, refer to Setting Up Field Activity Types.

Contents

SP / Item Installation

The system automatically updates the information on this page when field activities that affect an item's installation status (i.e., installs, removes, on/offs) are completed via Field Activity Upload Staging. You should only have to change the information on this page when you need to fine-tune what the system sets up by default.

Open **Meter, SP/Item Installation** to update a meter's installation information.

Description of Page

The following information is displayed at the top of the page:

SP/Item History	This is a concatenation of service point AND item information. This information only appears after the SP/item history record exists on the database.
SP/Item History ID	This is a system-assigned random number that stays with a SP/item history record for life. This value only appears after the SP/item history record exists on the database.

Enter the ID of the **Service Point** at which the item is installed. Summary information about the service point is displayed adjacent to the service point ID.

> **SP Type Restrictions.** The service point's SP Type controls whether or not an item can be installed at the service point, and if so, what type of item can be installed. Refer to Setting Up Service Point Types for more information.

Item ID identifies the item that is installed at the service point. Summary information about the item is displayed adjacent to the item ID.

Use the **Installation** information to define when the item is installed. To do this you must:

- Enter the **Installation Date/Time** showing when the item is installed at the service point.

- Use **Item On/Off Status** to define if the item is turned on or off when it's INITIALLY installed. Valid values are *On* and *Off*. This status does not affect billing in any way - it is purely informational.

Use the **Removal** information to define when the item is removed from the service point. To do this you must:

- Enter the **Removal Date/Time** showing when the item is removed from the service point.

- **Stock Location** only appears if the item's item type tracks location. Enter the stock location where the item is stored upon removal. Refer to The Big Picture Of Asset Inventory for more information.

The **Item On/Off History** grid contains the history of when the item has been turned on and off while it's installed at the service point. When an item's on/off status changes, insert a new entry into the grid by clicking the ➕ button. Then,

- Use **Event Date** / **Time** to define when the status changed.

- Use **Item On/Off Status** to define if the item is turned on or off. Valid values are *On* and *Off*.

> **Warning!** The on/off status does not affect billing in any way. So, for example, if you turn an item off and never expire the service agreement / service point link, the item will still be amalgamated by billing. This is intentional as items can be turned off as part of the credit and collections process when a customer is delinquent (but the service point is still linked to the service agreement in case the customer pays up).

> **Only lamps use on/off status.** This grid is only applicable to items that can be switched on and off (e.g., a lamp with a photovoltaic eye can be switched on and off by installing or removing the eye). If the type of item does not possess such a property, set the status to on.

SP Item Installation History

The SP installation history page is an information-only page that shows the items that have been installed at the service point. Use **Meter, SP / Item Installation, SP Installation History** to open this page.

Description of Page

This page shows the history of the items that have been installed at the service point. No fields on this page may be modified.

Testing A Device

Device tests record the results of the periodic tests used to determine the accuracy of your meters and item. The topics in this section describe how to record the results of a meter or item test.

Refer to The Big Picture Of Device Testing **for more information**.

Contents

The Lifecycle Of A Device Test

The following diagram shows the possible lifecycle of a device test.
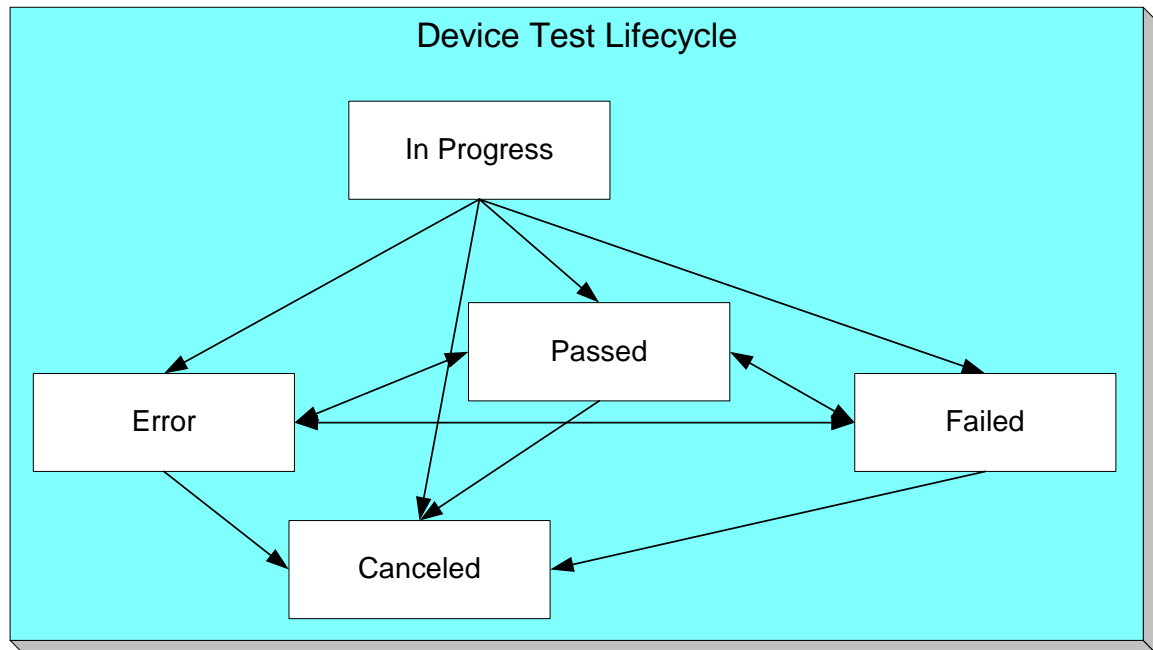
In Progress	The system creates a device test in the state of **In Progress**.
Passed	The system automatically changes the state of an **In Progress** device test to **Passed** when an operator indicates such on the device test page. Note, if the device test's test type has a validation algorithm, the test must pass the validation rules embodied in the algorithm before the test will become **Passed**. If the device test's test type does not use a validation algorithm, the test is assumed to pass when the operator indicates such.

Failed	The system automatically changes the state of a device test to *Failed* when an operator indicates such on the device test page. Note, if the device test's test type has a validation algorithm and the user indicates the test has passed, the system will change the test to *Failed* if the test fails the algorithm.
Error	If the device test's test type has a validation algorithm and the user indicates the test has passed, the system will change the test to *Error* if a problem is encountered while the validation algorithm executes.
Canceled	You may *Cancel* a device test if it shouldn't exist.

Device Test - Main

The Main page contains core device test information. Open this page using **Meters, Device Test, Main**.

Description of Page

The top portion of every page in this page contains the following information:

Device Test is a concatenation of summary information about this device test. It is composed the device's badge number, the test date, and the test's status.

Device Test ID is the unique system-generated identifier for this device test.

The remaining fields on the page are described below:

Use **Device Test Type** to define the type of test that was conducted.

Use **Test Start Date/Time** to define when the test was started.

Use **Test Stop Date/Time** to define when the test was completed.

Define the **Meter ID** on which the test was performed. This field will be gray if the **Device Test Type** is used for items.

> **Note.** You can only select a meter whose meter type indicates this **Device Test Type** can be performed for it.

Define the **Item ID** on which the test was performed. This field will be gray if the **Device Test Type** is used for meters.

> **Note.** You can only select an item whose item type indicates this **Device Test Type** can be performed for it.

Indicate who performed the test:

- If the test was performed by a 3rd party service provider, enter the tester's **Service Provider** ID.

- If the test was performed by a user, enter the person's **User** ID.

Use **Comments** to describe anything unusual about the test.

If the device test's status is *Failed* or *Error*, a **Message** will be displayed describing why.

Test Status defines the state of the device test. The buttons beneath the status are used to change the state of the device test:

- Click the **Validate** button to indicate a test should become *Passed*. When this button is clicked, one of two things will happen:

  - If the **Device Test Type** has a validation algorithm, the algorithm will be called and the status could become *Passed*, *Failed* or *Error*.

  - If the **Device Test Type** doesn't have a validation algorithm, the status will become *Passed*.

- Click the **Fail Test** button to indicate the test's status should be *Failed*.

- Click the **Cancel** button to indicate the test is *Canceled*.

Device Test - Characteristics

The characteristics page contains device test results. Use **Meters, Device Test, Characteristics** to open this page.

Default note. When a device test is first created, all required characteristics will be defaulted (the operator need only specify their respective characteristic values).

Description of Page

The top portion of every page in this page contains the following information:

Device Test is a concatenation of summary information about this device test. It is composed the device's badge number, the test date, and the test's status.

Device Test ID is the unique system-generated identifier for this device test.

To modify a characteristic, simply move to a field and change its value. To add a new characteristic, click + to insert a row, then fill in the information for each field. The following fields display:

Characteristic Type	Indicate the type of characteristic.
Sequence	Controls the order in which characteristics of the same type are displayed.
Characteristic Value	Indicate the value of the characteristic.

Where Used

The data on this page may be used during the execution of the device test's test type's validation algorithm. Refer to Device Test Validation for more information.

Device Test - Components

The test components page contains test components associated with the device test (refer to A Device Test Records Test Results for examples of how and when test components are used to record test results). Use **Meters, Device Test, Components** to open this page.

> **Default note.** When a device test is first created, all test component types defined on the device test type will be defaulted.

Description of Page

The top portion of every page in this page contains the following information:

Device Test is a concatenation of summary information about this device test. It is composed the device's badge number, the test date, and the test's status.

Device Test ID is the unique system-generated identifier for this device test.

The **Device Test Component** scroll controls the display of the test components involved in the device test. The fields that appear in the outer scroll are as follows:

Test Component Type	The test component type controls the type of test results that are entered. Note well, only test component types defined as permissible on the device test type may be specified.
Sequence	This field along with the **Device Test ID** uniquely identify this record.
Register ID	This field is only used if the **Test Component Type** indicates that a register must be specified. This is typically only done with the component test involves the testing of a specific register.

The grid contains fields used to capture the test results. The number and the type of test results is controlled by the respective **Test Component Type**.

Where Used

The data on this page may be used during the execution of the device test's test type's validation algorithm. Refer to Device Test Validation for more information.

Device Test Selection

The device test selection page will generate field activities to test meters and items. Open this page using **Meters, Device Test Selection**.

Description of Page

To generate field activities to test you meters / items, follow these steps:

- Add a Device Test Selection record (see the field description below for information about the fields)

- Click the **Complete** button to have the system generate the field activities. The generated field activities will appear in the grid at the bottom on the screen.

- If, after reviewing the field activities, you decide not to perform the tests, you can cancel the field activities by clicking the **Cancel** button. It's important to note that the system will only cancel *Pending* activities that are allowed to be canceled automatically.

The remainder of this selection describes the fields associated with a Device Test Selection.

Enter a **Description** of the selection event.

Select a **Selection Algorithm** that will select meters or items for testing. Refer to Field Activities And Device Testing for more information.

Use **Qty to Select** to define the number of meters or items for which you want field activities generated.

Define the field **Activity Type** to be assigned to the generated field activities.

Define the **Scheduled Date** to be assigned to the generated field activities.

The **Create Date/Time** of the test selection is displayed.

Status defines the state of the device test selection. The buttons beneath the status are used to change the state of the device test selection:

- Click the **Complete** button to have the system select the devices to test and to generate the related field activities. The status will change to *Complete*.

- Click the **Cancel** button to indicate the test selection is *Canceled*.

The resultant field activities are displayed in the grid that follows.

Meter Replicator

When a pallet of new meters arrives in your meter shop, you can use the meter replicator to quickly create many copies of a given meter and its configuration. The individual copies may then be edited as needed.

Perform the following steps to create multiple copies of a meter:

- Add a meter using Meter - Main Information.

- Add a meter configuration using Meter Configuration Maintenance.

- Use the meter replicator page to create copies of the meter and its configuration.

The topics in this section describe how to use the meter replicator. Note that there is also an Item Replicator in the case where you need to replicate other devices.

Contents

Meter Replicator - Main Information

You use this page to create many copies of a given meter. Use **Meter, Meter Replicator, Main** to open this page.

Description of Page

Define the **Meter ID** that is to serve as your template meter.

Recommendation. Carefully verify the template meter using the other tabs in this page before you save the replicated meters. After you save the replicated meters, any corrections could prove time-consuming.

Indicate the **Number of Meters to Replicate**.

If the meter's meter type tracks location, a meter history location will be created during replication. Use **Stock Location** to define the initial meter stock location to be used in the location history. Refer to The Big Picture Of Asset Inventory for more information.

Use **Badge Prefix** to define the prefix of the badge numbers assigned to the meters. Use **Start From** to define the suffix of the badge number assigned to the first copy of the meter. Use **Increment by** to define the value to increment successive badge numbers by. The first and last badge numbers to be created by the replicator are displayed adjacent.

For example, if the first badge number you want to create is E99-1021 and the last badge number is E99-1077 you'd enter the following parameters:

Number of Meters would be *57*

Badge Prefix would be *E99-10*

Start From would be *21*

Increment by would be *1*

Use **Serial Prefix** to define the prefix of the serial number assigned to the meters. Use **Start From** to define the suffix of the serial number assigned to the first copy of the meter. Use **Increment by** to define the value to increment successive serial numbers by. The first and last serial numbers to be created by the replicator are displayed adjacent.

For example, if the first serial number you want to create is GE9101-1000-001 and the last serial number is GE9101-1000-057 you'd enter the following parameters:

Number of Meters would be *9*

Serial prefix would be *GE9101-1000-0*

Start From would be *1*

Increment by would be *1*

After entering the parameters, click **Replicate** to generate your new meters. You can use the frames at the bottom of the page to view the meters that will be created when you click save. The left frame will show how Badge and Serial Numbers will look on the first 10 meters. If you are creating more than 10 meters, the right frame will show how Badge and Serial Numbers will look on the last 10 meters. If everything looks clean, click the save button.

Meter Replicator - Meter

The Meter page is a display-only page provided to let you confirm that the meter you selected is the one to be used as the template by the replicator. Use **Meter, Meter Replicator, Meter** to open this page.

> **Some equipment may not be copied.** Equipment that is linked to the template meter will NOT be replicated on the replicated meters if the equipment references an item type that does NOT permit multiple equipment assignments. Refer to The Big Picture of Meters, Items and Equipment for more information about equipment linked to meters.

Description of Page

This is a display-only page that displays information about the registers linked to the meter identified in the add dialog. Refer to Meter – Main Information for a description of the fields.

Meter Replicator - Meter Configuration

The Meter Configuration page is a display-only page provided to let you confirm that the meter you selected is the one to be used as the template by the replicator. Use **Meter, Meter Replicator, Meter Configuration** to open this page.

Description of Page

This is a display-only page that displays the characteristics linked to the meter identified in the add dialog. Refer to Meter Configuration Maintenance for a description of the fields.

Item Replicator

When you receive a set of new badged items or equipment, you can use the item replicator to quickly create many copies of a given item. The individual copies may then be edited as needed.

Perform the following steps to create multiple copies of an item:

- Add a meter using Item Maintenance

- Use the item replicator page to create copies of the item.

The topics in this section describe how to use the item replicator.

Contents
Item Replicator - Main Information
Item Replicator - Item

Item Replicator - Main Information

You use this page to create many copies of a given item. Use **Meter, Item Replicator, Main** to open this page.

Description of Page

Define the **Item ID** that is to serve as your template item.

> **Recommendation.** Carefully verify the template item using the other tab in this page before you save the replicated items. After you save the replicated items, any corrections could prove time-consuming.

Indicate the **Number of Items to Replicate**.

If the item's item type tracks location, an item history location will be created during replication. Use **Stock Location** to define the initial item stock location to be used in the location history. Refer to The Big Picture Of Asset Inventory for more information.

Use **Badge Prefix** to define the prefix of the badge numbers assigned to the items. Use **Start From** to define the suffix of the badge number assigned to the first copy of the item. Use **Increment by** to define the value to increment successive badge numbers by. The first and last badge numbers to be created by the replicator are displayed adjacent.

For example, if the first badge number you want to create is E99-1021 and the last badge number is E99-1077 you'd enter the following parameters:

Number of Items would be *57*

Badge Prefix would be *E99-10*

Start From would be *21*

Increment by would be *1*

Use **Serial Prefix** to define the prefix of the serial number assigned to the items. Use **Start From** to define the suffix of the serial number assigned to the first copy of the item. Use **Increment by** to define the value to increment successive serial numbers by. The first and last serial numbers to be created by the replicator are displayed adjacent.

For example, if the first serial number you want to create is GE9101-1000-001 and the last serial number is GE9101-1000-057 you'd enter the following parameters:

Number of Items would be *9*

Serial prefix would be *GE9101-1000-0*

Start From would be *1*

Increment by would be *1*

After entering the parameters, click **Replicate** to generate your new items. You can use the frames at the bottom of the page to view the items that will be created when you click save. The left frame will show how Badge and Serial Numbers will look on the first 10 items. If you are creating more than 10 items, the right frame will show how Badge and Serial Numbers will look on the last 10 items. If everything looks clean, click the save button.

Item Replicator - Item

The Item page is a display-only page provided to let you confirm that the item you selected is the one to be used as the template by the replicator. Use **Meter, Item Replicator, Item** to open this page.

> **Some equipment may not be copied.** Equipment that is linked to the template item will NOT be replicated on the replicated items if the equipment references an item type that does NOT permit multiple equipment assignments. Refer to The Big Picture of Meters, Items and Equipment for more information about equipment linked to items.

Description of Page
This is a display-only page that displays information about the registers linked to the item identified in the add dialog. Refer to Item - Main Information for a description of the fields.

Usage Requests

> **Note:** The information in this section applies to the integration with Oracle Utilities Meter Data Management.

Usage records are created when bill determinants are requested from Oracle Utilities Meter Data Management during billing. The consumption information is then used to create a bill segment for the associated service agreement.

The topics in this section describe how to search for and maintain usage records.

Contents
Usage Query
Usage - Main
Usage - Log

Usage Query

The Usage Query page is a standard query portal used to search for an existing usage record. Use **Meter, Usage Search** to open this page. When you select a usage record, the maintenance portal opens and displays the associated information for the usage record.

Usage - Main

This portal appears when a usage record is selected from the Usage Query portal or the Bill Segment - Usage page.

The topics in this section describe the base-package zones that appear on this portal.

Contents
Actions
Usage

Actions

This is a standard actions zone.

Usage

The Usage zone displays information for the selected billing segment. Please see the zone's help text for information about this zone's fields.

Usage - Log

The usage log page contains an entry for every recorded event during the lifecycle of the usage request. There are two general types of log entries:

- **Automatic entries.** The system automatically creates an entry in the log when usage is requested or there is a status change or when a related entity is created. This also includes any implementation-specific log entries. Users cannot modify or delete these log entries.

- **Manual entries.** Users can add manual entries to record significant events at their discretion.

Meter Reading

In this section, we describe how to manage the cyclical reading of your metered service points and how to add and change ad hoc meter reads.

For more information about meters, refer to Meter Management.

Contents

Background Topics

The topics in this section provide background information about a variety of meter reading issues.

Contents

The Cyclical Meter Read Process

Most meter reads are recorded in the field by meter readers using handheld devices. These meter reads are uploaded into the system for use by billing. In this section, we provide an overview of how this cyclical process works:

- Every metered service point references a service cycle, route, and sequence within the route.

    - The service cycle controls WHEN the service point's meter is read.

    - A service cycle typically contains many routes. A route is a logical group of service points whose meters can be read by a meter reader on a given day.

    - A service point's sequence defines the order within a route that the service point is read.

- Every service cycle has a service cycle schedule that defines the dates on which the routes within a cycle are read.

- Shortly before the scheduled meter read date, the system creates a download file containing information to be sent to your handheld software. This download file contains information about every register on every meter in every route in the cycle being downloaded.

> **Overriding a route within a specific schedule.** Rather than downloading all routes within a cycle, you can set up the system so that only specific routes are downloaded on any given date. This is a very powerful feature. You can use it, for example, to estimate specific cycles every other month or indicate the customer reads the meter every third month. Refer to Designing Service Cycles, Routes, And Schedules for more information.

- Your handheld software distributes this information to the handheld devices and then your meter readers do their job. When they finish, the resultant meter reads are uploaded into the system.

> **Billing recalculates consumption.** While the system calculates consumption when a read is added to the system in order to compare it to high / low values, this consumption is not used by billing. Rather, billing recalculates consumption in case something changes between the time the read is stored and the customer is billed for the consumption (e.g., the register's constant is changed, the dial reading is changed due to digit transposition in the field, etc.)

> For more information about the how to control when a cycle is read, refer to Setting Up Service Cycle Schedules.

Managing Metered Service Routes

Every metered service point references a service cycle, route, and sequence within the route.

- The service cycle controls WHEN the service point's meter is read.

- A service cycle typically contains many routes. A route is a logical group of service points whose meters can be read by a meter reader on a given day.

- A service point's sequence defines the order within a route that the service point is read.

> Refer to Renumber Service Route Sequences and Service Route Transfer for more information about changing the service points in a route. Refer to Service Point - Main Information for more information about how to change a specific service point's cycle, route, and sequence.

Field Code Changed
Field Code Changed

High / Low Checks

Regardless of the source (upload or online), whenever a meter read is added, the system checks that the meter read's consumption is reasonable. This check is performed by comparing the actual read to high and low read values. The actual high and low read values are calculated by the Meter Read High Low Limits algorithm specified on the installation options.

The base package is supplied with a sample algorithm type (HILO-FACTBL) that uses the High Low Factor table to derive the high and low limits for a register read as follows:

- Estimate consumption using the estimation algorithm specified for the trend area.

- Calculate the high and low usage amounts using the high and low usage factors for the unit of measure and read type:

- The low usage amount is calculated by multiplying estimated consumption by the low usage factor.

- The high usage amount is calculated by multiplying estimated consumption by the high usage factor.

- Determine the high and low read values using the high and low usage amounts and the previous read value.

When a meter reading's consumption is outside of the high / low boundaries, it is flagged accordingly. However, billing still uses the reading unless an operator explicitly disallows the reading.

> Refer to Review High / Low for more information about reviewing readings that failed high / low checks.

> **Disallowing Readings.** You can disallow billing from using a read by unchecking **Use On Bill** on the Meter Read page.

Meter Reads and Billing

When it's time to create a bill for a customer, the system looks for an appropriate meter read for each metered service point on or around the scheduled meter read date. If a single read is found, billing uses it to calculate consumption. However, challenges exist if either of the following two situations occurs:

- When multiple meter reads exist on or around the scheduled meter read date.

- When no reads exist.

Sorting out multiple reads is easy. Every read contains a read type. Each read type has an associated priority code. If multiple reads exist, billing uses the read with the highest priority. If multiple reads of the highest priority exist, one is selected at random.

> For more information about read types and their billing selection priority, refer to the Description of Page under Meter Read - Main.

Sorting out the situation when no reads exist isn't so easy. When no reads exist, billing generates an estimated read (derived by estimating consumption) if all of the following conditions are true:

- The initiator of the bill allows estimation.

  - If a bill is created as a result of a bill cycle schedule, the bill cycle schedule must have an estimation date on or after the current date.

  - If a bill is created real time from one of the bill pages, the requesting operator must specifically allow estimation.

- The service agreement allows estimation.

If estimation is allowed, the billing process estimates consumption as of the scheduled meter read date using the same algorithm used for the purpose of high / low checks.

Whenever billing estimates consumption, it creates a meter read to represent the estimated consumption. You can see this meter read on the meter read queries.

> For more information about estimated consumption, refer to The Theory Behind Consumption Estimation.

Meter Read Maintenance

The topics in this section describe how to add or update a Meter read.

Contents

Meter Read - Main

To add or update a meter read, open **Meter Read, Meter Read, Main**.

> **There are 4 ways to add meter reads.** You can add meter reads using any of the following methods: A) open **Meter Read, Meter Read, Main**, B) add the read using the Meter Read Upload Staging page, C) populate the Meter Read Upload Staging using SQL, and D) you can add a reading using Field Activity Upload Staging. Both options B and C rely on the subsequent execution of the Meter Read Upload Background Processes to create the reads in the system.

Description of Page

Meter Read is a concatenation of summary information about the meter read.

Meter Read ID is the system-generated unique identifier for the meter read.

Enter the **Meter Configuration ID** of the meter that was read. Adjacent to the ID is summary information about the configuration. This field is protected if the meter read is used on an SP/Meter Installation history record.

Premise is a display-only field that shows the information about the premise at which the meter configuration was installed when it was read.

Enter the **Read Date/Time**. This field is protected if the meter read is used on an SP/Meter Installation history record.

Turn off **Use On Bill** if the meter read should not be used by billing. You'd typically turn this off if a meter failed high / low checks and you don't want billing to use it to calculate a customer's consumption.

Use **Meter Read Source** to define the source (e.g., the reader, the reading agency, etc.) of the read. If the read was uploaded with the reader id, **Meter Reader** is displayed.

The **Reread Meter** button can be pressed to create a field activity to reread the meter (note, the field activity type is defined on the field activity type profile associated with the service point at which the meter configuration is currently installed). This button is disabled if the meter configuration is not currently installed at a service point. If there is a *Pending* reread field activity for the service point, information about the field activity is displayed adjacent. If multiple such field activities exist, information about the earliest activity is displayed.

The scroll that follows contains one row for every register linked to the meter configuration. You cannot insert or remove entries in this scroll because a reading must be entered for every one of the configuration's registers.

> **Note**. Register reads may not be entered for interval registers. Refer to The Big Picture of Raw Data Collection and Aggregation **for more information**.

The remaining fields are entered for each register.

Sequence is a display-only field that controls the order in which a register is read.

Register Information consists of the unit of measure, time of day (if any), the format of the register, and the register's constant.

Use **Read Type** to define WHO made the read and HOW the read was made. The value of this field is important because it affects which meter read will be used by billing if multiple reads exist during a billing period. The following table lists the read types and describes how a read with this value typically enters the system.

Read Type	Description
Billing Force	Meter reads with this value are entered by a billing administrator who wants to force billing to bill a customer for a given amount of consumption.
Verified	Meter reads with this value are recorded by a meter reader using a handheld device. The handheld device deems a read as "verified" if the meter reader typed the same dial reading in twice. Some organizations have their handhelds programmed to require the double entry of dial readings when the entered value is outside normative values (i.e., the resultant consumption fails high / low checks).
Regular	Meter reads with this value are recorded by a meter reader using a handheld device. See the description for "verified" above for the difference between a "regular" and a "verified" reading.
Customer Read	Meter reads with this value are made by a customer.
System Prorate	Meter reads with this value are created by the system automatically when prorating normal cycle-based reads for use with an off-cycle start service or stop service.
Office Estimate	Meter reads with this value are informed guesses of consumption. These would be used when there was no real reading (i.e., a regular or verified reading), and the system was not allowed to estimate consumption (for whatever reason). This value is rarely used.
Service Provider Estimate	Meter reads with this value are estimates of consumption made by a 3rd party service provider, such as an MDMA, the distribution company, or an energy supply company.
System Estimate	Meter reads with this value are created by the billing process when a reading cannot be found and the service agreement allows estimation.

No Read	Meter reads with this value are entered to indicate that a read was purposefully not performed (for whatever reason - mad dog, nasty rose bush, deep snow, etc.). A read with this value is not a read at all, it's just an audit trail.

Default note. If the meter configuration has multiple registers, the read type defined for the first register will be defaulted on the remaining registers when you add a new meter read. You can always override this defaulting.

The **Message** column highlights the following:

- **The resultant usage.** For subtractive registers, this is the difference between this read and the prior read. For consumptive registers, this is the register reading.

- **The valid usage.** This is the range of <u>usage</u> that won't trigger a high / low failure. These values are not shown if the read was not subject to high / low checks when it was added.

- **The valid readings.** This is the range of <u>readings</u> that won't trigger a high / low failure. These values are not shown if the read was not subject to high / low checks when it was added. Note, these values are only calculated for subtractive registers as the valid usage is the same as the valid readings for consumptive registers.

The message column is red for those readings that have failed high / low checks.

Refer to <u>High / Low Checks</u> for more information.

Register Reading contains the dial reading.

The **Previous Reading Information** column contains information about the read that precedes this read (note, meter reads where **Use on Bill** is turned off are ignored). The reading's read type, read date, and register reading are displayed.

The **Review High / Low** switch indicates if this register read has been flagged for consideration by the high / low review background process (<u>TD-HILO</u>). If a register read has been checked, you may reset the switch so that the register read is no longer considered for the high / low review background process.

Marking a Read for High / Low Review. Only the system can mark a register read for high / low review. Refer to <u>High / Low Checks</u> for more information.

Register ID is the unique identifier of the register. This information is shown for informational purposes.

Register Reading Id is the unique identifier of the register read. This information is shown for informational purposes.

The **Meter Reader Remark** grid is used to define anomalies associated with the reading. For example, you can indicate if a read wasn't possible because there was a dangerous situation at the premise.

The **Meter Read Remark Status** is only relevant if a **Meter Read Remark** code has algorithms associated with it. Algorithms are associated with meter read remarks if additional activities should occur after a meter read with such a remark is added. For example, you could create a field activity if a "seals broken" remark is specified on a meter read. The execution of the algorithm is performed by a background process called *MRRA* (meter read remark algorithm activator). **The Meter Read Remark Status** indicates whether the algorithm has been executed:

- When you add a remark that has an algorithm, the status will be *Pending*. It will remain in this state until the *MRRA* process next runs.

- When the *MRRA* process next runs, if the system is successful in executing the algorithm, the status of the meter read remark will become *Complete*. If the system is not successful in executing the algorithm, the status becomes *Error*.

> **Remarks that are in error.** Meter reads that contain meter read remarks whose algorithms could not be successfully executed by the *MRRA* background process are written to the Meter Read Remark Exception table. To correct errors, you may have to delete and re-add the meter read's remark code if the error is impossible to fix (e.g., if the remark causes a customer contact to be generated and there is no customer at the meter's premise).

Refer to Meter Reader Remarks for more information.

Meter Read - Characteristics

To update meter read characteristics, open **Meter Read, Meter Read** and navigate to the **Characteristics** tab.

Description of Page

The **Characteristics** collection contains information that describes miscellaneous information about the meter read.

The following fields display:

Characteristic Type	Indicate the type of characteristic.
Sequence	Controls the order in which characteristics of the same type are displayed.
Characteristic Value	Indicate the value of the characteristic.

Correcting Reads Versus Entering New Reads

Assume that a read was performed in the field and the dial reading was entered incorrectly (e.g., digit transposition). You have two choices, you can modify the uploaded read, or you can enter a new read with a higher priority read code. We prefer the latter approach so that a proper audit exists, but both options work; it's up to you.

Meter Read Remark Exceptions

If a meter read has a remark code that has algorithms associated with it, the system activates the algorithms each time the **MRRA** (meter read remark algorithm activator) background process is executed. If errors occur during the activation of the algorithms, a record is written to the meter read remark exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-MRRER background process. This process generates a To Do entry for every record in the meter read remark exception table.

After correcting the cause of the error, drill into the meter read page. Then change the status of the remark from **Error** to **Pending**. When the **MRRA** process next runs, it will attempt to execute the remark's algorithm again.

> **Note.** You may have to delete or change the meter read's remark code if the error is impossible to fix (e.g., if the remark causes a customer contact to be generated and there is no customer at the meter's premise).

Setting Up Trends

> **Warning!** You must thoroughly understand the information discussed in Estimating Using Trends before you can understand trends.

Trend information is used to estimate consumption. A separate trend is maintained for every combination of trend area, trend class, unit of measure and time of use code. Each trend maintains a separate record for each day on which consumption was measured. This section deals with the issues associated with the maintenance of trend information.

Contents

Trends Are Updated Behind-The-Scenes
Maintaining Trends
No Trends At Startup

Trends Are Updated Behind-The-Scenes

The consumption associated with certain register reads is updated on a trend record by the **TREND** background process when the following conditions are true:

- The register's read type must be **Customer**, **Regular** or **Verified**.

- If the register is subtractive, the reading's resultant consumption can't exceed the threshold capacity of the register. Note, a register's threshold capacity equals X times the register's maximum capacity (where X is the rollover threshold factor defined on Installation Options - Billing).

- If the register read was entered online, the resultant consumption can't be outside of the high / low boundaries.

- If the register read was uploaded by the **MUP2** background process and the reading was marked for high / low checks, the resultant consumption can't be outside of the high / low boundaries

> **Warning!** The above points mean that if you do not subject your uploaded meter reads to high / low checks AND the resultant consumption does not exceed the threshold capacity of the register AND the read type is *Customer*, *Regular* or *Verified*, then the trend table will be updated with the register read's consumption.

The specific trend affected by a register read is identified by the following:

- The register's meter's service point's premise defines the trend area.

- The register's meter's service point's SP type defines the trend class.

- The register defines the unit of measure and time of use codes.

- The meter read date defines the trend date.

> **Important!** The system only updates trends with a read type of *Customer*, *Regular* or *Verified*. The system ignores other types of reads when it builds trend information. Refer to Meter Read - Main for more information about read type.

In addition to updating the trend data, the trend process can create To Do entries for any service point without an active service agreement where significant usage is detected. Refer to the Trend Process for more information.

Maintaining Trends

All trend data is updated by the system and should not require modification. However, if you need to view or change this information, open **Meter Read, Trend**.

Description of Page

A separate trend is maintained for every combination of **Trend Area**, **Trend Class**, **Unit of Measure** and **Time of Use** code. The Unit of Measure's **Measures Peak Qty** is displayed adjacent. Each trend contains a separate record for each day on which consumption was measured.

> **Load functionality.** If you enter this page in "add mode" (i.e., you do not select a trend using the search dialog) and you enter a combination of **Trend Area**, **Trend Class**, **Unit of Measure** and **Time of Use** code that already has trend information, a button will appear adjacent to **Trend Area**. This button is called "**Load**" and, if clicked, will cause the information in the following grid to become populated with the respective trend information.

Use the **Read Date** to indicate the starting point for the display of the trend data. Keep in mind that the data is displayed in reverse chronological order.

The following fields display:

Read Date   The date on which the consumption information was recorded in the system.

Thread Nbr	The system-generated identifier for a group of trend consumption records (rows) used to calculate a trend estimate. Simply enter a value of 1 if you are entering a trend.
Total Service Quantity	The total amount of consumption recorded on the read date.
Number of Units	For non-peak units of measure (e.g., CCF, therm, kWh), this contains the number of days in which the total service quantity was consumed. For peak units of measure (e.g., KW, KVAR), this contains the number of meter reads.
Number of Reads	The total number of reads whose consumption was recorded on the trend.
Average Consumption	This equals the total service quantity divided by the number of units.

No Trends At Startup

Once you've been in production for about one billing period, there should be enough system-generated trend data (depending on the estimation algorithm and how the trend areas/classes are configured) to generate statistically accurate consumption estimates. However, before this time, you will have little or no trend data and therefore the system will not be able to accurately estimate consumption (and therefore high / low validation will not operate).

If you can live with this, then you don't have to set up trends because the system will automatically build them as meter reads are recorded in the system. However, if you opt for this approach, you must turn off high / low validation on your uploaded register reads during the first few months of production. If you fail to do this, every register read will fail high / low validation and reads that fail high / low checks are not trended. To turn off high / low validation populate the uploaded register read's REVIEW_HILO_SW with a value of *N*.

If you can't live with this, then you'll have to populate the trend data manually. To do this, create trend records for every combination of trend area, trend class, unit of measure and time of use code. For each trend, enter the following:

Thread Nbr	Enter *1*.
Read Date	Set this to the day preceding your production date.
Total Service Quantity	For peak units of measure (e.g., KW, KVAR), this will be the average peak amount of consumption associated with registers belonging to this trend. For non-peak units of measure (e.g., CCF, kWh), this will be the average daily consumption associated with registers belonging to this trend.
Number of Units	Enter *1*.
Number of Reads	Enter *1*.

> **Note.** You do not have to change the trend classes to indicate only one read is needed. This is because, if the system cannot find enough trends to satisfy the number of reads required by the trend class, it will use as many as exist. For example, consider a trend class that needs 10,000 reads to form a statistically significant sample for estimation, but at estimation time there is only one trend and this trend contains the results from only one read. In this situation, the system will use the consumption information on the single trend to calculate estimated consumption.

> Warning! Make sure that your manually entered trend information is accurate and well tested. The quality of the trend information impacts your estimation results (depending on your estimation algorithm) and this in turn impacts the bills you send your customers.

Renumber Service Route Sequences

All metered service points reference the service cycle and route in which they are read. Besides referencing the specific cycle and route, every service point has a meter read sequence that defines its relative position in the route (where sequence 5 is read before sequence 10). If you need to insert a service point between two existing service points but there's no gap between the service points' sequences, open **Meter Read, Renumber Service Route Sequences** to renumber the sequences in a given cycle and route.

> Refer to The Cyclical Meter Read Process for more information about cycles and routes.

Description of Page

Use the search button to select the **Service Cycle** and **Service Route** whose service points are to be resequenced. When the page opens, you are shown all of the service points in the cycle and route, ordered by current sequence number.

Use the **Sequence Range From** and **To** fields to display service points in the grid within a sequence range.

Use the **Sequence** column in the grid to manually change a service point's sequence number. You can manually change sequence numbers of up to 150 service points at a time. Click the save button to apply your changes. Service points with duplicate sequence numbers are highlighted in the **Remarks** column.

To resequence all service points within the route, enter the value from which the system should **Start Sequencing From** and the amount to **Increment Sequences by** and then click **Renumber**. Good values to enter would be 5 and 5 respectively. If you specified values in the **Sequence Range From** fields, only the service points whose sequences fall within the specified range are renumbered.

Service Route Transfer

The topics in this section describe how to transfer a group of service points from one route to another.

Contents

Service Route Transfer - Main

If you need to transfer a group of service points from one route to another, open **Meter Read, Service Route Transfer, Main**.

Refer to The Cyclical Meter Read Process for more information about service cycles and routes.

Description of Page

This page's dialog is idiosyncratic. Follow the instructions below to transfer service points from one route to another:

- Use the search button to select the **Service Cycle** and **Service Route** that contains the service points to be transferred. Upon return from the search, you are shown all of the service points in the input cycle and route in the **Transfer From** grid.

- In the **Transfer From** section at the top of the page, enter the sequence number of the first service point to be transferred in **Sequence From**. Enter the sequence number of the last service point to be transferred in **Sequence To**.

- In the **Transfer To** area that follows, enter the **Service Cycle** and **Service Route** into which the service points are to be transferred. Enter the sequence number to be assigned to the first service point when it is transferred to the new route using **Start Sequencing From**. Enter the value by which to increment the sequence number of successive service points using **Increment by**.

- Click the save button to re-sequence the service points. The re-sequenced service points are shown on the **Transfer To** tab.

When there's no room. If the "transfer to" route doesn't have enough space between its sequences to insert the desired service points, navigate to Renumber Service Route Sequences and renumber the route by a value large enough to make space. Then, return to this page and transfer the service points into the route.

When a service point's service cycle is updated using this transaction, and the account's bill cycle is not protected, the system automatically updates the account's bill cycle to be in sync with the service cycle.

Service Route Transfer - Transfer To

The **Transfer To** tab is only populated after you have transferred service points from one cycle/route to another. It shows all service points in the "transfer to" cycle and route specified on the **Main** tab.

Description of Page

No information on this page may be modified. The grid only contains information after you have transferred service points from one cycle/route to another. Refer to Meter Read Route Transfer – Main for instructions describing how to transfer service points from one route to another.

Read History

This page shows the history of a register's reads. Open this page using **Meter Read, Read History**.

Description of Page

Register ID identifies the register whose reads are shown in the grid.

> **How to scroll through a meter's registers.** If a **Meter** has multiple registers, use the meter's context menu and choose Go to Read History to be presented with a list of all of the meter's registers. Then select the first register. You can then use the Next (Alt-N) and Previous (Alt-P) buttons to scroll through the meter's registers.

Filter by controls the reads that appear in the grid:

- If you want to restrict the history to reads that are eligible to appear on a bill, choose *Billable Reads Only*. This is the default value.

- If you want to see all reads linked to the register, choose *All*.

- If you want to restrict the history to reads that are NOT eligible to appear on a bill, choose *Non-Billable Reads Only*.

The remaining points describe the columns in the grid.

Read Date/Time is the date and time of the meter read.

The **Read Difference** column shows the difference between this read and the previous read.

> **Warning!** The value of **Read Difference** does NOT take into account constants; it is purely the difference between the respective read and the previous read. Refer to Bill History for a query that shows the history of billed consumption.

The **Message** column highlights the following:

- **The resultant usage.** For subtractive registers, this is the difference between this read and the prior read. For consumptive registers, this is the register reading.

- **The valid usage.** This is the range of usage that won't trigger a high / low failure. These values are not shown if the read was not subject to high / low checks when it was added.

- **The valid readings.** This is the range of readings that won't trigger a high / low failure. These values are not shown if the read was not subject to high / low checks when it was added. Note, these values are only calculated for subtractive registers as the valid usage is the same as the valid readings for consumptive registers.

The **Message** column is red for those readings that have failed high / low checks.

> Refer to High / Low Checks for more information.

The **High/Low Failed** column is checked if the read was not within the boundaries of the estimated high and low read values calculated by the system at the time the read was validated.

Refer to Meter Read - Main for the definition of all other columns.

Downloading Meter Reads

Every metered service point references a service cycle, route, and sequence within the route.

- The service cycle controls WHEN the service point's meter is read.

- A service cycle typically contains many routes. A route is a logical group of service points whose meters can be read by a meter reader on a given day.

- A service point's sequence defines the order within a route that the service point is read.

> **Warning!** If your company supplies electric service and uses MV90s, you will need to take advantage of "notional" routes. A "notional" route's service points are never actually read by a human. Rather, the service points' consumption is fed to the system by a sophisticated device (e.g., an MV90). These service points still need to be linked to a route because billing is dependent on the route's cycle to determine the expected meter read date. You would assign a "notional" route a route type that is not processed by the service cycle. Refer to Setting Up Service Route Types for more information.

A Service cycle has a schedule indicating when its service point should be read. Each entry in the schedule contains two dates:

- **Scheduled selection date.** This is the date the system selects the service points in the cycle for download to your handheld software.

- **Scheduled work date.** This is the date the meter is expected to be read.

On the scheduled selection date, the system creates a download file containing information to be sent to your handheld software. This download file contains information about every register on every meter in the routes being downloaded.

Your handheld software distributes this information to the handheld devices and then your meter readers do their job. When they finish, the resultant meter reads are uploaded into the system for subsequent use by billing.

> **Note.** Rather than downloading all routes within a cycle, you can set up the system so that only specific routes are downloaded on any given date. This is a very powerful feature. You can use it, for example, to estimate specific cycles every other month or indicate the customer reads the meter every third month. Refer to Designing Service Cycles, Routes, And Schedules for more information.

Meter Read Download Processes

The following diagram illustrates the processes involved in the creation of the flat file that is interfaced to your meter reading software.

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```
┌─────────────────────────┐
│  Process: MSR           │          ╔═══════════╗
│  Create MR Schedule     │─────▶    ║  MR Sched ║
│  Routes                 │          ║  Routes   ║
└─────────────────────────┘          ╚═══════════╝

┌─────────────────────────┐          ╔═══════════╗
│  Process: MDS           │◀─────    ║    MR     ║
│  Create Download Staging│─────▶    ║ Download  ║
└─────────────────────────┘          ║  Staging  ║
                                     ╚═══════════╝
┌─────────────────────────┐
│  Process: MDL           │◀─────    ( Flat file to be
│  Create Download Flat   │─────▶      interfaced to
│  File                   │            MR
└─────────────────────────┘            software )
```
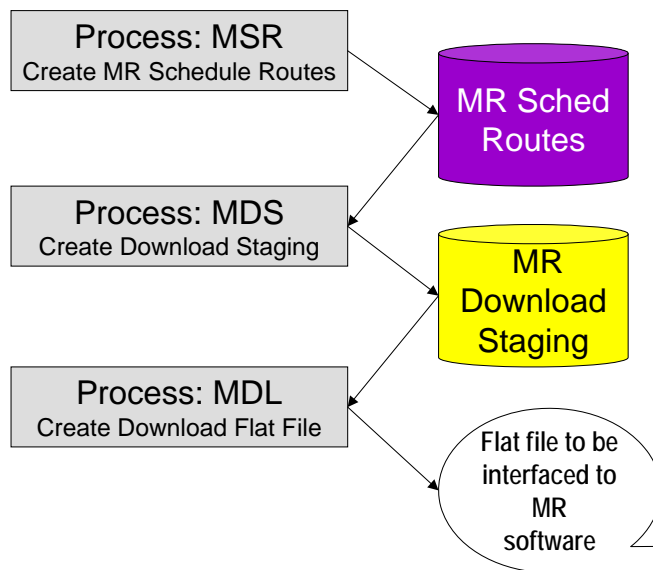
Contents

MSR - Create Service Schedule Routes

This process looks for all service cycle schedules with a scheduled selection date on or before the supplied business date whose routes haven't been generated. For each record found, the process creates MR schedule route records for every route in the cycle.

MDS - Create Download Staging

This process looks for all MR schedule route records with a schedule type of *Download* and a status of *Pending*. For each record found, the system creates a MR download staging record for the meter linked to every service point in the route.

Download staging records get marked with a batch control ID & run number when they're created by the MDS process.

- The batch control ID comes from the service point's route's route type. This ID corresponds with a specific meter read download method. The system comes with a single meter read download program (MDL - Create Download Flat File). If you require different flat file formats or different routing methods, you will need to create additional programs. Refer to Setting Up Meter Read Extracts for instructions describing how to add another process.

- The run number is the batch control ID's current run number.

MDL - Create Download Flat File

This process reads all download staging records marked with a given batch control ID & run number and creates the flat file that's passed to the meter read software.

         15

> **This process is rerunnable.** You can reproduce the flat file at any time. Simply request this job and specify the run number associated with the historic run.

If you require different flat file formats or different routing methods, you will need to create additional versions of this program. Refer to Setting Up Meter Read Extracts for instructions describing how to add another process.

Uploading Meter Reads

This section describes how the system uploads meter reads from an external source.

Contents

Meter Read Upload Background Processes

The following diagram illustrates the processes involved in the uploading of meter reads into the system.
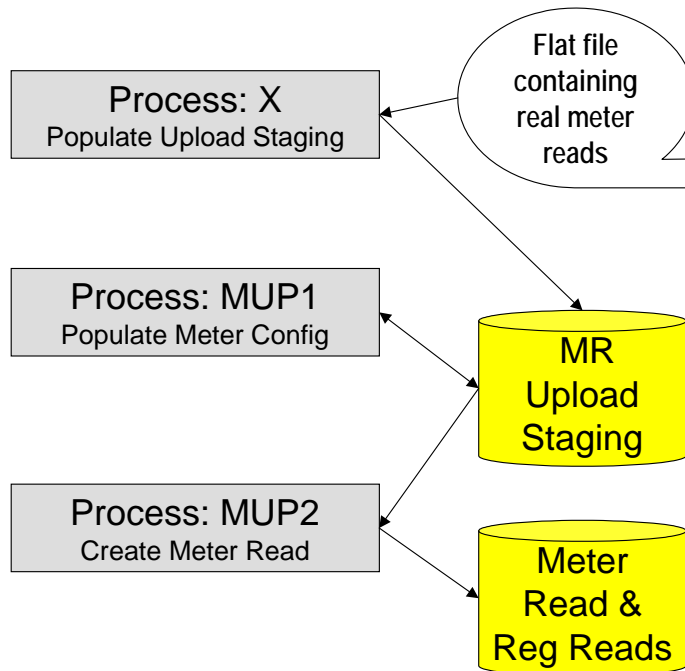
The topics in this section describe how these processes work.

Contents

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Process X - Populate MR Upload Staging

Process X refers to the mechanism used by your organization to populate the various staging tables (shown in the orange section of the following ERD).
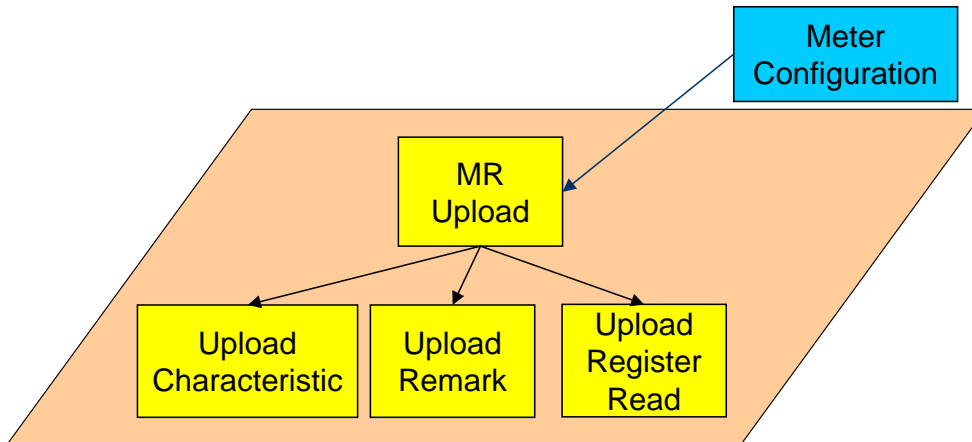
The topics in this section describe each of these tables.

Contents

Meter Read Upload Staging

You must create an upload staging record for each meter that was read. The name of this table is CI_MR_STAGE_UP. The following table describes each column on this table.

Column Name	Length	Req'd	Data Type	Comments
MR_STAGE_UP_ID	12	Y	A/N	This is the unique identifier of the meter read upload staging record. This key is a sequential number so you can use a database function to assign the value when populating the table.
BADGE_NBR	30	N	A/N	If specified, this must correspond with a badge number on one of your meters. See the MTR_CONFIG_ID note below for how this field can be used. Also see the note under MTR_ID_NBR if you plan to use the meter's alternate ID's rather than the badge number to identify the meter being read.
MTR_CONFIG_ID	10	See	A/N	This must correspond with a meter configuration

Column Name	Length	Req'd	Data Type	Comments
		note		number on one of your meters. You may leave this column blank if BADGE_NBR or MTR_ID_TYPE_CD / MTR_ID_NBR is populated.
READ_DTTM	15	Y	DateTime	The date and time of the meter read.
MR_UP_STATUS_FLG	2	Y	A/N	This must be set to *P* for *Pending*.
MR_ID	12	N	N	Leave this column blank. It will be assigned by the system when it creates a meter read record.
MR_SOURCE_CD	12	N	A/N	The source of the meter read.
GEO_TYPE_CD	8	N	A/N	See the description of the GEO_VAL field.
GEO_VAL	50	N	A/N	This field along with GEO_TYPE_CD are used to uniquely identify the service point at which the meter read takes places. These fields are only necessary if you have duplicate BADGE_NBR's and you have uniquely identified your service points (with a unique GEO_TYPE_CD and GEO-VAL – e.g., a universal id). It's important to note that you must also specify the BADGE_NBR along with the GEO_TYPE_CD and GEO_VAL.
MTR_ID_TYPE_CD	5	N	A/N	See the description of the MTR_ID_NBR field.
MTR_ID_NBR	30	N	A/N	This field along with MTR_ID_TYPE_CD are used to uniquely identify the meter being read. These fields are only necessary if you do not use the meter's BADGE_NBR's or the meter's MTR_CONFIG_ID to identify the meter. If specified, this must correspond with a meter ID type / value associated with one of your meters.
USE_ON_BILL_SW	1	Y	A/N	Indicates if the read can be used on a bill. Valid values are *Y* or *N*. Note, if the register read's REVIEW_HILO_SW is Y and if the register read fails high/low review, the USE_ON_BILL_SW may be set to N if the Use High/Low Failures on Bill is turned on in the installation record.

Upload Register Read

You must create an upload register read record for each meter that was read. The name of this table is CI_RR_STAGE_UP. The following table describes each column on this table.

Column Name	Length	Req'd	Data Type	Comments
MR_STAGE_UP_ID	12	Y	A/N	This must correspond with the prime key of the related CI_MR_STAGE_UP record.
READ_SEQ	2	Y	N	This must correspond with a sequence number on the meter configuration's register.
READ_TYPE_FLG	2	Y	A/N	Set this to *20* if the meter was not read. Set this to *60* if the meter read was performed, but not

				verified.
				Set this to *70* if the meter read was performed and verified.
UOM_CD	4	Y	A/N	This must correspond with the unit of measure code on the register associated with this READ_SEQ. Refer to Setting Up Unit Of Measure Codes for more information.
TOU_CD	8	See note	A/N	If specified, this must correspond with the time of use code on the register associated with this READ_SEQ. Refer to Setting Up Time Of Use Codes for more information.
REG_READING	9.6	Y	N	This is the register's reading.
REVIEW_HILO_SW	1	Y	A/N	Indicates if the register reading should be subject to high / low review. Valid values are *Y* or *N*.

Upload Read Remark

You must create a meter read remark upload staging record for each remark that you would like to link to the meter read. The name of this table is CI_MRR_STAGE_UP. The following table describes each column on this table.

Column Name	Length	Req'd	Data Type	Comments
MR_STAGE_UP_ID	12	Y	A/N	This must correspond with the prime key of the related CI_MR_STAGE_UP record.
READER_REM_CD	4	Y	A/N	This must correspond with a meter read remark code. Refer to Setting Up Meter Read Remarks for more information.

Upload Read Characteristics

You must create a meter read characteristic upload staging record for each characteristic that you want to link to the meter read. The name of this table is CI_MR_STGUP_CHAR. The following table describes each column on this table.

Column Name	Length	Req'd	Data Type	Comments
MR_STAGE_UP_ID	12	Y	A/N	This must correspond with the prime key of the related CI_MR_STAGE_UP record.
CHAR_TYPE_CD	8	Y	A/N	This must correspond with a characteristic type that is defined as valid for *meter read upload staging*. Refer to Setting Up Characteristic Types & Their Values for more information
SEQ_NUM	3	Y	N	This should be set to *1* unless you have multiple values for a given meter read upload staging and characteristic type.
ADHOC_CHAR_VAL	254	N	A/N	Populate this field if your characteristic type is *ad-hoc* or *file location*.
CHAR_VAL	16	N	A/N	Populate this field if your characteristic type is

				predefined
CHAR_VAL_FK1 - CHAR_VAL_FK5	50 (each)	N	A/N	Populate these fields if your characteristic type is a *foreign key reference*. Up to five columns of 50 bytes each are provided to accommodate compound keys.

MUP1 - Populate Meter Configuration

This process populates the meter configuration ID on all MR upload staging records that don't have a meter configuration ID.

> **Note.** You don't have to know the meter configuration in order to interface a read into the system. Rather, you can specify a SP Geo Type and Value and/or a Meter Id Type and Value and/or the meter's badge number on the Upload Register Read record. MUP1 will search the system for each (in that order) until a unique match is found.

Any errors detected during this process are written to the MR Upload Exception table. You can fix errors using MR Upload Staging page (don't forget to change the record's status back to *Pending*).

MUP2 - Create Meter Read

This process creates a meter read and register read for all MR upload records in the *Pending* state.

Any errors detected during this process are written to the MR Upload Exception table. You can fix errors using MR Upload Staging page (don't forget to change the record's status back to *Pending*).

If a meter read fails high / low checks, the meter read will still be created, but it will be marked for review by the review meter reads for high / low background process (TD-HILO).

In addition, whether a meter read that fails high / low is marked as usable on a bill is controlled by a switch on the installation record.

MRUP-PRG - Purge Meter Read Upload Objects

Completed meter read upload staging objects should be periodically purged from the system by executing the MRUP-PRG background process. This background process allows you to purge all *Completed* meter read upload staging objects older than a given number of days.

We want to stress that there is no system constraint as to the number of *Completed* meter read upload objects that may exist. You can retain these objects for as long as you desire. However we recommend that you periodically purge *Completed* meter read upload objects as they exist only to satisfy auditing and reporting needs.

MR Upload Staging

The Meter Read Upload Staging page has three purposes:

- You can view historical meter read upload records.

- You can correct meter read upload records that are in error.

- You can add new meter read upload records to be uploaded by the meter read upload

process.

Contents

MR Upload Staging - Main

To view the details of a meter read upload record, open **Meter Read, MR Upload Staging**.

Description of Page

MR Upload Staging ID is the system-generated unique identifier of the staging record.

The **Meter ID Type Code** identifies what type of Meter ID is listed in the upload record. This along with the Meter ID Number will help the system to identify the correct meter.

The **Badge Number** is the meter's badge number.

The **Meter ID Number** acts as an alternative identifier for the meter in case the badge number is not known or not unique. This along with the Meter ID Type Code will help the system to identify the correct meter.

Read Date / **Time** are just that.

Use on Bill is used to indicate whether or not the uploaded meter read may be used by billing.

Upload Status shows the state of the meter read upload record. Potential values are: *Pending*, *Complete*, *Error*. Set the value to *Pending* for any record that should be processed the next time the meter read upload process runs.

Meter Read ID is the system-assigned, unique identifier of the related meter read. This value is populated after the meter read upload process creates a meter read for the meter read upload record.

Use **Meter Read Source** to define the source (e.g., the reader, the reading agency, etc.) of the read.

Meter Configuration ID is the meter configuration that was read. If this field is left blank, it will be populated by MUP1 - Populate Meter Configuration during the meter read upload process (the system uses the Badge Number to do this).

Use **Meter Reader** for the ID of the person that read the meter.

If the read is interfaced from an external meter read agency, you can use **Geographic Type** and **Geographic Value** to identify the service point at which the read took place. If this value is specified, the system will look for a service point with the given type and value that has a meter currently installed at it with the specified **Badge Nbr**. This facility is useful if you have duplicate badge numbers but have uniquely identified your service points (e.g., with a universal ID).

The scroll that follows contains the register reading(s). The following information is displayed.

Read Sequence   This must correspond with a sequence number on the meter configuration's register.

Read Type	Use this field to define WHO made the read and HOW the read was made. The value of this field is important because it affects which meter read will be used by billing if multiple reads exist during a billing period. Refer to the Description of Page under Meter Read - Main for the list of valid values.
Unit Of Measure	This must correspond with the unit of measure code on the register. Refer to Meter Configuration Maintenance for more information.
Time of Use	If specified, this must correspond with the time of use code on the register. Refer to Meter Configuration Maintenance for more information.
Register Reading	This is the register's reading.
Hi/Low Review	Indicates if the register reading should be subject to high / low review.

MR Upload Staging - Remarks

To view remarks associated with a meter read upload record, open **Meter Read, MR Upload Staging, Remarks**.

Description of Page

The **Meter Reader Remark** grid is used to record anomalies associated with the reading.

MR Upload Staging - Characteristics

To maintain meter upload characteristics, open **Meter Read, MR Upload Staging, Characteristics**.

Description of Page

MR Upload Staging ID is the system-generated unique identifier of the staging record.

The **Characteristics** collection contains information that describes miscellaneous information about meter upload staging.

The following fields display:

Characteristic Type	Indicate the type of characteristic.
Sequence	Controls the order in which characteristics of the same type are displayed.
Characteristic Value	Indicate the value of the characteristic.

MR Upload Exception

If errors are detected during the meter read upload process, a record is written to the MR upload exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-MRUPL background process. This process generates a To Do entry for every record in the MR upload exception table.

You can fix this error using the MR Upload Staging page and change the status of the remark from *Error* to *Pending*. When the meter read upload process next runs, it attempts to upload this record again.

TD-HILO - To Do for Meter Read High/Low Errors

This process creates To Do entries for each meter read that has at least one register read that failed high / low using the To Do Type *TD-HILO*.

The process first attempts to complete old To Do entries. If the NO-OF-DAYS parameter is populated, all *Open* entries of this To Do Type whose create date is before the business date minus this input parameter value are completed.

For each register read linked to the meter read that has review high / low set to Y, the process attempts to classify the reading as "very low", "low", "high" or "very high".

Determine the reading's consumption

- If the register is subtractive, retrieve the previous reading and calculate the difference between the register reading and the previous reading (taking into account rollover).

- Otherwise, the reading is the consumption.

Calculate the following

- Low limit consumption = the difference between the previous reading and the low limit on the current reading.

- High limit consumption = the difference between the previous reading and the high limit on the current reading.

Contents
Low / Very Low
High / Very High
Set Use On Bill
Multiple Register Priority
Create ToDo Entry

Low / Very Low

If the reading's consumption is less than the low limit consumption, compute the low percentage =

((Low limit consumption - Reading's consumption) / Low limit consumption) * 100, round to the nearest integer.

If the low percentage is less than or equal to the input VERY-LOW-PERCENTAGE-CUTOFF, the reading is considered "very low", otherwise it is considered "low".

High / Very High

If the reading's consumption is greater than the high limit consumption, compute the high percentage =

> ((Reading's consumption - High limit consumption) / High limit consumption) * 100, round to the nearest integer

If the high percentage is greater than or equal to the input VERY-HIGH-PERCENTAGE-CUTOFF, the reading is considered "very high", otherwise it is considered "high".

Set Use On Bill

The parameters USE-ON-BILL-VERY-LOW-READS, USE-ON-BILL-LOW-READS, USE-ON-BILL-VERY-HIGH-READS and USE-ON-BILL-HIGH-READS indicate how to set the Use On Bill flag for the meter read based on the classification of the register readings.

If ANY of the register reads that failed high / low should not be used on bill according to the appropriate input parameter flag, then the meter read's Use On Bill flag is set to *N*. It is only set to Y if all register reads can be used on a bill based on the input parameters.

Multiple Register Priority

If there are multiple register readings for the meter read that failed high low and the readings have different classifications of "very low", "low", "high" or "very high", determine the "worst" register read based on the value of MULTIPLE-REGISTERS-PRIORITY. The register read considered the "worst" is the one used to create the To Do entry.

The value of this parameter indicates how to prioritize multiple registers with different classifications. The first byte indicates the priority of "very low" reads, the second byte indicates the priority of "low" reads, the third byte indicates the priority of "high" reads and the fourth byte indicates the priority of "very high" reads. Use the numbers 1, 2, 3 and 4, where 1 is the worst type of reading (i.e., the one that needs the most attention). For example, if you would like to review reads in the following order

- Very low
- Very high
- Low
- High

Set the value of MULTIPLE-REGISTERS-PRIORITY to 1342.

Create ToDo Entry

Create a To Do entry for the "worst" register read linked to the meter read (determined in the previous section). The To Do type is set to TD-HILO. This section describes the sort fields because they are a bit unusual.

- If the reading is less than the low limit:

  - If the low percentage is <= VERY-LOW-PERCENTAGE-CUTOFF, create a sort field where:

    - Sort sequence number = 1 (associated with the "very low percentage" sort field)

- Sort key value = low percentage (calculated above)

- If the low percentage is > VERY-LOW-PERCENTAGE-CUTOFF, create a sort field where:

  - Sort sequence number = 2 (associated with the "between low and very low percentage" sort field)

  - Sort key value = low percentage

- Calculate the low amount. This value is a positive number and equals the low limit's consumption - read's consumption

  - Sort sequence number = 3 (associated with "low amount" sort field)

  - Sort key value = low amount

- If the reading is greater than the high limit:

  - If the high percentage is >= VERY-HIGH-PERCENTAGE-CUTOFF, create a sort field where:

    - Sort sequence number = 4 (associated with the "very high percentage" sort field)

    - Sort key value = high percentage (calculated above)

  - If the high percentage is < VERY-HIGH-PERCENTAGE-CUTOFF, create a sort field where:

    - Sort sequence number = 5 (associated with the "between high and very high percentage" sort field)

    - Sort key value = high percentage

  - Calculate the high amount. This value is a positive number and equals the read's consumption –high limit's consumption

    - Sort sequence number = 6 (associated with "high amount" sort field)

    - Sort key value = high amount

- Sort sequence 7 equals the low or high amount

- Sort sequence 8 equals the bill date on/after the current date that linked to a bill cycle associated with accounts linked to the reading's meter configuration's non-abolished service points' non-canceled / non-closed service agreements.

> **Conditional Sort Fields.** The creation of certain sort fields for the entry is conditional. This is unusual, as we have never suppressed a sort field before (i.e., every To Do entry of a given type has referenced every sort field). However, this allows the user to only view certain To Do entries on To Do List when choosing certain sort fields.

Review High / Low

In order to review register reads that failed high / low checks when they were uploaded to the system, you must run an appropriate background process that creates To Do entries. The system supplies the background process TD-HILO. If this process doesn't satisfy your implementation's business requirements, you may create your own.

> **Warning!** Register reads entered online that fail high / low checks are not marked for high / low review because we assume the user who entered the read was apprised of the failure when the read was initially entered. This means that only reads that failed high / low checks during the meter read upload background process are marked for high / low review.

When reviewing a To Do entry for a register read that has failed high / low, you may choose to do one of the following:

- Update the value of **Use on Bill** on the meter read page. If a read fails high / low checks during the meter read upload, the system sets the Use On Bill switch as per the value defined on Installation Options. A user investigating a high / low error may choose to override the default value.

- Request that the meter be read again. On the meter read page a **Reread Meter** button is available if you want to generate a field activity to reread the meter. The field activity type is defined on the meter's service point's SP type's field activity type profile.

- Determine that the reading is ok and nothing else should be done.

In any case, in order to ensure that the register read does not appear on a To Do entry again, update the **Review High / Low** switch on the meter read page to unchecked when completing your review.

Field Orders

In this section, we describe how to manage the fieldwork that takes place at your premise's service points.

Contents

The Big Picture Of Field Orders

The topics in this section provide background information about a variety of field order issues.

Contents

An Illustration Of A Field Order And Its Field Activities

Refer to An Example Of A Field Order for an overview of the field order objects.

An Illustration Of The Entities Involved In Field Order Dispatch

Refer to An Example Of The Entities Involved In Field Order Dispatch for an overview of the objects involved in the dispatch of field orders.

Field Activity Type Controls What Is Done In The Field

For information about field activity types, refer to Designing Your Field Activity Profiles & Types. For more information about field activity completion, refer to How Does A Field Order Get Completed?.

The Lifecycle Of Field Activities And Field Orders

The following diagram illustrates the lifecycle of a typical field activity and its field order.

Event	Panel	Objects Created / Updated

1-Dec-1998

Customer calls requesting service on 15-Dec-1998

13-Dec-1998

The field work preprocessor runs and creates FA's shortly before the start date

Start/Stop SA/ SP Pre-Processor

creates field activities →

SP: *Electric Service Point*
Activity Type: *Turn On Meter*
Status: **Pending**

Step 1: Turn on meter

SP: *Gas Service Point*
Activity Type: *Turn On Meter*
Status: **Pending**

Step 1: Turn on meter

14-Dec-1998

Dispatcher creates field order, links activities to it and dispatches field order

Dispatch Field Activities Query

creates field order, links field activities to it, and dispatches field order →

Field Order: *14 Oak Street*
Status: **Dispatched**

SP: *Electric Service Point*
Activity Type: *Turn On Meter*
Status: **Pending**

Step 1: Turn on meter

SP: *Gas Service Point*
Activity Type: *Turn On Meter*
Status: **Pending**

Step 1: Turn on meter

15-Dec-1998

Field work is done

16-Dec-1998

Operator completes the order and its activities

Field Order Upload Staging Page

completes field order and field activities →

Field Order: *14 Oak Street*
Status: **Completed**

SP: *Electric Service Point*
Activity Type: *Turn On Meter*
Status: **Completed**

Step 1: Turn on meter

SP: *Gas Service Point*
Activity Type: *Turn On Meter*
Status: **Completed**

Step 1: Turn on meter

The above diagram is referenced in the following topics.

Contents

How Are Field Activities Created?

How Are Field Activities Created?

Field activities are created as follows:

- Starting or stopping service indirectly causes field activities to be created to perform the fieldwork necessary to connect or disconnect service. Refer to Starting Service & Field Activities for more information about how field activities are created to start and stop service. Note, if you use the Order transaction to start service, field activities will also be created in the same manner described under the Starting Service & Field Activities discussion.

- The activation of a severance event with fieldwork causes field activities to be generated to disconnect or reconnect service. For more information about severance events and field activities, refer to The Big Picture Of Severance Events.

- When an operator indicates that a reread should be done for a meter read that fails high/low, a field activity is created.   For more information about this process, refer to Review High / Low.

- An algorithm may be designed to generate a field activity. For example, perhaps the activation algorithm for a workflow event creates a field activity. Or perhaps a field activity is created as a result of a meter read remark algorithm.

- An operator may create a field activity at their discretion. This is done for ad hoc service investigation orders. For more information about creating an ad hoc field activity, refer to Field Activity Maintenance.

In the above diagram, the event that takes place on 13-Dec-98 shows two field activities created to start service for a customer on 15-Dec-98. Notice that the activities are not linked to a field order when they're first created. Why? Because field activities exist in a state of limbo awaiting dispatch. At dispatch time, a field order is created and one or more field activities are linked to it.

Creating a field activity before a field order may seem counter-intuitive to you. If so, consider that a field activity is created to perform work at a service point ON SOME FUTURE DATE. Close to the date, a dispatcher will look at all field activities to be performed by a given dispatch group at a premise and group them together under a field order.

How Are Field Orders Created And Dispatched?

The illustration above shows that on 14-Dec-98, a field order is created using the Dispatch Field Activities transaction. This transaction is one of several ways in which a field order can be created. The following point describe every possible way in which a field order can be created:

- The Dispatch Field Activities page allows a user to create (and dispatch) field orders for pending field activities.

- The Group Premise Field Activities page allows a user to create (and dispatch) field orders for field activities at a premise.

- The Automatic Dispatch background process automatically creates field orders for field activities.

- A user may create a field order and link field activities to it using the Field Order page.

After a field order is created, it's ready to be downloaded to the crew who does the work. Refer to How Does A Field Order Get Routed To A Field Crew for the details.

How Does A Field Order Get Routed To A Field Crew?

Refer to Downloading Field Orders for a description of how field orders are routed to field crews.

How Does A Field Order Get Completed?

When fieldwork is performed at a service point, the system must be told what happened. We refer to the process of telling the system what happened in the field as "field order completion".

> **Between dispatched and completed states.** If you want, you can indicate a field order's fieldwork is done before you actually complete the field order. You do this by changing the field order's status from *dispatched* to *work done, not recorded*. You don't have to do this; it's really a question of whether you care about this intermittent state.

You can't complete a field order until all of its non-optional activities are either *Complete* or *Canceled*. To complete a field activity, you update the system to reflect what happened in respect of the activity's steps. After which, you must have each step reference the object that was updated or created. For example, if a step initiated the installation of a meter at a service point, you must add a new SP/Meter Installation History record and the step should then reference the new SP/Meter Installation History record.

You may wonder why a step needs to reference the object that was updated or created. The reason is a little complex, but it's important you understand the following points:

- After you complete a field activity that is linked to a pending start service agreement, the system automatically activates the service agreement. As part of the activation, if the service point is metered, the system extracts any read that was entered to complete the field activity and uses this as the initial read for the service point. The system extracts the meter read by looking for reads linked to the activity's step(s). Reads may be linked directly (via a reference to a meter read), or indirectly (via a reference to SP/Meter History). If the step doesn't reference a meter read, the system cannot automatically activate the related service agreement when the field activity is completed.

- An analogous process occurs for field activities linked to pending stop service agreements. The major difference is that the system uses any read linked to the field activity as the service agreement / service point's final read.

- Steps on field activities that are not linked to pending start or stop service agreements exist purely for audit purposes.

The following diagram may help understand the relationship between an activity's read and the service agreement(s) that use the read to start or stop service.

Service Agreements, Field Activities and Service Agreement Activation

Service Agreement

Electric Service Agreement For Mary Smith

Rate: EC-1
Tax Exempt

Premise

18 Oak Street
Provo, Utah
USA

Electric
Meter
11111

Electric Service Point

1

2

4

Meter Read

Meter Read - Meter 11111 - 1-Dec-1999

Register 1: 10201 KWH
Register 2: 0 KW

2

3

Field Activity

Step

Field Activity - Reconnect Electric Service

Step 1: Read Meter

1 When a CSR starts service, the system links the service point to the service agreement.

2 Shortly before the start date, a background process generates a field activity to start service. This field activity is linked to the pending start service agreement and to the service point in question.

3 A meter read is created to complete the field activity. This new read is linked to the field activity so that step 4 can take place.

4 After the field activity is completed, the system links the activity's meter read to the service agreement as its initial read and activates the service agreement.

The next thing you may be wondering about is how to reference the updated or created object on a step? There are three ways to do this:

- You can enter completion details on the field activity page. Refer to Field Activity Maintenance for more information.

- An operator can enter completion details on the field activity upload staging pages. Refer to Field Activity Upload Staging for the page used to do this. This is the easiest way to complete a field activity.

- You can have your interface team insert rows onto the field activity upload staging tables and let the field activity upload background process complete the activities and orders for you. Refer to Uploading Field Order Completion Information for more information about the batch completion process.

Completing most field activities is straightforward because the steps performed in the field correspond to the steps on the field activity. Complications arise if a field crew is unable to perform an activity's steps because of any number of reasons (e.g., a field activity instructs a meter to be installed but there's already a meter at the service point). When what took place in the field differs from what was instructed to take place the operator may either:

- Change the activity type on the activity to reflect what happened.

- Cancel the existing field activity and add a new one with the appropriate activity type.

Warning! If a field activity is linked to a service agreement or a severance event, and what took place in the field isn't consistent with the field activity's steps, we recommend changing the activity type rather than canceling the field activity and adding a new one. Why? Because the object to which a field activity is linked continually checks if the field activity is complete to see if it can take the next logical step in its lifecycle. If you add a new field activity, you'll need to link it to the same object(s) that the original activity was linked. This is a cumbersome process (but possible). It's much easier to simply change the activity's activity type.

What Happens After A Field Activity Is Completed?

After you complete a field activity that is linked to a pending start service agreement, the system automatically activates the service agreement. As part of the activation, if the service point is metered, the system will extract any read that was entered to complete the field activity and use this as the service agreement / service point's initial read.

An analogous process occurs for field activities linked to pending stop service agreements. The major difference is that we use any read linked to the field activity as the service agreement / service point's final read.

After a field activity that is linked to a severance event is completed, the severance event becomes complete. This, in turn, triggers the activation of the next event.

For more information about field activities linked to pending starts, refer to Starting Service & Field Activities. For more information about field activities linked to pending stops, refer to Stopping Service & Field Activities. For more information about what happens when a field activity that is linked to a pending start or pending stop service agreement is completed, refer to The System Activates Most Service Agreements Behind-The-Scenes and The System Finalizes Most Service Agreements Behind-The-Scenes. For more information about severance events and field activities, refer to The Big Picture Of Severance Events.

How To Schedule Appointments

Refer to The Big Picture of Appointments for information about how appointments can be scheduled for field activities.

Dispatch Field Activities Automatically

For large volumes of field activities, it can be useful for the dispatching and extraction of field activities and field orders to be automated.

Dispatching refers to the processes of grouping field activities into related groups by premise and date, etc. The automatic dispatch job (*FOD*) selects all pending field activities that:

- are not yet connected yet to a FO,

- have a dispatch group,

- are linked to dispatchable FA Type

- have a schedule date <= today's date + a specified dispatch ahead days AND have a priority = a specified priority (if specified).

The selected field activities are grouped by premise, dispatch group (or alternate dispatch group from the dispatch group table), and date. A field order is created and the grouped field activities are linked to it. The field order will be dispatched on the designated date.

For example, imagine the following field activities:

Field Activity	Dispatch Group – Primary	Dispatch Group - Alternate
1	GSR1	TM1
2	GSR2	GSR1
3	TM1	TM2
4	TM2	MT
5	MT	MT

For this set of field activities, the process will group FA 1 and FA 2 based on GSR1, FA 3 and FA 4 based on TM2 and FA 5 will have its own FO.

The rules are:

- Look at the primary dispatch group and try to find a match in the primary or alternate for the other field activities.

- If no match is found, look at the alternate dispatch group and try and match with the primary or alternate for the other field activities.

- If no match is found after step 1 and 2, a separate field order must be created.

Refer to Process What's Ready Processes for more information on the batch process.

The Daily Tasks Of A Dispatcher

In this section, we describe how a dispatcher performs his/her daily tasks.

Contents

Dispatching Field Activities

Late in the day, you should review field activities that are scheduled for the next day. A special query exists, Dispatch Field Activities, that shows you all pending field activities that are not linked to field order. From this query, you can define which field activities should be dispatched. The system then creates and dispatches a field order for each unique combination of premise and dispatch group on the selected field activities.

Refer to How Are Field Orders Created And Dispatched for other ways to dispatch field activities.

Marking Field Orders As Being Worked

If your organization is told about field orders that have been worked during the day, you can change the status of such field orders to **work done, not recorded**. You use Field Order - Main Information to do this.

Look For Orders That Have Slipped Through The Cracks

Occasionally, you should use the Field Order Search to check if any field orders have been **pended by operator** for too long. You see, if a user appends a field order, at some point they need to either **cancel** it or **dispatch** it. If they don't, the order will sit in limbo forever.

You should also use this query to check for **work done, not recorded** orders in case someone forgot to complete them.

How To Handle Unusual Situations

In this section, we describe how to handle unusual situations.

Contents
Tidying Up Field Orders That Were Not Worked
Hold A Field Activity
Canceling A Field Activity

Tidying Up Field Orders That Were Not Worked

Sometimes unforeseen events occur and a crew can't work all of their field orders. When this happens, you have two options:

- You can leave the field order in the state of **dispatched** and give it to the same crew to do the next day.

- You can change the state of the field order to **pended by operator**, reassign the field order to another dispatch group or representative, and then change the status back to **dispatched**. This will cause the field order to be dispatched a second time. You use Field Order - Main Information to do this.

Hold A Field Activity

Sometimes you might want to **hold** a field activity that was automatically generated by the start/stop/severance processes. Holding an activity prevents it from appearing on the Field Activity Dispatch query (and therefore it shouldn't get dispatched).

At some point in the future, you should either **cancel** the activity (if you don't want it done) or reset the activity to **pending**.

Canceling A Field Activity

You should cancel a field activity if it shouldn't be (or wasn't) done.

There are situations when a field activity may be canceled automatically by another process in the system, for example:

- If a field activity is created by start/stop and the start/stop is canceled, the resulting field activity is also canceled

- If a field activity is created by a severance event or cut event and the severance or cut event is canceled, the field activity is also canceled

The processes that attempt to cancel a field activity when a related record is canceled do not continue with the cancel under the following conditions:

- The field activity is already linked to a field order (and is therefore considered dispatched to the field)

- The field activity has been dispatched to an external system and the FA's intermediate status is one that does not allow auto-cancellation.

Printing Field Orders

The contents of this section describe the technical implementation of field order production.

Contents

Dispatch Groups Control The Information Merged Onto Field Orders

Every field order references a dispatch group. The dispatch group controls the following field order print functions:

- It contains an algorithm that is responsible for extracting the information merged onto your field orders. Algorithms of this type are called under the following scenarios:

  - The background process that interacts with your field order print software calls these algorithms.

  - If your field order print software has the ability to construct a real-time image of a field order, you can plug-in an *Online Field Order Image* algorithm on the Installation Record. This type of algorithm will call the field order's dispatch group extract algorithm to extract the information that is merged onto the field order. Refer to Technical Implementation Of Online Field order Image for the details.

- It contains the ID of the background process responsible for interacting with your field order print software in batch.

Technical Implementation Of Online Field Order Image

Users can view an image of any field order if you setup the following:

- Plug-in an *Online Field Order Image* construction algorithm on the Installation Record.

- Plug-in the appropriate extract algorithm on each dispatch group.

The system provides algorithms that interact with print software that renders an image of the field order in a PDF. The following points describe what takes place when clicking **Display Field Order** when these sample algorithms are used.

- The sample *Online Field Order Image* algorithm ONFD-FO is executed.

- This algorithm calls the field order's dispatch group's extract algorithm. The sample field order extract algorithm FOEX-OX constructs the information that's merged onto the field order and returns it to the *Online Field Order Image* algorithm. This algorithm, in turn, passes it to your field order print software.

> Refer to The Doc 1 Records for examples of the record layouts passed to the Doc 1 print software.

- Your field order print software renders an image of the field order in a PDF and returns it to the *Online Field Order Image* algorithm. Note that the client must have Adobe Acrobat Reader installed to view PDF files.

- And finally, the *Online Field Order Image* algorithm displays the PDF in a separate Adobe session.

The system provides algorithms that interact with BI Publisher or Crystal Reports to render an online image of your field order. The following points describe what takes place when clicking **Display Field Order** when these sample algorithms are used.

- The sample *Online Field Order Image* algorithm C1-ONFD-CR is executed.

- This algorithm calls the field order's dispatch group's extract algorithm. The sample field order extract algorithm C1-FOEX-CR is supplied for displaying field orders via BI Publisher or Crystal. This is not actually extracting data because when you use BI Publisher or Crystal reports, the report itself is responsible for extracting and formatting the data. The base product algorithm supplied returns the appropriate report code to the *Online Field Order Image* algorithm, which in turn returns the report code to the field order page.

- A user exit on the field order page invokes BI Publisher or Crystal and displays the field order in a separate browser session.

> Refer to Field Order Print in BI Publisher or Crystal for examples of the data extracted for the report.

Technical Implementation Of Batch Field Order Production

A batch process extracts field order information reads all field orders in a given run number that are marked with its batch control ID.

The base package example of this process (known by the batch control ID of FODL) simply calls the extract algorithm on the dispatch group to format the information placed onto the flat file. Refer to Dispatch Groups Control The Information On Field Orders for more information on the base processing.

The base package also supplies a batch field order production (known by the batch control ID of DSGPFODL) specifically used to print field orders via Crystal reports. This process invokes every distinct extract algorithm found on dispatch groups referring to this batch control id. The extract algorithms are responsible for building the information needed to schedule the report to run in Crystal and submitting the report to be scheduled.

> **If your software doesn't support online field order images.** The algorithm that formats field order extract records that's plugged in on dispatch group serves two purposes: 1) it interacts with the online field order image algorithm plugged into to the installation record to support online images of a field order, and 2) it interacts with the background process to support printing your field orders in batch. If your field order print software does not support the rendering of field order images real time, there is no need to create an extract algorithm. Rather, you should simply develop your own download process that works with your field order print software to print field orders in batch (and then specify this batch process on your dispatch group).

Reproducing The Field Order Print Flat File

If you use the method of extracting to a flat file, you can reproduce the flat file at any time. Simply request the FODL process and specify the run number associated with the historic run.

How To Reprint A Specific Field Order

If you need to reprint a specific field order, navigate to Field Order – Main Information and change the order's status to *Dispatched*.

If your implementation has enabled the online creation of field order images, you can also click the **Display Field Order** button on this page and then print the resultant online image on your local printer.

Who Gets A Copy Of A Field Order?

> Refer to The Lifecycle Of Field Activities And Field Orders for more information.

The Doc 1 Records

> **Alternate print / routing methods.** This section describes the format of field order extract records that are constructed by base-package algorithms that are passed to the Doc 1 software (which actually produces the field orders). If you require different print formats, you must create new extract algorithms and plug them in on your dispatch groups.

Numerous types of records are interfaced to the Doc 1 field order print software. However, they all share a common structure:

- The first 4 bytes are called the **Printer Key**. This field is a record type used by the Doc 1 field order template.

- The next 187 bytes are called the **Sort Key**. This field is used to ensure the various records used to construct a printed field order appear in the correct order in the interface file.

- The remaining bytes contain the **Field Order Information** that appears on the printed field order. The type of information differs for each type of record.

The topics in this section describe each component.

Contents
Printer Keys (Record Types)

Printer Keys (Record Types)

The following table defines each printer key (i.e., record type) on the field order print flat file.

Record Type	Description	Notes
0010	Global extract information	Required. 1 per flat file.
0100	Field Order record	Required. 1 per field order.
2000	Service Point record	Required. N per FO.
2200	Item record	1 per SP.
2400	Meter record	1 per SP.
2450	Register record	N per SP.
2490	End Meter record	1 per SP (dummy).
2600	SP/Multi-item record	1 per SP.
2620	Multi-item Detail record	N per SP.
2690	End SP/Multi-item record	1 per SP (dummy).
3000	Field Activity record	Required, Occurs N.
3100	Field Activity Credit & Collections record	1 per FA.
3200	Field Activity Step record	Required, Occurs N.
3410	Enter Meter Badge No	1 per FA Step (dummy).
3430	Enter Item Badge No	1 per FA Step (dummy).
3450	Enter Cust. Contact Info	1 per FA Step (dummy).
3470	Enter Reconfig. Register	1 per FA Step (dummy).
3490	Enter Discon. Loc. Info	1 per FA Step (dummy).
3510	Enter Register Read	1 per FA Step (dummy).
3530	Enter Multi Item Info	1 per FA Step (dummy).
3550	Enter TO Statistics Info	1 per FA Step (dummy).
3570	Enter Misc Changes Info	1 per FA Step (dummy).
3999	Generic (placeholder)	1 per FA Step (dummy).
6100	End Field Activity Step record	Required. 1 per FA Step (dummy).
6200	End of Field Activity record	Required. 1 per FA (dummy).
6300	End of Service Point record	Required. 1 per SP (dummy).
9990	End of Field Order record	Required. 1 per FO (dummy).

Sort Key

The field order print records need to be sorted in the right sequence in order for DOC1 to process them. The following is a description of the portion of each record that is responsible for performing this task.

Note that the first ten fields in the Sort Key – DISP_GRP_CD through FO_ID – are all from the CIS database records. For each Field Order in an extract run, there will be a "block" of records of indeterminate size in which the values of these first ten fields will be identical. These ten fields see to it that each block is sorted correctly within the extract as a whole. It is the task of the last six fields to make certain that the records in a particular Field Order's block are sorted correctly within the block. Most of these six are artificial, but two are from the CIS database, where they serve a similar function.

The precise mechanics of the Sort Key (in particular the three-in-one Sequence Number field) may be difficult to envision. A look at the Order of Record Types section above may help to make it clearer. Within a given Field Order (FO) block there are several sub-groups. Not only must each sub-group as a whole be in the proper sequence within the FO block, but each record in a sub-group must be in the proper sequence within the sub-group. These sub-groups are Service Point (one or more per FO with one or more Field Activities at each SP), Meter (a Meter and its Registers), Multi-Item (a Multi-Item record and its Detail Lines), and Field Activity (a Field Activity record and its various Steps).

The following table defines the structure of the sort key that appears on each field order print record. Please note that different components are filled in for each printer key.

Field Name	Format	Source/Value/Description
DISP_GRP_CD	A8	CI_FO / Dispatch Group code
REP_CD	A8	CI_FO / Representative code
STATE	A6	CI_PREM / State of the Premise address
CITY	A30	CI_PREM / City of the Premise address
POSTAL	A12	CI_PREM / Postal Code of the Premise address
ADDRESS1	A64	CI_PREM / 1st line of the Premise street address
PREM_ID	A10	CI_FO / System-assigned identifier for the Premise
SCHED_DT	D10	CI_FO / Scheduled date of the Field Order
SCHED_TM	T15	CI_FO / Scheduled time of the Field Order
FO_ID	A10	CI_FO_STG_DWN / System-assigned identifier of the Field Order
FO Group [Artificial]	N2	This field forces the Service Point record group(s) into a position subordinate to the Field Order. Values: 10 – Field Order 30 – SP 90 – End Field Order
SP Sequence [Artificial]	N2	If there is more than one Service Point on a particular FO, this field forces them into an arbitrary sequence. Each SP is then followed by its device and Field Activity record group(s).
SP Group [Artificial]	N2	This field forces the device (meter, item or multi-item) and Field Activity record groups into a position subordinate to the Service Point. Values : 10 – SP

Field Name	Format	Source/Value/Description
		20 – Item
		30 – Meter
		35 – End Meter
		40 – Multi-Item
		45 – End Multi-Item
		50 – FA
		60 – End SP
Sequence Number READ_SEQ [Artificial] [Artificial]	N3	This field serves the same purpose in three distinct areas: Register Sequence (within a Meter record) (CI_REG) Item Sequence (within a Multi-Item record) FA Sequence (within a Service Point) In each instance, it forces the subordinate records into the correct order within, respectively, the Meter, Multi-item and Service Point record sub-groups.
STEP_SEQ_NBR	N3	CI_FA_STEP In addition to the "natural" values from the CIS database, there are two artificial values that serve to force a particular record into its proper place within the FA sub-group: 000 – Credit & Collections record 999 – End FA record
FA Step Group [Artificial]	N2	Each FA Step will have one or more FA Step (action) records. This field is to force these records into an arbitrary sequence within the FA sub-group. Values : 10 – Enter Meter Badge Number 20 – Enter Item Badge Number 30 – Enter Customer Contact 40 – Enter Reconfigure Register 50 – Enter Disconnect Location 60 – Enter Register Reading 70 – Enter Multi-item 80 – Enter Trouble Order Statistics 90 – Enter Changes 98 – Generic (placeholder) 99 – End FA Step

Field Order Information

The topics in this section describe the information that appears on each field order print record.

Contents

Global Information Record

This is a "header" record that contains information about the extract run as a whole.

> **Note.** Please be aware that if you do not sort your extract file by **CIS Sort Key** after it is produced, this record will physically be the last record on the extract file.

Field Name	Format	Source/Value/Description
Print Key	A4	"0010"
CIS Sort Key	A187	Note: For the Global Record only, the Sort Key is all blanks.
BATCH_CD	A8	CI_BATCH_INST / The CIS Batch Process that called the FO Extract COBOL routine
BATCH_NBR	N10	CI_BATCH_INST / A sequence number for serial instances of a Batch Process over time
BATCH_RERUN_NBR	N10	CI_BATCH_INST / The number of times a particular batch has been re-run since its initial run
FO Count [Artificial]	N10	Total number of distinct FO record blocks in an extract
Date/Time [Artificial]	A26	System time of extraction.
FO Id Start [Artificial]	A10	The lowest valid FO ID in a particular thread in the extract. If there is only one thread, this will be '0000000000'.
FO Id End [Artificial]	A10	The highest valid FO ID in a particular thread in the extract. If there

Field Name	Format	Source/Value/Description
		is only on thread, this will be '9999999999'.
BATCH_THREAD_NBR	N10	CI_BATCH_THD / Identifies a thread distinctly within a group of threads
Thread Count [Artificial]	N10	Total number of threads in the extract run

Field Order Record

One record is produced for every field order to be printed.

Field Name	Format	Source/Value/Description
Print Key	A4	"0100"
CIS Sort Key	A187	
FO_ID	A10	CI_FO_STG_DWN / System-assigned identifier for a Field Order
PREM_ID	A10	CI_FO / System-assigned identifier for the Premise at which the Field Order will be done
SCHED_DT	D10	CI_FO / The scheduled date of the Field Order
SCHED_TM	T15	CI_FO / The scheduled time of the Field Order (optional)
DISP_GRP_CD	A8	CI_FO / The Dispatch Group to which the Field Order has been assigned
REP_CD	A8	CI_FO / The Representative within the Dispatch Group
DESCR254	C254	CI_FO / Free-form notes about the Field Order
ACCT_ID	A10	CI_SA / The Account that is/has been/will be paying for services at the Premise
ENTITY_NAME	A64	CI_PER_NAME / The Primary name of the Main customer on the Account identified above
Multiple Account Message [Artificial]	A10	A message item indicating the existence of more than one active Account associated with a Premise.
ADDRESS_SBR	A361	CI_PREM / A sub-record of address information (Defined in detail later in this section)
MR_WARN_CD	A4	CI_PREM / Meter Read Warning code
DESCRIPTION	A60	CI_MR_WARN / Description of the MR Warning code
MR_INSTR_CD	A4	CI_PREM / Meter Read Instruction code
DESCRIPTION	A60	CI_MR_INSTR / Description of the MR Instruction code
MR_INSTR_DETAILS	A250	CI_PREM / For an expanded version of the Meter Read Instruction above, or for information deemed relevant but for which no code exists.
Telephone Info		Telephone numbers for the Main customer on the Account above. Occurs 3 times per FO Record, consisting of the following three fields:
PHONE_TYPE	A12	CI_PER_PHONE / The type of telephone. Typical values are Home, Business, Dormitory, Cellular, Fax.
PHONE	A24	CI_PER_PHONE / Self-explanatory

Field Name	Format	Source/Value/Description
EXTENSION	A6	CI_PER_PHONE / Self-explanatory
LS_SL_SW	A1	CI_PER / Life Support or Sensitive Load. Set to "Y" if any Person on any active Account associated with this Premise has this type of information on their record.
LS_SL_DESCR	A254	CI_PER / Description of the Life Support/Sensitive Load
LL_ID	A10	CI_PREM / System-assigned identifier for a Premise's landlord (if one exists)
DESCRIPTION	A60	CI_LANDLORD / Description of the Landlord
ACCT_ID	A10	CI_LANDLORD / The Landlord's account number
Geographic Info		Geographic locator types and their values for the Premise. Occurs 3 times per FO Record, consisting of the following two fields:
DESCR	A60	CI_GEO_TYPE / The description of a geographic locator type
GEO_VAL	A50	CI_PREM_GEO / The actual value of the above locator type at a given Premise

SP Record

One record is produced for every Service Point (SP) that has a field activity on the field order. Up to 15 characteristics and their respective values can be listed for a SP. If there is no Characteristic information for the SP on the database, the fields will be blank.

Field Name	Format	Source/Value/Description
Print Key	A4	"2000"
CIS Sort Key	A187	
SP_ID	A10	CI_SP / Unique system-generated identifier for the Service Point
SP_TYPE_CD	A8	CI_SP / The Service Point's type code
DESCR	A60	CI_SP_TYPE / The description of the SP Type
SP_SUBTYPE_FLG	A2	CI_SP_TYPE / The SP Type's sub-type code. Values: M – Meter I – Item U – Unbadged (multi-item)
DESCR	A60	CI_LOOKUP / The description of the sub-type
SP_SRC_STATUS_FLG	A2	CI_SP / The status of the source of the service delivered through a Service Point.
DESCR	A60	CI_LOOKUP / The description of the source status
DISCON_LOC_CD	A4	CI_SP / If the SP has been disconnected, a code for the location of the disconnection
DESCR	A60	CI_LOOKUP / The description of the disconnect location
MTR_LOC_CD	A4	CI_SP / A code for the location at the Premise of the Service Point's Meter
DESCR	A60	CI_MTR_LOC / The description of the location code

Field Name	Format	Source/Value/Description
MTR_LOC_DETAILS	A250	CI_SP / Detailed information regarding the location of the SP's Meter
SP_MTR_RD_CYCLE	A30	CI_MR_CYC / Description of the SP's Service Cycle
SP_MTR_RD_ROUTE	A30	CI_MR_RTE / Description of the SP's Service Route
SP_FAC_LVL_1	A30	CI_FAC_LVL_1 / Description of the SP's Level 1 Facility
SP_FAC_LVL_2	A30	CI_FAC_LVL_2 / Description of the SP's Level 2 Facility
SP_FAC_LVL_3	A30	CI_FAC_LVL_3 / Description of the SP's Level 3 Facility
Geographic Info		Geographic locator types and their values for a Service Point. Occurs 3 times per record, consisting of the following two fields:
DESCR	A60	CI_GEO_TYPE / The description of a geographic locator type
GEO_VAL	A50	CI_SP_GEO / The actual value of the above locator type at a given Service Point
Characteristic Info		Occurs 15 times per record, consisting of the following two fields:
SP_CHAR	A30	CI_CHAR_TYPE / The description of a Characteristic that the Service Point has been deemed to possess
SP_CHAR_VALUE	A30	CI_CHAR_VAL / The description of the Value of the above Characteristic for this Service Point
MR_WARN_CD	C4	Field Warning code
DESCRIPTION	C30	Description of the Field Warning code
MR_INSTR_CD	C4	Field Instruction code
DESCRIPTION	C30	Description of the Field Instruction code
MR_INSTR_DETAILS	C250	For an expanded version of the Field Instruction above, or for information deemed relevant but for which no code exists

Item Record

This record is produced if a Service Point is of subtype Item. Because an SP may have at most one badged item installed at any given point in time, there is at most one record for an SP. If there is no Item currently installed, a message is printed to that effect.

Field Name	Format	Source/Value/Description
Print Key	A4	"2200"
CIS Sort Key	A187	
ITEM_ID	A10	CI_SP_ITEM_HIST / The system-generated ID of the Item currently installed at the Service Point
BADGE_NBR	A16	CI_ITEM / The Item's badge number
ITEM_TYPE_CD	A8	CI_ITEM / A code specifying the type of the Item
DESCR	A60	CI_ITEM_TYPE / The description of the Item type
MFG_CD	A8	CI_ITEM / A code for the manufacturer of the Item
DESCR	A60	CI_MFG / The actual name of the manufacturer
MODEL_CD	A8	CI_ITEM / The manufacturer's model number for the Item

Field Name	Format	Source/Value/Description
DESCR	A60	CI_MODEL / The description of the model
SERIAL_NBR	A16	CI_ITEM / Self-explanatory
RECEIVE_DT	D10	CI_ITEM / The date on which the Item was received by the utility from its manufacturer. This is NOT the install date.
DESCR254	A254	CI_ITEM / A detailed description of the Item (optional).
EVENT_DTTM	D26	CI_SP_ITEM_EV_I / The date and time of the installation of the Item at its current location.

Meter Record

This record is produced if a Service Point is of subtype Meter. Because an SP may have at most one meter installed at any given point in time, there is at most one record for an SP. If there is no Meter currently installed, a message is printed to that effect.

Field Name	Format	Source/Value/Description
Print Key	A4	"2400"
CIS Sort Key	A187	
MTR_ID	A10	CI_MTR_CONFIG / The system-generated identifier for the Meter currently installed at the Service Point.
BADGE_NBR	A16	CI_MTR / The Meter's badge number
MTR_TYPE_CD	A8	CI_MTR / A code for the type of the Meter
MFG_CD	A8	CI_MTR / A code for the manufacturer of the Meter
DESCR	A60	CI_MFG / The actual name of the manufacturer
MODEL_CD	A8	CI_MTR / The manufacturer's model number for the Meter
DESCR	A60	CI_MODEL / A description of the model
SERIAL_NBR	A16	CI_MTR / Self-explanatory
RECEIVE_DT	D10	CI_MTR / The date on which the Meter was received by the utility from its manufacturer. This is NOT the install date.
DESCR254	A254	CI_MTR / A detailed description of the Meter (optional).
INSTALL_DTTM	D26	CI_CFG_SPMR_VW / The date and time of the installation of the Meter at its current location.
MTR_CONFIG_ID	A10	CI_SP_MTR_HIST / The system-generated identifier for the Meter's current Configuration
EFFDT	D10	CI_MTR_CONFIG / The effective date of the current Configuration
EFF_TM	T15	CI_MTR_CONFIG / The effective time of the current Configuration

Register Record

One record is produced for every register on the currently effective Meter Configuration.

Field Name	Format	Source/Value/Description
Print Key	A4	"2450"

Field Name	Format	Source/Value/Description
CIS Sort Key	A187	
REG_ID	A10	CI_REG / The system-generated unique identifier for the Register
READ_SEQ	N2	CI_REG / The read sequence of the Register
UOM_CD	A4	CI_REG / The Unit Of Measure in which the Register is calibrated
TOU_CD	A8	CI_REG / The Time Of Use period during which the Register measures consumption
REG_CONST	N6.6	CI_REG / The Register Constant (if any) by which the actual reading is multiplied to calculate consumption
CONSUM_SUB_FLG	A2	CI_REG / A flag that indicates whether the Register is a consumptive or subtractive register
HOW_TO_USE_FLG	A2	CI_REG / A flag that indicates whether the Register's measured consumption is to be added to, subtracted from, or used as a check against the measured consumption of other Registers (if the Register is Subtractive) or measures a peak (maximum) value (if the Register is Consumptive)
NBR_OF_DGTS_LFT	N1	CI_REG / The number of digits to the left of the decimal point on the Register's readout
NBR_OF_DGTS_RGT	N1	CI_REG / The number of digits to the right of the decimal point on the Register's readout
FULL_SCALE	N9.5	CI_REG / The maximum value that can be displayed on the Register's readout before it "turns over" to zero
READ_OUT_TYPE_CD	A8	CI_REG / A code indicating the type of physical readout (dials, digital etc.) employed on the Register
PROTOCOL_CD	A8	CI_REG / A code indicating the means by which the register's consumption information is collected
TOLERANCE	N9.5	CI_REG / Tolerance is used to warn the meter reader that a Register is approaching its maximum permitted value
READ_DTTM	D26	CI_MR / The date and time of the most recent Register reading that is either a Customer Read, Regular read or a Verified read
REG_READING	N9.6	CI_REG_READ / The actual value displayed on the Register's readout when it was most recently read
READ_TYPE_FLG	A2	CI_REG_READ / The type code of the Register reading

End Meter Record

A "dummy" record used to signal DOC1 that the last Register record for a Meter has been reached.

Field Name	Format	Source/Value/Description
Print Key	A4	"2490"
CIS Sort Key	A187	

SP/Multi-Item Record

This record is produced if a Service Point is of subtype Unbadged. The Multi-Item record on the database has only two fields, the Service Point ID and the Effective Date, both of which form a composite Prime Key. Since this record always appears subordinate to the SP in the SP Group, only the date field is needed here. This record is stipulated in the CIS database as the parent to the detail item records that are its children.

Field Name	Format	Source/Value/Description
Print Key	A4	"2600"
CIS Sort Key	A187	
EFF_DT	D10	CI_SP_MULT_ITEM

Multi-Item Detail Line Record

One record is produced for each distinct type of item on the effective multi-item configuration at the time of printing. There may be any number of distinct item types and any number of individual items of a given type.

Field Name	Format	Source/Value/Description
Print Key	A4	"2620"
CIS Sort Key	A187	
ITEM_TYPE_CD	A8	CI_MULT_ITEM / A code for the type of Item
DESCR	A60	CI_ITEM_TYPE / The description of the Item type
ITEM_CNT	N9.2	CI_MULT_ITEM / The number of individual Items of a given type

End SP/Multi-Item Step Record

A "dummy" record to signal DOC1 that the last Item record in a Multi-Item configuration has been reached.

Field Name	Format	Source/Value/Description
Print Key	A4	"2690"
CIS Sort Key	A187	

Field Activity Record

One record is produced for each *Pending* field activity linked to the field order. Activities in any other Status are ignored.

Field Name	Format	Source/Value/Description
Print Key	A4	"3000"
CIS Sort Key	A187	
FA_ID	A10	CI_FA / The unique system-generated identifier for a Field Activity
FA_TYPE_CD	A8	CI_FA / A code specifying the Field Activity's type
DESCR	A60	CI_FA_TYPE / The description of the FA type
FA_PRIORITY_FLG	A2	CI_FA / In the case of several Activities being created for the same SP, the Priority Flag stipulates which should be

Field Name	Format	Source/Value/Description
		done first.
FA_CREATED_BY_FLG	A2	CI_FA / A code indicating who or what originated this Field Activity
XLATLONGNAME	A30	CI_LOOKUP / The description of the Created By flag
SCHED_DT	D10	CI_FA / The date on which the Activity is scheduled to be done
SCHED_TM	T15	CI_FA / The time at which the Activity is scheduled to commence (optional).
INSTRUCTIONS	A254	CI_FA / Free form detailed instructions as to exactly what is to be done.
DESCR254	A254	CI_FA / A more detailed description of the FA Type (optional)

Credit and Collection Record

One record is produced for a Field Activity that was created by a Severance Process (*i.e.*, FA_CREATED_BY_FLG = "SE" (Severance Event)).

Field Name	Format	Source/Value/Description
Print Key	A4	"3100"
CIS Sort Key	A187	
SA_ID	A10	CI_SEV_PROC / The Service Agreement for which a Severance Process has issued a Disconnect field activity as a result of a Severance Event
Overdue Amount [Artificial]	N13.2	The program calls another COBOL routine (CIPFFTBN) that calculates this amount based on the Severance Process Arrears Date
Current Amount [Artificial]	N13.2	The program calls another COBOL routine (CIPFFTBN) that calculates this amount using the current date.
Past Severance Processes [Artificial]	N3	The number of Severance Processes issued against this Service Agreement in the past, excluding the one that generated this Activity
ACCT_ID	A10	CI_SA / The Account associated with the Service Agreement above
ENTITY_NAME	A64	CI_PER_NAME / The Primary name of the Main customer on the Account above
BILL_DT	D10	CI_BILL / The date of the most recent bill charged to the Account above
CUR_AMT	N13.2	The dollar amount of the most recent bill. Calculated from CI_BILL_SA
PAY_DT	D10	CI_PAY_EVENT / The date of the most recent Frozen payment on the Account of the SA above
PAY_AMT	N13.2	CI_PAY / The amount of the most recent Frozen payment on the Account of the SA above

Field Name	Format	Source/Value/Description
Credit Rating [Artificial]	N5	Calculated from the Credit Rating Base Score on the Installation Table and CR_RATING_PTS from CI_ACCT_CR_R_VW
Cash-only Switch [Artificial]	A1	Set to "Y" if the Cash Only score is above the Cash Only Threshold as defined on the Installation Table. Calculated from the Cash Only Base Score on the Installation Table and CASH_ONLY_PTS from CI_ACCT_CR_R_VW
Deposit Amount [Artificial]	N13.2	The program calls another COBOL routine (CIPDFDVN) to calculate this amount

Field Activity Step Record

One record is produced for each Step within a Field Activity.

Field Name	Format	Source/Value/Description
Print Key	A4	"3200"
CIS Sort Key	A187	
STEP_SEQ_NBR	N3	CI_FA_STEP / The sequence of a Step within a Field Activity
FA_STEP_TY_ACT_FLG	A2	CI_FA_STEP / A code indicating the FA Step Type Action.
XLATLONGNAME	A60	CI_LOOKUP / The description of the FA Step Type Action.
FA_STEP_DESCR	A60	CI_FA_STEP_TYPE / Description of the FA Step Type.
OPTIONAL_SW	A1	CI_FA_STEP_TYPE / "Y" indicates that a particular Step is regarded as optional for field activities of this FA Type

The next 14 record types (through End Field Order Record) are all "dummy" records that contain no information and exist only to signal DOC1 to print a pre-specified block of text.

Field Activity Step (Enter Meter Badge Number) Record

This record is produced if the step requires space for the field worker to write a meter's badge number.

Field Name	Format	Source/Value/Description
Print Key	A4	"3410"
CIS Sort Key	A187	

Field Activity Step (Enter Item Badge Number) Record

This record is produced if the step requires space for the field worker to write an item's badge number.

Field Name	Format	Source/Value/Description
Print Key	A4	"3430"

Field Name	Format	Source/Value/Description
CIS Sort Key	A187	

Field Activity Step (Enter Customer Contact) Record

This record is produced if the step requires space for the field worker to write customer contact information.

Field Name	Format	Source/Value/Description
Print Key	A4	"3450"
CIS Sort Key	A187	

Field Activity Step (Enter Reconfigure Register) Record

This record is produced if the step requires space for the field worker to write register configuration information.

Field Name	Format	Source/Value/Description
Print Key	A4	"3470"
CIS Sort Key	A187	

Field Activity Step (Enter Disconnect Location) Record

This record is produced if the step requires space for the field worker to write disconnect location.

Field Name	Format	Source/Value/Description
Print Key	A4	"3490"
CIS Sort Key	A187	

Field Activity Step (Enter Register Read) Record

This record is produced if the step requires space for the field worker to write register read information.

Field Name	Format	Source/Value/Description
Print Key	A4	"3510"
CIS Sort Key	A187	

Field Activity Step (Enter Multi-Item) Record

This record is produced if the step requires space for the field worker to write multi-item information.

Field Name	Format	Source/Value/Description
Print Key	A4	"3530"
CIS Sort Key	A187	

Field Activity Step (Enter TO Stat) Record

This record is produced if the step requires space for the field worker to write trouble order statistics.

Field Name	Format	Source/Value/Description

Field Name	Format	Source/Value/Description
Print Key	A4	"3550"
CIS Sort Key	A187	

Field Activity Step (Enter Changes) Record

This record is produced if the step requires space for the field worker to write free format information.

Field Name	Format	Source/Value/Description
Print Key	A4	"3570"
CIS Sort Key	A187	

Field Activity Step (Generic) Record

This record is used for consistency on any FA Type that has no other type of FA Step (action) record associated with it.

Field Name	Format	Source/Value/Description
Print Key	A4	"3999"
CIS Sort Key	A187	

End Field Activity Step Record

Field Name	Format	Source/Value/Description
Print Key	A4	"6100"
CIS Sort Key	A187	

End Field Activity Record

Field Name	Format	Source/Value/Description
Print Key	A4	"6200"
CIS Sort Key	A187	

End SP Record

Field Name	Format	Source/Value/Description
Print Key	A4	"6300"
CIS Sort Key	A187	

End Field Order Record

Field Name	Format	Source/Value/Description
Print Key	A4	"9990"
CIS Sort Key	A187	

Definition of Address Subrecord (Sbr)

Used in mailing address and service address, total length = 361 bytes

Field Name	Format	Description

Field Name	Format	Description
COUNTRY	A3	
ADDRESS1	A64	
ADDRESS2	A64	
ADDRESS3	A64	
ADDRESS4	A64	
CITY	A30	
NUM1	A6	
NUM2	A4	
HOUSE_TYPE	A2	
COUNTY	A30	
STATE	A6	
POSTAL	A12	
GEO_CODE	A11	
IN_CITY_LIMIT	A1	

Field Order Maintenance

A field order contains the field activities that connect, disconnect, and investigate service at a premise. The topics in this section describe the pages on which field order-related information is maintained.

For more information about field orders, refer to The Big Picture Of Field Orders and How Are Field Orders Created And Dispatched.

Contents
Lifecycle of a Field Order
Field Order - Main Information
Field Order - Field Activities

Lifecycle of a Field Order

The following diagram illustrates the lifecycle of a field order.

Refer to The Lifecycle Of Field Activities and Field Orders for a more detailed discussion of the lifecycle of a field order. The following diagram merely illustrates the state transition rules.

Field Order Lifecycle

Dispatched

Canceled

Work Done, Not Recorded

Complete
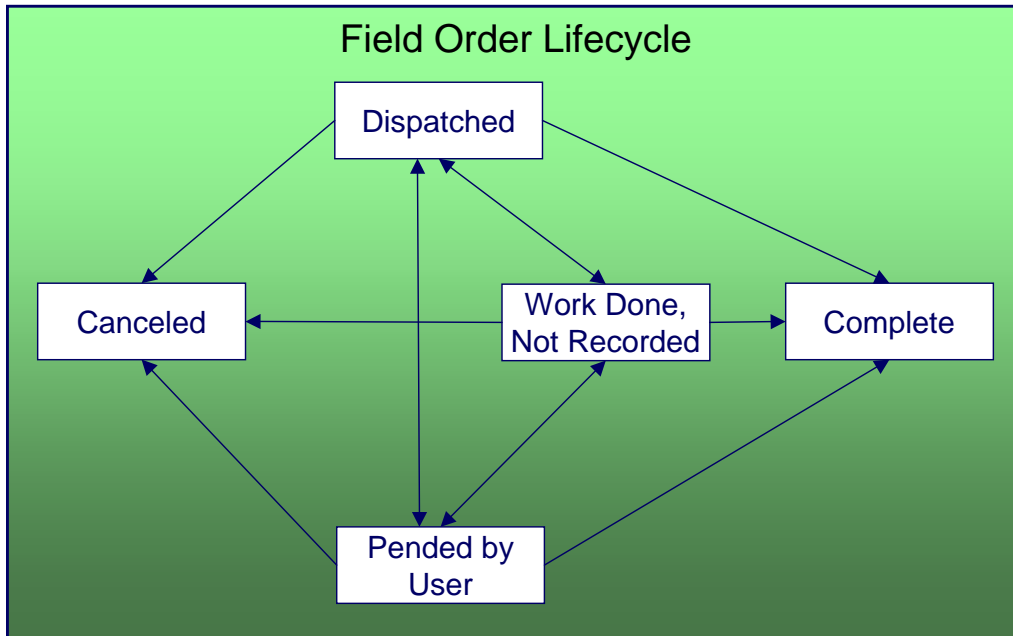
Pended by User

Dispatched	A field order starts its life in the **Dispatched** state. Please note that when a field order is dispatched, its field activities remain in the **Pending** state.
Pended by User	You **Pend** a field order when you want to indicate to others that it shouldn't be dispatched (for whatever reason).
Work Done, Not Recorded	You may mark a field order as **Work Done, Not Recorded** if you know the field work is complete, but you lack the details (or time) to actually **Complete** the field order.
Complete	After the related field work has been performed, the system is updated to reflect what happened and the field order becomes complete. No changes may be made to a **Complete** field order. Refer to How Does A Field Order Get Completed for more information about completion.
Canceled	A field order may be **Cancelled**.

Field Order - Main Information

The Main page contains core field order information. Open this page using **Field Order, Field Order**.

Description of Page

Field Order is a concatenation of information about the order. It consists of the address of the premise, the status of the field order, the number of field activities linked to the order and, if the order has been completed, the date on which the work was done.

Field Order ID is the unique system-generated identifier for the field order.

Enter the **Premise ID** of the premise at which the field order will take place.

Use **Schedule Date/Time** to define when the field order is scheduled to be done.

Enter **Reschedule Reason** when changing the field order's schedule date/time.

> **Note. Reschedule Reason** only appears if the **Fieldwork Options** feature configuration exists with the **Reschedule Reason Required** option set to *Y*.

Field Order Status defines the state of the field order. The following values may exist:

Dispatched	When the system creates a field order due to the dispatch of field activities, the system creates a field order in the *Dispatched* state. A field order remains in this state until the work is done. At that time, you can change the state to *Work Done, Not Recorded*. Alternatively, you can enter the results of the fieldwork (if available) and change the state to *Completed*. If the field order cannot be done for any reason, you should change the state to *Canceled*. Refer to How Does A Field Order Get Completed? for more information.
Work Done, Not Recorded	You may change a field order to this state if you want to indicate the fieldwork has been done, but you don't have the necessary information to complete the order. After the completion information has been entered, you should change the status to *Completed*.
	Note. You should only use this state if your organization keeps track of the state of dispatched field orders during the workday. If you don't do this, you can transition a field order from Dispatched directly to the Completed state.
Completed	A *Completed* order is one where the fieldwork is done and the results have been entered into the system. An order can only be in this state if all of its field activities are in the state of completed or canceled.
Canceled	You cancel an order when, for whatever reason, it cannot be done. You may uncancel an order by changing its status to an appropriate value.
Pended by User	It should be rare to find a field order in this state as it is used when you want to hold a field order pending some event. A field order remains in this state until you decide what to do with it (either dispatch or cancel it). At that time, you change its status to an appropriate value.

> To completely understand the significance of a field order's status, refer to The Big Picture Of Field Orders.

Enter **Cancel Reason** when canceling the order.

> **Note. Cancel Reason** only appears if the **Fieldwork Options** feature configuration exists with the **Cancel Reason Required** option set to *Y*.

The **Display Field Order** button displays an online image of the field order when clicked. This button is only available if there is at least one *pending* field activity linked to the field order. Refer to Online Field Order Image for more information.

> **Note.** You can only use the **Display Field Order** button if your system has been configured to display an on-line image; otherwise, a message indicating that the service is not available will appear. This option can only be configured by your technical staff. The system comes with a configuration to display field order images using DOC1, but can work with other applications.
>
> **Data is Not a Snapshot.** Unlike other online image displays, such as bill and letters, the data used to produce a field order is not snapshot data. It is always the latest and greatest data from the system. As a result, the Display Field Order button is only available for field orders with pending field work.

Turn on **Extract in Next Run** if the field order should be extracted (downloaded or interfaced) in the next extraction run. This switch is only selectable when the field order's status is *Dispatched*.

> **Default note.** When a field order's status becomes *Dispatched*, the system automatically turns on Extract in Next Run.

Use **Work Date/Time** to define when the fieldwork was done. This field is gray when the status is anything other than *Completed*.

If the field order has been extracted, the **Extract Date/Time** are displayed.

Use **Dispatch Group** to define the logical group of representatives located at an operations area that is responsible for the order.

> **Dispatch group comes from field activity.** When the system creates a field order from the Dispatch Field Activities query it populates the order's dispatch group using the dispatch group on the field activity(s). After the field order is created, you can change the order's dispatch group as needed.
>
> **Dispatch group may be overridden as part of grouping field activities prior to dispatch.** When a user creates a field order on the Group Field Activities page, the order's dispatch group is assigned Using Alternate Dispatch Groups To Find The Lowest Common Denominator for more information.

Worked By shows the representative that actually performed the fieldwork. This field is gray when the status is anything other than *Completed*.

The **Representative** is the individual (or crew) assigned to the field order and responsible for the actual performance of the field order's activities. Only representatives defined as valid for the field order's dispatch group may be assigned.

Use **Schedule End Date/Time** if an appointment has been scheduled for this field order. If so, these fields contain the date and time that the fieldwork should be finished.

Enter any **Comments** about the field order.

Enter a **Phone Type**, **Phone Number**, and **Extension** to record a phone number for the field representatives to use if they need to contact someone while in the field. The **Phone Format** for the phone number type is also displayed.

At the bottom of this page is a tree that shows the accounts, service agreements, field activities and appointments that are currently linked to the field order's service point(s). You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Field Order - Field Activities

The Field Activities page shows the field activities linked to the field order. Open this page using **Field Order, Field Order, Activities**.

Description of Page

The following information is displayed in the top portion of every page in this page.

Field Order is a concatenation of information about the order. It consists of the address of the premise, the status of the field order, the number of field activities linked to the order and, if the order has been completed, the date on which the work was done.

Field Order ID is the unique system-generated identifier for the field order.

The **Field Activity** scroll contains the field activities associated with the field order. To modify a field activity, simply move to a field and change its value. To add a new activity, click the + button to insert a row, then fill in the information for each field. The following fields display:

Service Point ID	This is the system identifier of the service point at which the activity takes place. Summary information about the service point is displayed adjacent.
Activity Type	Indicate the type of field activity. Only those activity types that have been defined as valid for the service point's SP type may be selected. The activity type's description is displayed adjacent.
Field Activity	The unique system-generated identifier for this field activity.

Immediately below the Activity Type and Field Activity ID is a message created by the system about the field activity. If an appointment has been made for this field activity, information about the appointment is also displayed.

Field Activity Priority	When a field activity is created, the value in this field is a default derived from the field activity's FA type. The operator may override this value so long as the activity is in status *Pending* or *Held*.
Field Activity Status	A field activity is originally created in the *Pending* state. It remains in this state until the fieldwork is done and the system is updated with the results. At that time, the activity transitions to the *Completed* state. If an activity cannot be done, it should be *Canceled*. Change an activity's status to *Held* if you want to hold the activity pending some future event. To completely understand the significance of a field activity's status, refer to The Big Picture Of Field Orders.
Cancel Reason	When the field activity is canceled, a reason for the cancellation should be supplied
Instructions	Enter any special instructions to be supplied to the field crew.
Comments	Use the comments area to describe anything unusual about the activity. For example, if you change the activity's status to *Held*, it might be a good idea to explain the reason for doing so in the comments.

The **Field Activity Step** grid contains a summary of the field activity's steps.

> The number and type of steps associated with a field activity are defined by the field activity's type (which is maintained on the previous page). Refer to Designing Field Activity Types for more information.

Field Activity Maintenance

A field activity is a task that takes place at a service point. Examples of field activities include reconnect service, exchange meter and disconnect service.

A field activity contains one or more steps. The steps serve two purposes:

- They provide instructions of the individual units of work to be performed in the field.

- They define what must be done to complete the field activity.

The steps are defined by the field activity's activity type.

The topics in this section describe the pages on which field activity-related information is maintained.

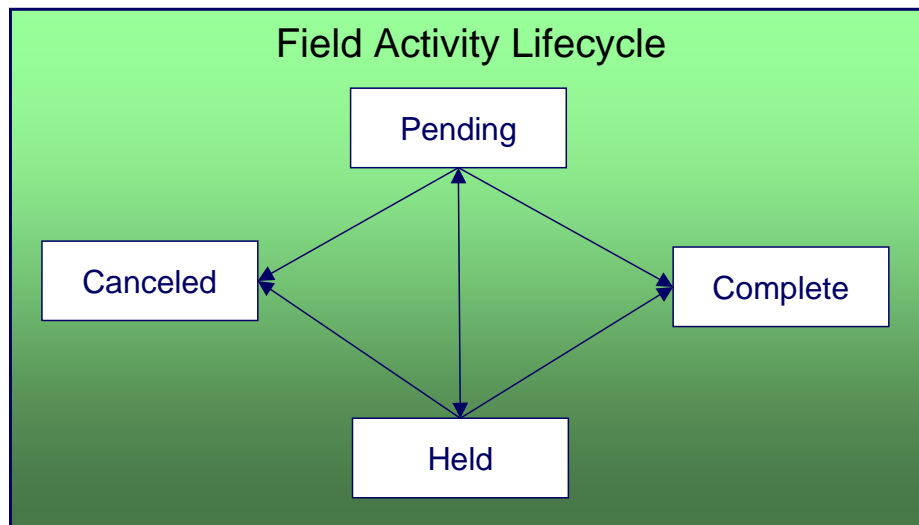> For more information about field activities, refer to The Lifecycle Of Field Activities And Field Orders.

Contents

Lifecycle of a Field Activity

The following diagram illustrates the lifecycle of a field activity.

Refer to The Lifecycle Of Field Activities and Field Orders for a more detailed discussion of the lifecycle of a field activity. The following diagram merely illustrates the state transition rules.

Pending	A field activity starts its life in the *Pending* state. A field activity remains in this state until you *Cancel*, *Complete* or *Hold* it. Please note that when a field order is dispatched, its field activities remain in the *Pending* state.
Held	You *Hold* a field activity when you want to indicate to others that it shouldn't be dispatched (for whatever reason). A *Held* field activity can be *Completed* or *Canceled*.
Complete	After the related field work has been performed, the system is updated to reflect what happened and the field activity becomes complete. No changes may be made to a *Complete* field activity. Refer to How Does A Field Order Get Completed for more information about completion.
Canceled	A *Pending* or *Held* field activity may be *Canceled*.

Field Activity - Main Information

The Main page contains core field activity information. Open this page using **Field Order, Field Activity**.

Description of Page

The following fields are displayed on every tab page.

Field Activity is a concatenation of summary information regarding this field activity. It is composed of the address of the premise of the service point at which the activity will occur, a brief description of the activity, the activity's current status, and the activity's scheduled date.

Field Activity ID is the system-generated unique identifier for the field activity.

The remaining fields are specific to the main tab page.

Indicate the **Service Point ID** at which the activity takes place. Information about the service point is displayed adjacent.

Use **Activity Type** to define the type of field activity. Only those activity types defined as valid for the service point's SP type's field activity profile may be selected. The activity type's description is displayed adjacent.

Displayed just below the **Activity Type** is a system-generated message regarding how the field activity was created. This message includes the date and time the field activity was created and the process that created it. If a user manually creates a field activity the user's ID is concatenated into the message.

Use **Schedule Date / Time** to define when the field activity is scheduled to be done.

Enter **Reschedule Reason** when changing the field activity's schedule date/time.

> **Note. Reschedule Reason** only appears if the **Fieldwork Options** feature configuration exists with the **Reschedule Reason Required** option set to *Y*.

If an appointment is linked to this field activity, the system calls the appointment information algorithm plugged in to the installation options.

Field Activity Status defines the state of the field activity. The following values may exist:

Pending	A field activity is originally created in the *Pending* state.
Completed	When an activity's fieldwork is done the system is updated with the results and the activity becomes *Completed*.
Canceled	If an activity cannot be done, it should be *Canceled*.
Held	Change an activity's status to *Held* if you want to hold the activity pending some future event.

> To completely understand the significance of a field activity's status, refer to The Big Picture Of Field Orders.

To change the status of the field activity, use the **FA Actions**, described below.

If you cancel a field activity, you must supply a **Cancel Reason Code**.

Field Activity Priority is a default value from the field activity's field activity type. It is used by the system to establish the order of precedence if there are several field activities pending for the same service point at the same time. The user may override this value.

Eligible for Dispatch controls whether a **Dispatch Group** can be assigned to the field activity and whether the field activity can be linked to a field order. This field is display-only (it is defined on the activity's activity type)

Use **Dispatch Group** to define the logical group of representatives located at an operations area that is responsible for the activity. For example, in the South West Operations Area you may have the dispatch groups of SW Service Installers, SW Service Investigators, SW Meter Exchangers, etc. Within each dispatch group are representatives with interchangeable skills (i.e., you can assign a field activity to any representative within a dispatch group). You only define the representative when the field activity is linked to a field order. Refer to Setting Up Dispatch Groups for more information.

Default note. The type of field activity and the service point's SP type and operations area define the **Dispatch group** that the system assigns to a field activity. Refer to Designing Who Does Your Field Activities for more information.

A Field Order's dispatch group comes from its field activities. When the system creates a field order from the Dispatch Field Activities query it populates the order's dispatch group using the dispatch group on the field activity(s). After the field order is created, you can change the order's dispatch group as needed. Changing the dispatch group on the order effectively changes the dispatch group on the order's activities.

Dispatch group may be overridden as part of grouping field activities prior to dispatching. When a user creates a field order on the Group Field Activities page, the order's dispatch group is assigned Using Alternate Dispatch Groups To Find The Lowest Common Denominator for more information.

Dispatch group is protected when the field activity is linked to a field order. Once a field order has been created for a field activity, the dispatch group on the field activity cannot be changed. The change to a dispatch group should occur on the field order.

Field Order ID defines the field order to which the activity is linked. This field is gray if the activity type is not eligible for dispatch. This field will be blank when the activity is not linked to a field order. Summary information about the field order appears adjacent.

If the dispatch group for the field activity references an external system feature configuration, the **External ID** is used to reference the unique identifier of the field activity in the external system. The **Intermediate Status** field is used to display interim status of a dispatched field activity.

Integration Required. The external ID and intermediate status fields are only updated if the integration with your external system passes this information to the system.

> **Note**. The values for the intermediate status field are customizable using the Lookup table. This field name is FA_INT_STATUS_FLG.   Many values are supplied with the base product to support different sample integrations. To see the values, follow this link to the field activity table definition CI_FA and find the field name. Also refer to the documentation related to out-of-the-box integrations supplied with our other products such as Oracle Utilities Mobile Workforce Management and Oracle Utilities Work and Asset Management to see what values are used for integration with those systems.

Use **Instructions** to specify any special instructions to be supplied to the field crew.

Use **Comments** to describe anything unusual about the activity. For example, if you change the activity's status to *Held*, it might be a good idea to explain why you did so in the comments.

If you have plugged in an *FA Additional Information* algorithm on the Installation table, **Additional Info** displays the results of the algorithm, if any.

The **FA Actions** buttons allow you to change the status of the field activity.

- Click **Complete** to change the status of the field activity to *complete*. This button is only enabled if the status is *pending* or *held*.

- Click **Cancel** to change the status of the field activity to *canceled*. This button is only enabled if the status is *pending* or *held*.

- Click **Hold** to change the status of the field activity to *held*. This button is only enabled if the status is *pending*.

- Click **Pend** to change the status of the field activity to *pending*. This button is only enabled if the status is *held*.

At the bottom of this page is a tree that shows the account(s) and service agreement(s) that are currently linked to the field activity's service point. You can use this tree to both view high-level information about these objects and to transfer to the respective page in which an object is maintained.

Field Activity - Steps

Use this page to reference the objects that were created or updated to reflect what took place in the field. Open this page using **Field Order, Field Activity, Steps**.

> We strongly recommend that you understand the information described in How Does A Field Order Get Completed? before you use this page.

> The number and type of steps associated with a field activity are defined by the field activity's type (which is maintained on the previous page). Refer to Setting Up Field Activity Types for more information.

Description of Page

Summary information about the **Service Point** at which the activity will occur is displayed, as well as the service point's system-generated **Service Point ID**.

The **Field Activity Status** is displayed next. See Field Activity - Main for the valid values of Status and their meanings.

The **Field Activity Steps** grid displays the step(s) involved in the field activity, as defined by the field activity's field activity type. In order to complete a step, you typically need to add or change something in the system to reflect what happened in the field. For example, you would add a meter read for a step that required a new meter read. Refer to How Does A Field Order Get Completed? for information describing how to enter this information.

If the field activity is linked to an FA upload staging that is in the status *pending* or *error*, the **FA Completion** field displays information about the FA upload staging record.

The **FA Actions** buttons allow you to change the status of the field activity. Refer to the main tab page for a description of the fields.

Field Activity - Characteristics/Remarks

Use this page to link additional information to the field activity. Open this page using **Field Order, Field Activity, Characteristics/Remark**.

Description of Page

Summary information about the **Service Point** at which the activity will occur is displayed, as well as the service point's system-generated **Service Point ID**.

The **Characteristics** collection contains information that describes miscellaneous information about the field activity.

To modify a characteristic, simply move to a field and change its value. To add a new characteristic, click the + button to insert a row, then fill in the information for each field. The following fields display:

Characteristic Type   Indicate the type of characteristic.

Characteristic Value   Indicate the value of the characteristic.

> **Default Note.** A field activity's characteristics default from the field activity type.

The **Remarks** grid is used to define anomalies associated with the field activity. For example, you can indicate performing the required task wasn't possible because there was a dangerous situation at the premise.

The **Field Activity Remark Status** is only relevant if a **Field Activity Remark** code has algorithms associated with it. Algorithms are associated with field activity remarks if additional activities should occur after a field activity with such a remark is activated. For example, you could generate a customer contact to send a letter to the customer to remove debris from the meter area if a "remove debris" remark is associated with the field activity. The execution of the algorithm is performed by a background process called FACT (field activity remark activation). **The Field Activity Remark Status** indicates whether the algorithm has been executed:

- When you add a remark that has an algorithm, the status is *Pending*. It remains in this state until the *FACT* process next runs.

- When the *FACT* process next runs, if the system is successful in executing the algorithm, the status of the field activity remark may become *Complete*. If the system is not successful in executing the algorithm, the status becomes *Error*.

> **Algorithm may control status.** By default, the field activity remark activation process assumes that if the algorithm does not detect an error, the status of the FA remark should be **_complete_**. However, in some cases, the algorithm may not find an error but may also want the status of the FA remark to remain pending. Refer to FACT-CMPOTG for an example of such an algorithm.
>
> **Remarks that are in error.** Field activity remarks whose algorithms could not be successfully executed by the **_FACT_** background process result in the creation of a Field Activity Remark Exception record. To correct errors, you may have to delete and re-add the field activity's remark code if the error is impossible to fix (e.g., if the remark causes a customer contact to be generated and there is no customer at the field activity's premise).

> Refer to Setting Up Field Activity Remarks for more information.

Field Activity - Log

Use this page to view and add log records for a field activity. Open this page using **Field Order, Field Activity, Log**.

Description of Page

The **Log** grid displays log entries that audit the progress of a field activity. You cannot modify or delete log entries that have been created by the system.

You can manually add a log entry of type **_User_**.

The Log grid displays the following information:

Date/Time	Displays the date and time when the log entry was created.
Log Type	Indicates the entry event for which the log entry was created. The log type for log entries created online is **_User_**. Refer to the FA Log Entry Events table below for information about log types provided for log entries that may be created by sample plug-ins.

> **Note**. The values for the log type are customizable using the Lookup table. This field name is FA_LOG_TYP_FLG.

Details	Contains user-specified or system-generated information about the log entry.
User	Displays the user who caused the log entry to be created.
Sequence	Displays the sequence that makes up part of the unique identifier of this log record (together with the Field Activity ID).

FA Log Entry Events

Log entries are generated either manually by a user or via a "plug-in". The system provides some sample plug-ins that may be configured to populate the table.

- The sample FA integration algorithm may be configured to create log entries for certain conditions.

- The sample FA response application services provided by the system create log entries for positive or negative responses to outgoing messages.

- The sample FA completion application service provide by the system may create log entries under certain conditions.

The table below indicates the log types provided by the system and which sample "plug-ins" may create them.

Log Type	Generated By	Content of Details
Appointment Book - Negative Acknowledgement	FA Response application service for a negative response to *Appointment Book* NDS message.	Negative Acknowledgment. Message ID (%1) - %2. Error (%3) %4 Where %1 is message ID %2 is the Notification Download Type description %3 and %4 are the external message code and its corresponding base message category/number, if the external message code has been specified.
Appointment Booked	FA integration algorithm	Appointment booked for <appointment start date/time > - <appointment end date/time>.
Appointment Canceled	FA integration algorithm	Appointment for <appointment start date/time > - <appointment end date/time> has been canceled.
Appointment Canceled - Negative Acknowledgement	FA Response application service for a negative response to any *Appointment Cancellation* NDS message.	Negative Acknowledgment. Message ID (%1) - %2. Error (%3) %4 Where %1 is message ID %2 is the Notification Download Type description %3 and %4 are the external message code and its corresponding base message category/number, if the external message code has been specified.
External Message Received	FA completion application service if action is *Update Log*	Message received from %1. Message text: %2 Where %1 is the description of the external system feature configuration %2 is the message sent from the external system.
FA External ID Change	FA integration algorithm	FA External ID changed from <FA External ID - Before Change> to <FA External ID - After Change>
FA Intermediate Status Change	FA integration algorithm	FA Intermediate Status changed from <Intermediate Status Description - Before Change> to <Intermediate Status Description - After Change>
FA Status Change	FA integration algorithm	FA Status changed from <Status Description - Before Change> to <Status Description - After Change>
Order Cancellation - Negative	FA Response	Negative Acknowledgment. Message ID (%1) - %2.

Log Type	Generated By	Content of Details
Acknowledgement	application service for a negative response to *FA Cancellation* NDS message.	Error (%3) %4 Where %1 is message ID %2 is the Notification Download Type description %3 and %4 are the external message code and its corresponding base message category/number, if the external message code has been specified.
Order Cancellation Confirmed	FA Response application service for a positive response to *FA Cancellation* NDS message	Positive Acknowledgment. Message ID (%1) - %2. Where %1 is message ID and %2 is the description of the NDS type of the original outgoing message.
Order Change - Negative Acknowledgement	FA Response application service for a negative response to *FA Changed* NDS message.	Negative Acknowledgment. Message ID (%1) - %2. Error (%3) %4 Where %1 is message ID %2 is the Notification Download Type description %3 and %4 are the external message code and its corresponding base message category/number, if the external message code has been specified.
Order Change Confirmed	FA Response application service for a positive response to *FA Changed* NDS message	Positive Acknowledgment. Message ID (%1) - %2. Where %1 is message ID and %2 is the description of the NDS type of the original outgoing message.
Order Completion	FA completion application service	FA is completed by External System
Order Creation - Negative Acknowledgement	FA Response application service for a negative response to *FA Creation* NDS message.	Negative Acknowledgment. Message ID (%1) - %2. Error (%3) %4 Where %1 is message ID %2 is the Notification Download Type description %3 and %4 are the external message code and its corresponding base message category/number, if the external message code has been specified.
Order Creation Confirmed	FA Response application service for a positive response to *FA Creation* NDS message	Positive Acknowledgment. Message ID (%1) - %2. Where %1 is message ID and %2 is the description of the NDS type of the original outgoing message.
Order Reschedule - Negative Acknowledgement	FA Response application service for a negative response to *FA Reschedule* NDS message.	Negative Acknowledgment. Message ID (%1) - %2. Error (%3) %4 Where %1 is message ID %2 is the Notification Download Type description %3 and %4 are the external message code and its corresponding base message category/number, if the

Log Type	Generated By	Content of Details
		external message code has been specified.
Order Reschedule Confirmed	FA Response application service for a positive response to *FA Rescheduled* NDS message	Positive Acknowledgment. Message ID (%1) - %2. Where %1 is message ID and %2 is the description of the NDS type of the original outgoing message.
Outage Call Interfaced	Processing *Outage Call* NDS message	Outage call has been sent.

How To Add A Step To A Field Activity

You are not allowed to add a step to an activity. If you need to add another step, any of the following approaches will work:

- Add a new activity to the order with an activity type containing the desired step (and cancel the pre-existing activity).

- Change the activity's activity type to be one that includes that desired step.

- Navigate to the appropriate maintenance page and make the change. This won't leave an audit of what took place on the field activity but it will change the system appropriately.

Field Activity Remark Exceptions

If a field activity has a remark code that has algorithms associated with it, the system activates the algorithms each time the FACT (field activity remark activation) background process is executed. If errors occur during the activation of the algorithms, a record is written to the field activity remark exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-FACT background process. This process generates a To Do entry for every record in the field activity remark exception table.

After correcting the cause of the error, drill into the Field Activity - Characteristics/Remarks tab and change the status of the remark from *Error* to *Pending*. When the *FACT* process next runs, it attempts to execute the remark's algorithm again.

> **Note.** You may have to delete or change the field activity's remark code if the error is impossible to fix (e.g., if the remark causes a customer contact to be generated and there is no customer at the field activity's premise).

Group Premise FAs (Field Activities)

This page is used to view the pending field work at a premise and to create field order(s) for the *pending* field activities.

Open this page using **Field Order, Group Premise FAs**.

Description of Page

- It shows a **Premise**'s *pending* field activities that are not assigned to a field order and are linked to a dispatch group that is eligible for dispatch. These appear in the first grid.

- It shows a **Premise**'s open field orders. These appear in the second grid.

- It allows users to create a new field order(s) and link *pending* field activities to them (this is done by clicking the **Create Field Order** button).

The **Premise**'s address and **Premise ID** are displayed.

Click the **Create Field Order** button to create a field order for the selected field activities (the activities appear in the following grid). You have two options when you click this button:

- Specify an **Override Dispatch Group**. If you do this, a field order will be created for this dispatch group and the selected field activities will be linked to it.

- Leave **Override Dispatch Group** blank. If you do this, the system will look for the "lowest common denominator" dispatch group and assign it to the pending field activities. Refer to Using Alternate Dispatch Groups To Find The Lowest Common Denominator for more information.

> **A field order's dispatch group overrides the activity's dispatch group.** Be aware that the dispatch group that is assigned to the field order will replace the original dispatch group assigned to the field activities.

After orders have been created, they appear in the grid at the bottom of this page.

Using Alternate Dispatch Groups To Find The Lowest Common Denominator

When you click the **Create Field Order** button on the Group Field Activities transaction and leave the **Override Dispatch Group** blank the system attempts to find a "lowest common denominator" dispatch group and assign it to the pending field activities. If it is successful, all of the field activities are grouped under a single field order and dispatched. If it's unsuccessful, a separate field order is created for each activity without a common dispatch group.

The following example will help illustrate how a lowest common denominator dispatch group is assigned to a group of field activities.

	FA1: Install Meter	FA2: Read Meter	FA3: Test Meter
Initial dispatch group assigned to field activity	*NorthWest – Electric – Install and Remove*	*NorthWest – Electric – Readers*	*North – Electric – Testers*
Alternate dispatch group	*NorthWest – Electric*	*NorthWest – Electric*	*North – Electric*

The above table illustrates the following example:

- There are 3 field activities at a premise and each of which has a different initial dispatch group (see the first row in the table).

- Each initial dispatch group has an alternate dispatch group.

- Of these field activities, FA1 and FA2 have a common alternate dispatch group: *NorthWest – Electric*. FA3, however doesn't have a common dispatch group. This means 2 field orders will be created:

    - The first field order (associated with the *NorthWest – Electric* dispatch group) will contain FA1 and FA2.

    - The second field order (associated with the *North – Electric – Testers* dispatch group) will contain FA3.

Please refer to Automatically dispatching field activities for another example of how the lowest common denominator is selected.

Field Order Search

This query is really two queries:

- The search dialog shows groups of field orders that are:

    - Linked to a dispatch group

    - With a given status

    - Scheduled on or before a date

- The query page shows individual field orders that are:

    - Linked to the selected dispatch group

    - With a given status

    - Scheduled on the selected dispatch date

Open this page using **Field Order, Field Order Search**.

The topics described in this section describe the search dialog and the query page.

Contents

Field Order Search Dialog

This query's search dialog shows groups of field orders that match your search criteria. You can change the displayed information by changing the search criteria.

Leaving a search field blank. If you leave a search field blank, the system assumes you want to see all groups of field orders. For example, if you leave dispatch group blank, you will see every dispatch group's orders. You may use this facility on any of the search fields.

Description of Page

Enter a **Dispatch Group** to limit the search to a specific dispatch group. Leave this field blank to view groups of orders linked to all dispatch groups.

Enter a **Field Order Status** to limit the search to groups of orders in a specific state. Valid values are: ***Dispatched***, ***Canceled***, ***Completed***, ***Pended By User***, ***Work Done, Not Recorded***. Leave this field blank to view groups of orders regardless of status.

Enter a **Schedule Date/Time** to limit the search to orders that exist on or before the input date and time. Leave this field blank to view groups of orders throughout time.

When you select a row and proceed to the query page, the system displays the individual field orders for the selected dispatch group, status and schedule date.

Field Order Query Page

The query page shows individual field orders for the selected dispatch group, status, and schedule date.

Description of Page

You can use the **Field Order Filter** to restrict the field orders that appear in the grid. The following options are available:

- ***All***. This option shows all field orders for the selected dispatch group, status, and schedule date.

- ***Geo Type***. This option shows all field orders whose premise has a given **Geographic Type** and **Geographic Value**. If you leave **Geographic Value** blank, all field orders whose premise has a given **Geographic Type** will be displayed (i.e., all geographic values for the selected **Geographic Type** are displayed).

Each row in the query shows an individual field order. Clicking the go to button adjacent to the order will transfer you to the Field Order Maintenance page with the selected field order displayed.

Dispatch Field Activities

Refer to How Are Field Orders Created And Dispatched for other ways to dispatch field activities.

This query is really two queries AND a maintenance transaction:

- The search dialog shows groups of field activities that are:

    - Eligible for dispatch

    - Not linked to a field order

    - Whose service point is serviced by an operations area

    - Linked to a dispatch group

    - In the ***Pending*** state

    - Scheduled on or before a date

- The query page shows individual field activities that are:

    - Eligible for dispatch

    - Not linked to a field order

- Serviced by the selected operations area

- Linked to the selected dispatch group

- In the *Pending* state

- Scheduled on or before the selected dispatch date

- On the query page, you can create and dispatch field orders.

Open this page using **Field Order, Dispatch Field Activities**.

The topics described in this section describe the search dialog and the query page.

Contents
Field Activity Search Dialog
Field Activity Query Page
How Do You Link An Activity To An Existing Order?

Field Activity Search Dialog

This query's search dialog shows groups of field activities that match your search criteria. You can change the displayed information by changing the search criteria.

> **Leaving a search field blank.** If you leave a search field blank, the system assumes you want to see all groups of field orders. For example, if you leave dispatch group blank, you will see every dispatch group's orders. You may use this facility on any of the search fields.

Description of Page

Enter a **Dispatch Group** to limit the search to a specific dispatch group. Leave this field blank to view groups of activities linked to all dispatch groups.

Enter an **Operations Area** to limit the search to a service points serviced by a given operations area. Leave this field blank to view groups of activities linked to all operations areas.

Enter a **On/Before Date** to limit the search to activities that exist on or before the input date. Leave this field blank to view groups of activities throughout time.

When you select a row and proceed to the query page, the system displays the individual field activities for the operations area, dispatch group and schedule date.

> **Implied search criteria.** In addition to the explicit search criteria shown above, the search is limited to field activities in the *Pending* state that are eligible for dispatch and that are not already linked to a field order.

Field Activity Query Page

The query page shows individual field activities for the selected operations area, dispatch group and schedule date.

A special facility exists on this page that allows you to create and dispatch field orders for the activities. Refer to the Description of Page information below for the details.

Description of Page

You can use the **Field Activity Filter** to restrict the field activities that appear in the grid. The following options are available:

- *All*. This option shows all field activities for the selected dispatch group, operations area, and schedule date.

- *Geo Type*. This option shows all field activities whose premise has a given **Geographic Type** and **Geographic Value**. If you leave **Geographic Value** blank, all fields activities whose premise has a given **Geographic Type** will be displayed (i.e., all geographic values are displayed).

Each row in the query shows an individual field activity. Clicking the go to button adjacent to the activity transfers you to the Field Activity Maintenance page with the selected field activity displayed.

When you're ready to dispatch field activities,

- Turn on the **Dispatch?** switch on every activity to be dispatched.

  - If you want to dispatch all activities in the grid, click the **Select All** button. This causes the **Dispatch?** switch to be turned on for every field activity in the grid.

  - If you want to dispatch specific activities, turn on the **Dispatch?** switch on the desired activities.

  - If you want to turn off the **Dispatch?** switch on all activities in the grid, click the **Clear All** button.

- Enter the **Representative** who will do the work.

- Enter the **on Date / Time** on which the work will be performed (time is optional).

- Save the page.

When you save the page, the system:

- Creates a new field order for every unique combination of dispatch group and premise on the selected field activities. The new field order(s) are assigned to the selected representative and scheduled on the selected date and time.

- Links the appropriate field activities to each field order

- Sets the status of the field order to *Dispatched*.

How Do You Link An Activity To An Existing Order?

If a field order already exists and you want to link another field activity to it, simply drill over to the Field Activity Maintenance page (by clicking the button adjacent to the activity) and update the activity to reference the desired field order.

Downloading Field Orders

Your field staff must be apprised of all orders for which they are responsible. This communication can take place in many ways:

- A printed order can be given to the field crew

- An electronic version of the order can be routed to the crew's truck

The communication of field orders to the field crews is handled through the field order download process. The topics in this section describe this process.

The Field Order Download Processes

The following diagram illustrates the processes involved in the creation of the flat file that is interfaced to your field order print / dispatch software.
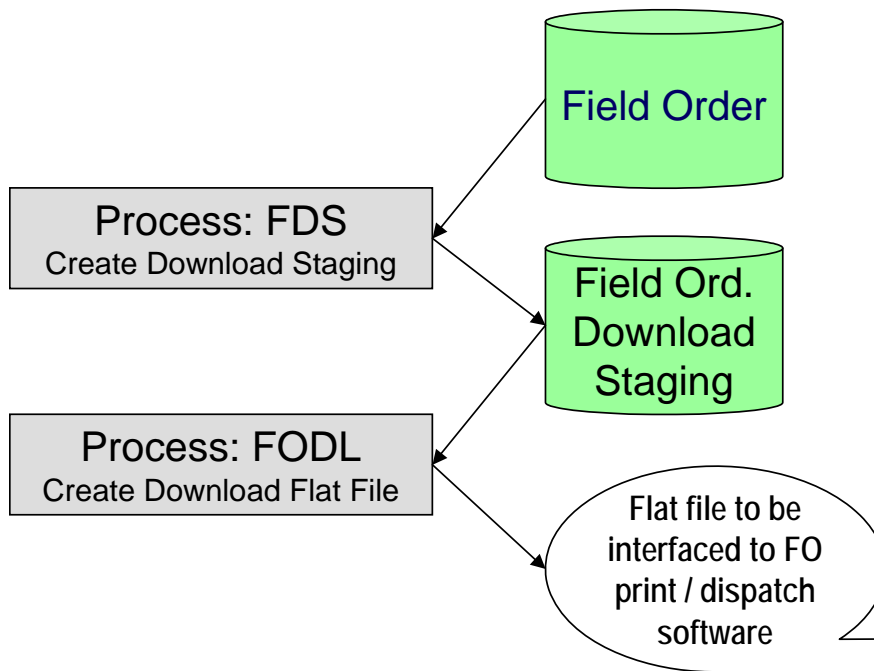
Contents

FDS - Create Download Staging

This process looks for all field orders that are marked for extraction (a field order gets marked for extraction when it is first created if its dispatch group is dispatchable). For each record found, the system creates a field order download staging record.

Each download staging record is marked with a batch control ID & run number when it's created.

- The batch control ID comes from the field order's dispatch group. This ID corresponds with a specific extraction method. The system comes with a single field order download program (FODL - Create Download Flat File). If you require different print formats or different routing methods, you will need to create additional programs. Refer to Technical Implementation of Batch Field Order Production for more information.

- The run number is the batch control ID's current run number.

Re-downloading. If you need to download a specific field order, navigate to Field Order - Main Information and change the order's status to *Dispatched*.

FODL - Create Download Flat File

This process reads all download staging records marked with a given batch control ID & run number and creates the flat file that's passed to the field order print / dispatch software.

> **This process is rerunnable.** You can reproduce the flat file at any time. Simply request this job and specify the run number associated with the historic run.

The format of the flat file is determined based on an extract program linked to the field order's dispatch group. Refer to Dispatch Groups Control The Information Merged Onto Field Orders for more information.

Uploading Field Order Completion Information

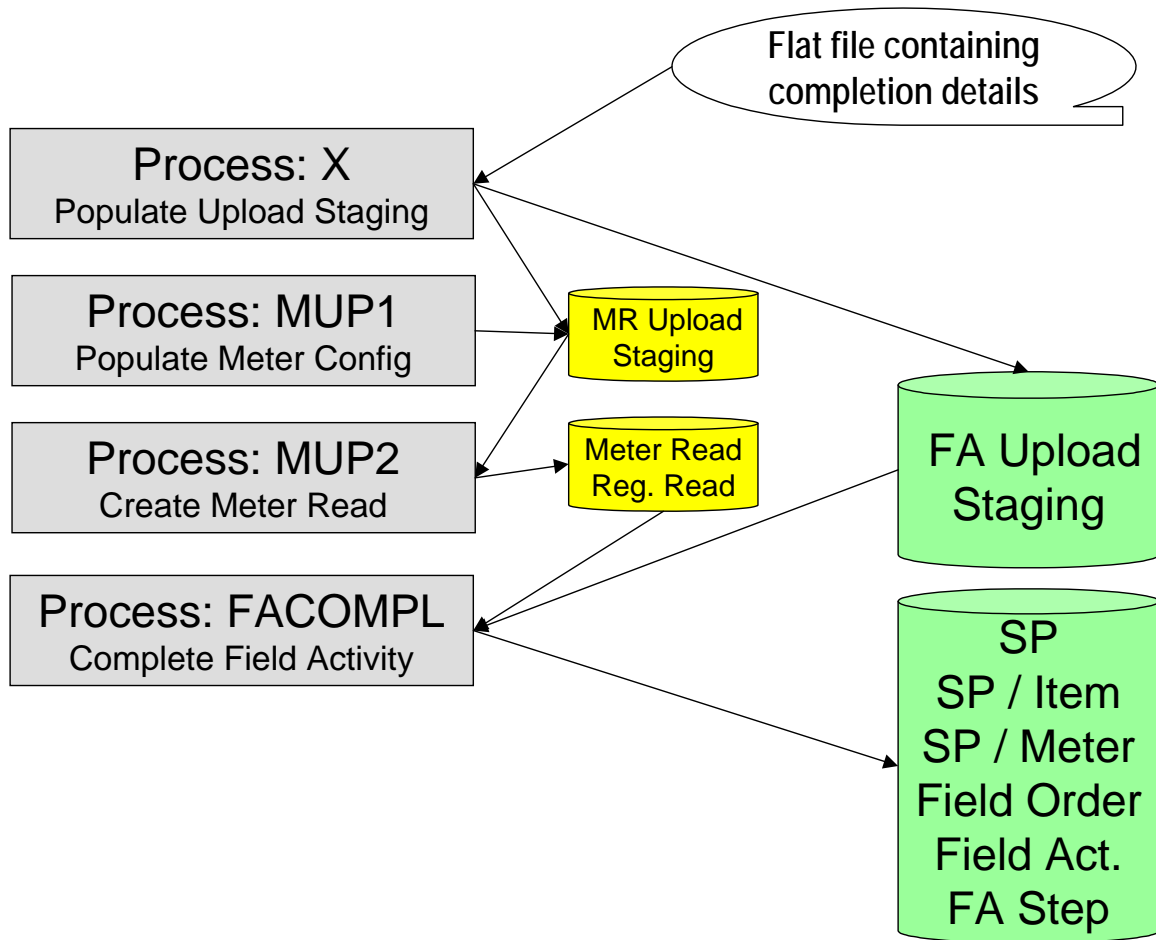This section describes how the system uploads field order completion details.

> **Warning!** It's important to be aware that only the following types of field activity steps can have their completion details uploaded through this process: Connect Service Point, Disconnect Service Point, Install Meter, Turn On Meter, Turn Off Meter, Read Meter, Remove Meter, Install Item, Turn On Item, Turn Off Item, Remove Item. Field Activity Completion Considerations describes a recommendation to use XAI to upload field activity completion information if any of the other step types are included in the field activity rather than the process described below.

Contents

Field Order Completion Upload Background Processes
FAUP-PRG - Purge Field Activity Upload Objects
Maintaining Field Activity Upload Staging
Field Activity Upload Exception

Field Order Completion Upload Background Processes

The following diagram illustrates the processes involved in the uploading of field order completion details.
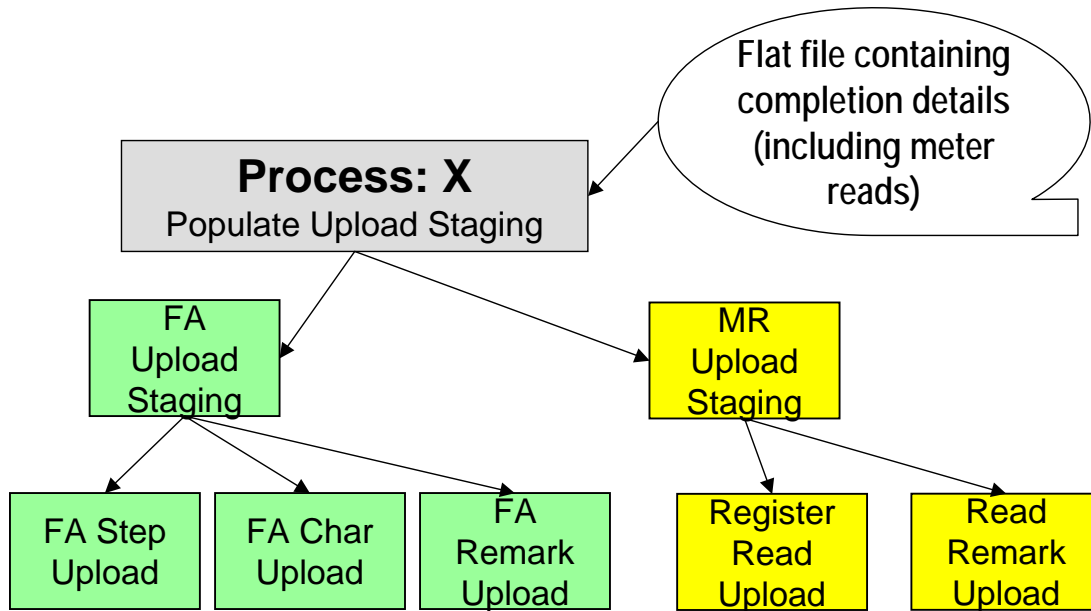
The topics in this section describe how these processes work.

Contents

Process X - Populate MR and FA Upload Staging

Process X refers to the mechanism used by your organization to populate the various staging tables.

The topics in this section describe each of these tables.

Contents

Meter Read Upload Staging Tables

If the field activity step involved the installation, removal, turning on, turning off, or reading of a meter; a meter read must be provided. Because the standard meter read upload process is used to interface these records into the system, you must create the meter read upload staging records described under Uploading Meter Reads for every read associated with the completion of field activities.

Field Activity Upload Staging

You must create a field activity upload staging record for each field activity whose completion details are being uploaded. The name of this table is CI_FA_STAGE_UP. The following table describes each column on this file.

Column Name	Length	Req'd	Data Type	Comments
FA_ID	10	Y	A/N	This is the ID of the field activity whose completion details are being supplied.
FA_UP_STATUS_FLG	2	Y	A/N	This must be set to *P* for *Pending*.
WORK_DTTM	26	Y	Date/Time	The date and time the work was done.
WORKED_BY	8	Y	A/N	The unique ID of the representative who performed the activity.

DESCR254	254	N	A/N	Optional comments about the field activity.

Field Activity Step Upload Staging

You must create a field activity step upload staging record for each step that was completed. The name of this table is CI_FA_STP_STG_UP. The following table describes each column on this file.

Column Name	Length	Req'd	Data Type	Comments
FA_ID	10	Y	A/N	This is the ID of the field activity whose completion details are being supplied.
STEP_SEQ_NBR	3	Y	N	This is the sequence number of the field activity step whose completion details are being supplied.
FA_STP_UP_STAT_FLG	2	Y	A/N	This is the status of the upload record. This must be set to *P* for *Pending*.
FA_STEP_TY_ACT_FLG	2	Y	A/N	This is the type of step whose completion details are being supplied. This must be one of the following values: *NS* - Connect Service Point, *DS* - Disconnect Service Point, *IM* - Install Meter, *NM* - Turn On Meter, *FM* - Turn Off Meter, *MR* - Read Meter, *RM* - Remove Meter, *II* - Install Item, *NI* - Turn On Item, *FI* - Turn Off Item, *RI* - Remove Item
BADGE_NBR	30	See note	A/N	Badge Number is the badge number of the meter or item involved with the field activity step. It is required for the following step types: Install Meter, Turn On Meter, Turn Off Meter, Read Meter, Remove Meter, Install Item, Turn On Item, Turn Off Item, Remove Item
READ_DT	10	See note	Date	This must correspond with a read date on one of the meter read upload staging records. It is required for the following step types: Install Meter, Turn On Meter, Turn Off Meter, Read Meter, Remove Meter
READ_TIME	15	See note	Time	This must correspond with a read time on one of the meter read upload staging records. It is required for the following step types: Install Meter, Turn On Meter, Turn Off Meter, Read Meter, Remove Meter
DISCON_LOC_CD	4	See note	A/N	This is the disconnect location code that identifies where a service point has been disconnected. It is required for the Disconnect Service Point step type.
ON_OFF_FLG	2	See note	A/N	Set this to *0* if the meter / item was turned off. Set this to *1* if the meter / item was turned on. It is required for the following step types: Install Meter, Install Item.
EVENT_DTTM	26	See note	Date / Time	This the date and time an item was installed, removed, turned on or off. It is required for the following step types: Install Item, Turn On Item, Turn Off Item,

Column Name	Length	Req'd	Data Type	Comments
				Remove Item
STK_LOC_CD	12	See note	A/N	This is the stock location where the meter / item is stored upon removal from a service point. This is required for the following step types if the meter's meter type or the item's item type tracks location: Remove Item, Remove Meter. Refer to *The Big Picture Of Asset Inventory* for more information.

Field Activity Characteristic Upload Staging

You must create a field activity characteristic upload staging record for each characteristic that you would like to link to the field activity. The name of this table is CI_FA_STGUP_CHAR. The following table describes each column on this file.

Column Name	Length	Req'd	Data Type	Comments
FA_ID	10	Y	A/N	This must correspond with the prime key of the related CI_FA_STAGE_UP record.
CHAR_TYPE_CD	8	Y	A/N	This must correspond with a characteristic type that is defined as valid for the field activity type for this field activity.
SEQ_NUM	3	Y	N	This should be set to *10* unless you have multiple values for a given field activity and characteristic type.
CHAR_VAL	16	See note	A/N	Populate this field if your characteristic type is *predefined*.
ADHOC_CHAR_VAL	254	See note	A/N	Populate this field if your characteristic type is *ad-hoc* or *file location*.
CHAR_VAL_FK1 – CHAR_VAL_FK5	50 each	See note	A/N	Populate these fields if your characteristic type is *foreign key reference*. Up to five columns of 50 bytes each are provided to accommodate compound keys.

Field Activity Remark Upload Staging

You must create a field activity remark upload staging record for each remark that you would like to link to the field activity. The name of this table is CI_FA_STGUP_REM. The following table describes each column on this file.

Column Name	Length	Req'd	Data Type	Comments
FA_ID	10	Y	A/N	This is the ID of the field activity whose completion details are being supplied.
FA_REM_CD	12	Y	A/N	This must correspond with a field activity remark code. Refer to Setting Up Field Activity Remarks for more information.

MUP1 - Populate Meter Configuration

Refer to MUP1 - Populate Meter Configuration for information about this process.

MUP2 - Create Meter Read

Refer to <u>MUP2 - Create Meter Read</u> for information about this process.

FACOMPL - Upload and Complete Field Activities

FACOMPL processes *Pending* Field Activity Upload Staging records. For each such record, it processes the *Pending* Field Activity Step Upload Staging records as per the following table.

Step Type	What Happens
NS - Connect Service Point	Changes the connection status of the field activity's service point to *connected* and removes the disconnect location (if any). It then updates the related step to reference the service point.
DS - Disconnect Service Point	Changes the connection status of the field activity's service point to *disconnected* and populates the disconnect location with the supplied value. It then updates the related step to reference the service point.
IM - Install Meter	Creates a new SP / Meter record and links to it the meter read inferred from the badge number and read date/ time. Note: the meter read upload process creates this meter read. It then updates the related step to reference the SP / Meter record.
NM - Turn On Meter	Creates a new turn on event under an exist SP / Meter record. It links the meter read inferred from the badge number and read date/ time to the turn on event. Note: the meter read upload process creates this meter read. It then updates the related step to reference the SP / Meter record.
FM - Turn Off Meter	Creates a new turn off event under an exist SP / Meter record. It links the meter read inferred from the badge number and read date/ time to the turn off event. Note: the meter read upload process creates this meter read. It then updates the related step to reference the SP / Meter record.
MR - Read Meter	It's important to note that the meter read upload process creates this meter read. When this type of step is uploaded, the system simply updates the related step to reference the previously created meter read.
RM - Remove Meter	Updates an existing SP / Meter record to indicate the meter has been removed. It does this by linking the meter read inferred from the badge number and read date/ time. Note: the meter read upload process creates this meter read. It then updates the related step to reference the SP / Meter record.
II - Install Item	Creates a new SP / Item record using the supplied badge number and event date and time. It then updates the related step to reference the SP / Item record.
NI - Turn On Item	Creates a new turn on event under an exist SP / Item record. It then updates the related step to reference the SP / Item record.
FI - Turn Off Item	Creates a new turn off event under an exist SP / Item record. It then updates the related step to reference the SP / Item record.
RI - Remove Item	Updates an existing SP / Item record to indicate the item has been removed. It then updates the related step to reference the SP / Item record.

After this process updates the related step, it checks if all required steps under the parent field activity reference their appropriate foreign key. If so, it completes the field activity. It then checks if all field activities under the parent field order are complete, if so it completes the field order (note, it will also update the field order with the work done date / time and worked by information on the related Field Activity Upload Staging record).

Any errors detected during this process are written to the Field Activity Upload Exception table. You can fix errors using Field Activity Staging page (don't forget to change the record's status back to *Pending*).

FAUP-PRG - Purge Field Activity Upload Objects

Completed field activity upload staging objects should be periodically purged from the system by executing the FAUP-PRG background process. This background process allows you to purge all *Completed* field activity upload staging objects older than a given number of days.

We want to stress that there is no system constraint as to the number of *Completed* field activity upload objects that may exist. You can retain these objects for as long as you desire. However we recommend that you periodically purge *Completed* field activity upload objects as they exist only to satisfy auditing and reporting needs.

Maintaining Field Activity Upload Staging

The Field Activity Upload Staging page has three purposes:

- You can view historical field activity upload records.

- You can correct field activity upload records that are in error.

- You can add new field activity upload records to be uploaded by the field activity upload background process (or you can click the **Complete** button to upload and complete the activity (and order) real time).

> This page's dialog is idiosyncratic. Refer to How To for instructions describing how to perform common maintenance tasks.

The following topics describe this transaction in detail.

Contents
FA Upload Staging - Main
FA Upload Staging - Steps
FA Upload Staging - Characteristics/Remarks
How To

FA Upload Staging - Main

The Main page contains core field activity completion information. Open this page using **Field Order, FA Upload Staging**.

Description of Page
FA Upload Staging ID is the system-generated unique identifier for the field activity upload staging record (note: this will be the same as the unique ID of the associated field activity).

The **Field Activity ID** is the field activity being completed.

The **Service Point ID** and its information are displayed beneath.

Upload Status shows the state of the field activity upload record. Potential values are: *Pending*, *Complete*, *Error*.

If a record is in *Error*, the error message will be displayed adjacent. You can correct an *Error* by

- Correcting whatever is wrong,

- Change the **Upload Status** back to *Pending*

- Click the **Complete** button. Clicking the **Complete** button calls the routine that attempts to update the completion information.

Enter the **Work Date/Time** when the field work was performed. These values will be populated on the field activity's field order when it is completed.

Worked By is the individual (or crew) who actually performed the work. Only representatives defined as valid for the field order's dispatch group may be assigned.

Comments is appended to the field activity's Comments.

The **FA Upload Staging Steps** scroll contains a summary of the field activity's steps.

Click the **Complete** button to complete the associated field activity. This button is only enabled when the field activity upload staging record has been saved on the database and is in the *Pending* state.

Click the **Delete** button to delete the field activity upload staging record. This button is only enabled when the field activity upload staging record has been saved on the database and is in the *Pending* or *Error* states.

FA Upload Staging - Steps

The Steps page contains completion information related to the field activity's steps. Open this page using **Field Order, FA Upload Staging, Steps**.

Description of Page

FA Upload Staging ID is the system-generated unique identifier for the field activity upload staging record (note: this will be the same as the unique ID of the associated field activity).

The **Steps** scroll contains the field activity's steps. To complete a field activity, you must enter the relevant information for each <u>required</u> step. The type of information that should be entered differs depending on the step type.

Step Type	What Fields Are Displayed
Contact Customer	No fields related to customer contact are displayed. Customer Contact must be created separately.
Change Service Point	No generic fields related to updating a service point are displayed. Service Point must be updated separately.
Connect Service Point	None
Disconnect Service Point	Disconnect location
Install Meter	Badge number, read date, read time, on/off status
Change Meter	No generic fields related to updating a meter are displayed. Meter must be updated separately.
Change Meter's Configuration	No generic fields related to updating a meter configuration are displayed. Meter Configuration must be updated separately.
Turn On Meter	Badge number, read date, read time

Turn Off Meter	Badge number, read date, read time
Read Meter	Badge number, read date, read time
Remove Meter	Badge number, read date, read time, stock location* (see below)
Install Item	Badge number, event date, event time, on/off status
Change Item	No generic fields related to updating an item are displayed. Item must be updated separately.
Turn On Item	Badge number, event date, event time
Turn Off Item	Badge number, event date, event time
Reconfigure Multi-Item	No generic fields related to multi-item configuration are displayed. Item configuration must be updated separately.
Remove Item	Badge number, event date, event time, stock location* (see below)
Test Device	No fields related to device testing are displayed. Device Test must be created separately.

For step types *Remove Meter* and *Remove Item*, enter the **Stock Location** where the meter / item is stored upon removal if the meter's meter type or the item's item type tracks location. Refer to The Big Picture Of Asset Inventory for more information.

The **Add Meter Read** section can be used to add a meter read for those step types that require a meter read.

The **Add Meter Read** button becomes enabled after you enter a **Badge Number** and **Read Date/Time**. For required steps, the system populates **Read Date/Time** with the values entered for **Work Date/Time** but you can change these values if necessary.

When you click the button, the **Register Readings** grid is populated with one row for each of the meter's registers. At this point, enter each register's reading by specifying a **Read Type** and **Reading.** When you save the field activity upload staging record, the read is added to the database, but the read information disappears. This information is not actually linked to the Field Activity Upload Staging. When you complete a field activity, the system looks for a meter read to link to the FA. It should find the one you just created.

Refer to Meter Read - Main for more information about meter reads.

High/low validation. It's important to note that the read will not be subject to high/low validation. If you require high/low validation, add the read using Meter Read - Main and then simply reference the read's badge number and date/time on the step.

Click the **Complete** button to complete the associated field activity. This button is only enabled when the field activity upload staging record and is in the *Pending* state.

Click the **Delete** button to delete the field activity upload staging record. This button is only enabled when the field activity upload staging record has been saved on the database and is in the *Pending* or *Error* states.

FA Upload Staging - Characteristics/Remarks

The Characteristics/Remarks page contains additional information related to the field activity. Open this page using **Field Order, FA Upload Staging, Characteristics/Remarks**.

Description of Page

FA Upload Staging ID is the system-generated unique identifier for the field activity upload staging record (note: this will be the same as the unique ID of the associated field activity).

The **Characteristics** grid is used to link additional information to the field activity.

The **Remarks** grid is used to define anomalies associated with the field activity.

How To

The topics in this section describe how to perform common maintenance functions.

How To Complete A Simple Field Activity That Requires A Read

The following steps describe how to complete a simple field activity that requires a meter read.

You navigate through the pages as follows:

- Navigate to Field Activity Upload Staging.

- Enter the ID of the field activity being completed.

- Use **Work Date/Time** to define when the field activity was completed.

- Navigate to the **Steps** tab and enter the **Badge Number** and **Read Date/Time**. For required steps, the system populates **Read Date/Time** with the values entered for **Work Date/Time** but you can change these vales if necessary. After entering this information, the **Add Meter Read** button becomes enabled. Click it to open the **Register Reading** grid.

- Specify the **Read Type** and **Register Reading** for each register on the meter. Then click the **Complete** button. When the **Complete** button is clicked, the following events take place:

  - The field activity upload staging record is saved.

  - A meter read is added.

  - The system attempts to complete the field activity using the information on the field activity upload staging record and on the meter read.

  - If the system is not successful in completing the activity due to incomplete information on the field activity upload staging record, the upload staging step's status will be changed to *Error* and a corresponding error message will be displayed. To complete the activity, fix the cause of the problem and change the step's status back to *Pending* and then click the **Complete** button again.

  - If the system is successful in completing the activity, the field activity upload staging record's upload status is changed to *Complete*, the step's upload status is changed to *Complete*, the field activity's status is changed to *Complete*, and, if all field activity's linked to the field order are *Complete*, the field order's status is changed to *Complete*.

Field Activity Upload Exception

If errors are detected during the field activity upload process, a record is written to the field activity upload exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-FAUPL background process. This process generates a To Do entry for every record in the field activity upload exception table.

You can fix this error using the FA Upload Staging page and change the status of the remark from **Error** to **Pending**. When the field activity upload process next runs, it attempts to upload this record again.

Outage Calls

Note: The information in this section applies to the integration with the Oracle Utilities Network Management System (NMS).

You can use the Outage Call page to view trouble calls and outage information, and to send outage call reports to NMS for a specific service point. You can also use this page to schedule job site appointments. Open this page using **Main Menu, Field Order, Outage Call.**

Description of Page

The Outage Call Search zone is a standard multi-query portal used to search for and list existing Outage Call records. In the search results list, click the Outage Call link to view and maintain the information about the outage call.

The following zones are displayed for the selected outage call:

Contents
  Outage Call Actions
  Outage Call Zone
  Outage Call Log

Outage Call Actions

This is a standard actions zone.

If the outage call is in a state that has valid next states, buttons to transition to each appropriate next state are displayed. If the record is in at state in which it can be edited, select **Edit** to change details regarding the record, such as scheduling or rescheduling a callback or meeting.

Outage Call Zone

The outage call zone contains display-only information about the record.

Outage Call Log

This is a standard log zone.

Outage Information

> **Note:** The information in this section applies to the integration with Oracle Utilities Network Management System (NMS).

The Outage Information portals provide a real-time interface with NMS to search for the following network management items:

- Job history

- Call history

- Planned outages.

Contents

Job History

You can use the Job History portal to retrieve current and historical outage and non-outage jobs from NMS by a customer service point or account ID, or proximity to a street intersection or street segmentor, or other identifiers such as a 911 incident identifier, caller name, or call phone number.

Use **Field Order, Outage Information, Job History** to search for and view these records.

Description of Page

The Job History zone can be used to search for an existing Job History record. If the search results list contains records for a single service point, the service information for that service point and the job history results will be displayed. If the list contains multiple service point's records, a list of service points are displayed and the service information and job history results will be displayed for one of these service points. You can click on the **Show History** button to display the service information and job history results for any other service point record.

Please see the zone's help text for information about this zone's fields.

Call History

You can use the Call History portal to retrieve trouble call history from NMS by a customer service point, or account id, or proximity to a street intersection or street segmentor, or other identifiers such as a 911 incident identifier, caller name or call phone number.

Use **Field Order, Outage Information, Call History** to search for and view these records.

Description of Page

The Call History zone can be used to search for an existing Call History record. If the search results list contains records for a single service point, the service information for that service point and the call history results will be displayed. If the list contains multiple service point's records, a list of service points are displayed and the service information and call history results will be displayed for one of these service points. You can click on the **Show History** button to display the service information and call history results for any other service point record.

Please see the zone's help text for information about this zone's fields.

Planned Outages

You can use the Planned Outages portal to retrieve planned outage information from NMS.

Use **Field Order, Outage Information, Planned Outages** to search for and view these records.

Description of Page

The Planned Outages zone can be used to search for current, future and past planned outage status and details from NMS for a particular service point. Planned outage information will only be available once a planned outage has been scheduled and the list of impacted customers for that planned outage has been generated.

Please see the zone's help text for information about this zone's fields.

Billing

In this section, we describe how to manage your customer's bills.

Contents

The Big Picture of Billing

A bill is used to communicate changes in an account's financial obligations to the customer. Over time, a customer receives many bills. The topics in this section provide background information about a variety of billing topics.

> **If you operate in a 3rd party billing environment.** Some organizations are responsible for presenting 3rd party charges on their bills. Others are responsible for sending their charges to a 3rd party for presentation on their bills. If this describes your organization, refer The Big Picture of SA Relationships for a description of how this functionality is implemented.
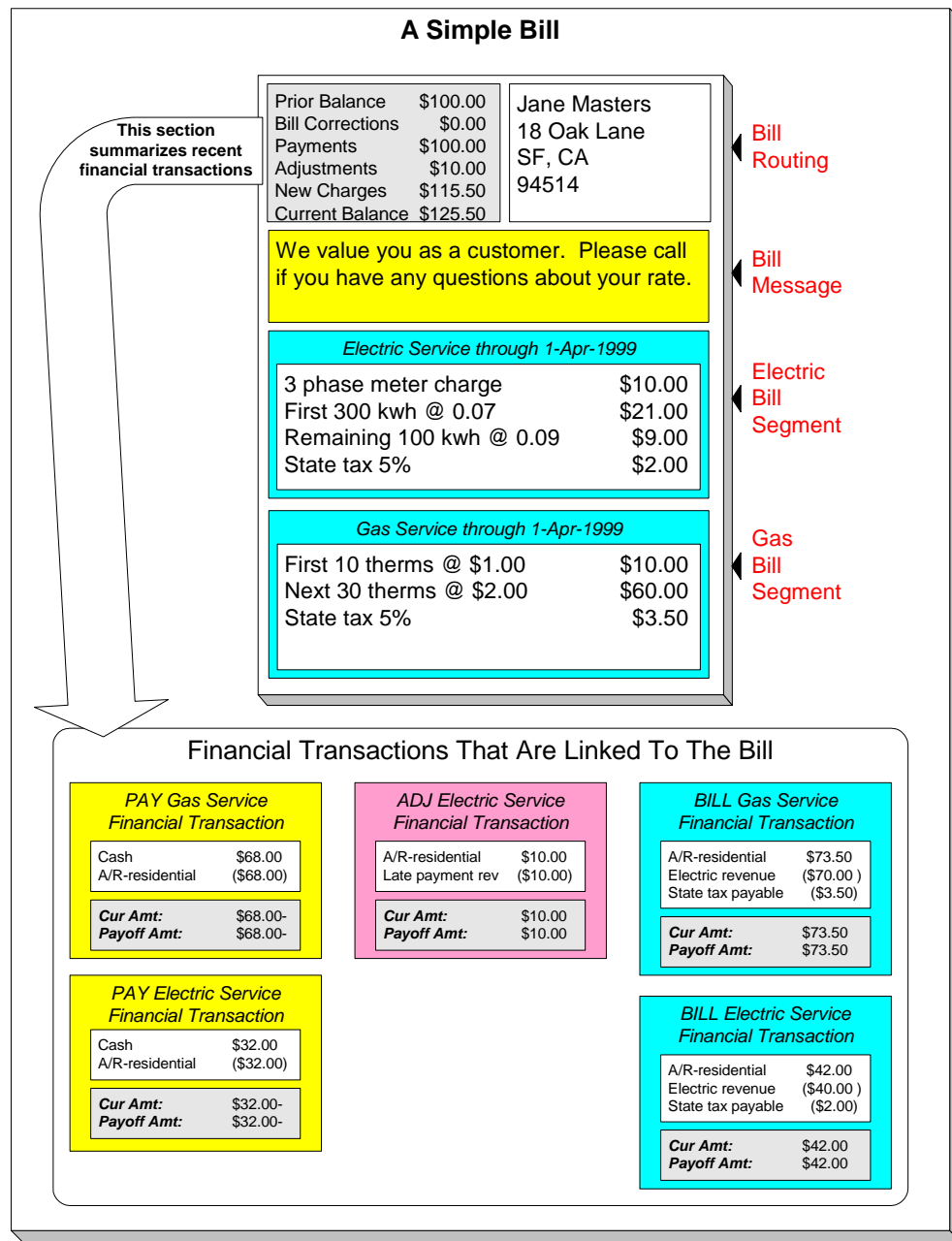
Contents

An Illustration Of A Simple Bill

The following diagram illustrates a simple bill:

A Simple Bill

Prior Balance $100.00 Bill Corrections $0.00 Payments $100.00 Adjustments $10.00 New Charges $115.50 Current Balance $125.50	Jane Masters 18 Oak Lane SF, CA 94514

This section summarizes recent financial transactions

Bill Routing

We value you as a customer. Please call if you have any questions about your rate.

Bill Message

Electric Service through 1-Apr-1999

3 phase meter charge	$10.00
First 300 kwh @ 0.07	$21.00
Remaining 100 kwh @ 0.09	$9.00
State tax 5%	$2.00

Electric Bill Segment

Gas Service through 1-Apr-1999

First 10 therms @ $1.00	$10.00
Next 30 therms @ $2.00	$60.00
State tax 5%	$3.50

Gas Bill Segment

Financial Transactions That Are Linked To The Bill

PAY Gas Service Financial Transaction

Cash	$68.00
A/R-residential	($68.00)
Cur Amt:	$68.00-
Payoff Amt:	$68.00-

ADJ Electric Service Financial Transaction

A/R-residential	$10.00
Late payment rev	($10.00)
Cur Amt:	$10.00
Payoff Amt:	$10.00

BILL Gas Service Financial Transaction

A/R-residential	$73.50
Electric revenue	($70.00)
State tax payable	($3.50)
Cur Amt:	$73.50
Payoff Amt:	$73.50

PAY Electric Service Financial Transaction

Cash	$32.00
A/R-residential	($32.00)
Cur Amt:	$32.00-
Payoff Amt:	$32.00-

BILL Electric Service Financial Transaction

A/R-residential	$42.00
Electric revenue	($40.00)
State tax payable	($2.00)
Cur Amt:	$42.00
Payoff Amt:	$42.00

The following concepts are illustrated above:

A bill is produced for an account A bill is produced for an account. Over time, an account receives many bills.

A bill summarizes financial transactions   A bill contains information about the various financial transactions that have taken place since the last bill was produced (i.e., payments, adjustments, and bill corrections). The above illustration shows a bill with financial transactions for new charges, a payment, and an adjustment.

A bill is routed to persons   A copy of the bill is sent to every person linked to the account who requires a copy of the bill.

A bill contains messages   A bill may contain messages.

A bill typically contains bill segments A bill typically contains one bill segment for every active service agreement linked to its account.

A bill segment contains calculation details   A bill segment contains information showing how the segment was calculated and how it should be printed on the customer's bill.

A High Level Overview Of The Bill Creation Process

When the system is asked to produce a bill for an account, it attempts to create one or more bill segments for every non-cancelled / non-closed service agreement linked to the account. Whether or not a service agreement contributes bill segment(s) to a bill is a complicated subject as the system supports a wide variety of bill segment creation methods. For example, a service agreement that charges for metered service is produced as follows:

- The system first calculates the amount consumed (e.g., the number of lamps, the number of gallons of water, the peak kW, etc.). For more information, refer to How The System Determines How Much Was Consumed.

- Next, the system applies the service agreement's rate to the amount consumed in order to calculate how much the customer owes. A bill segment and a financial transaction are generated to reflect the results of this calculation. The details of the calculations are captured in the bill calculation lines. For more information, refer to How Rates Affect The Information On Bill Segments for the details. Refer to Effective Dates & Price Proration for information about how the system prorates changes to rates and prices during a bill period.

> **There are many bill segment creation algorithms.** The above points explain how a bill segment is produced for a *metered* service agreement. It's important to be aware that the system has other bill segment creation algorithms. For example, if the service agreement charges for a deposit, the system neither amalgamates consumption nor does it apply a rate. You may be wondering how the system knows which method to use. It uses the bill segment type on the service agreement's SA type. Refer to Designing and Defining Bill Segment Types for a description of the various bill segment creation algorithms that are supported in the system.

If errors are detected during the bill segment creation process, the bill segment is saved with its error. The system then proceeds to the account's next service agreement. This way, a user can see all problematic bill segments so they can be corrected en masse. Refer to Bill Errors for information about how to deal with bill errors.

> **Interdependent service agreements.** Your organization may have some service agreements whose charges must be calculated in a specific order. For example, you might have a service agreement whose bill segments are calculated using charges from a different bill segment. If this describes your organization, be aware that the system creates the bill segments in the order of the billing processing sequence on each service agreement's SA type.

When every segment on a bill is error free, the bill is ready to be completed. When a bill is completed, the system:

- Creates a bill routing for each person linked to the account who requires a copy of the bill. The routing information controls the format of the printed bill and how the bill is sent to the person. Refer to The Source Of Bill Routing Information for the details.

- Links all bill messages to the bill. A bill message can come from a variety of sources. Refer to The Source Of Bill Messages for the details.

- If the *Freeze At Bill Completion* installation option has been turned on:

  - All *freezable* bill segments will be frozen.

  - All *freezable* adjustments whose adjustment type indicates *Freeze At Bill Completion* will be frozen.

- Sweeps recent financial transactions that have been created since the last bill was completed. Refer to Financial Transactions Created Between Bills for information about how payments, adjustments and bill corrections appear on a bill.

- There are several other functions that happen at completion time. Refer to the description of the Complete button under Bill Lifecycle for the details.

And that's it; the bill can now be sent to the customer.

The remaining topics in this section provide more information about the creation and completion of bills.

> **Batch and real-time bill creation.** Anything the batch bill process does for whole sets of accounts, you can do to a specific account on-line / real time. Refer to How To Create A Bill For All Service Agreements Linked To An Account for information about how to create a bill on-line / real time. Refer to Batch Billing for more information about the batch bill creation process.

Bill Errors

The topics in this section describe errors that are detected when the system creates a bill.

Contents

Bill Segment Errors

If you consider the huge number of variables involved in the creation of a bill segment, it probably won't surprise you to learn that occasionally, some bill segments are in error.

Errors tend to be caused by missing or inconsistent data. Some examples of classic errors:

- **Missing meter reads.** For example, if the system cannot find a relevant read (and it's not allowed to estimate) for a metered service point, it generates an error.

- **Missing master data.** For example, if a bill is supposed to be routed to the account's mailing address and the account doesn't have such an address, an error is generated.

- **Missing rate data.** For example, if a rate contains a customer specific charge and there is no value defined on the customer's service agreement, an error is generated.

The system saves bill segments that are in error just as it saves bill segments that are error-free. This is done because bill segments are nothing more than a snapshot of the data that was used to calculate the charges. By saving the snapshot, you can see the information the system used when it detected the error and therefore more effectively fix the cause of the error. The standard way to fix an error is to:

- Look at the bill segment to determine the cause of the error.

- Correct the cause of the error.

- Regenerate the bill segment. Regeneration simply deletes the offending segment and recreates a new segment using the corrected information.

For every bill segment in error, a record is written to the Bill Segment Exception table.

> Refer to How To Correct A Bill Segment That's In Error for instructions describing how to correct a bill segment.

It's obvious but worth stressing that a bill may contain some segments that are perfect and others that are in error. Once all segments that are in error are corrected, the bill can be completed (and sent to the customer).

If the bill segment in error was created as part of the batch bill process, the system attempts to fix the offending segment(s) each night during the account's bill window by regenerating it. Therefore, if the cause of the error is fixed during the day, the system will automatically regenerate the bill segment when batch billing next runs; you don't have to manually correct each bill. And once a bill is error-free, it will be completed and sent to the customer.

> Refer to Batch Billing for more information.

Bill Completion Errors

In addition to errors on bill segments, there may also be errors detected when the system attempts to complete a bill. For example, if the system cannot find a mailing address, the bill will be in error (as opposed to one of its bill segments).

Errors tend to be caused by missing or inconsistent data. Some examples of classic errors:

- **Missing mailing address.** For example, if the system cannot find an address to which the bill can be routed, it generates an error.

- **Bill segments are in error.** If a bill contains bill segments that are in error, it cannot be completed and an error is generated.

The system saves bills that are in error just as it saves bills that are error-free. This is done because bills are nothing more than a snapshot of the data that was used to calculate the charges. By saving the snapshot, you can see the information the system used when it detected the error and therefore more effectively fix the cause of the error. The standard way to fix an error is to:

- Look at the bill to determine the cause of the error.

- Correct the cause of the error.

- Recomplete the bill.

For every bill in error, a record is written to the Bill Exception table.

Refer to How To Correct A Bill That's In Error for more information.

If the bill completion error was created as part of the batch bill process, the system attempts to recomplete the bill each night during the account's bill window. Therefore, if the cause of the error is fixed during the day, the system will automatically complete the bill when batch billing next runs; you don't have to manually complete each bill.

Refer to Batch Billing for more information.

Cancel / Rebill Incorrect Bill Segments

Sometimes the error on a bill segment is not detected by the system. Such errors occur when the data used to calculate the bill is valid, but wrong. For example, the dial reading on the meter read is incorrect due to slipped fingers, or the sales tax percent was entered incorrectly on a bill factor.

There is no way the system can detect such problems and therefore the system freezes the bill segment and routes the bill to the customer. To correct such a bill segment, you must cancel the offending segment and create a new segment (after correcting the cause of the problem). We refer to this process as cancel / rebill.

Refer to How To Cancel / Rebill A Bill Segment for more information about how to cancel / rebill a frozen bill segment.

You must use the cancel / rebill process to correct problems on frozen bill segments. This is because a frozen bill segment can be thought of as having been posted to your general ledger (even if the GL interface hasn't run). And once a financial transaction is posted to the general ledger, it can only be removed via a reversal. Contrast this to bill segments that are in error – they can be deleted because they were never posted to the general ledger.

Refer to Bill Segment Lifecycle for more information about the differences between bill segments that are frozen and those that are in error.

Bill segments are canceled / rebilled. It's important to stress that bill segments are canceled and rebilled (as opposed to bills). If every bill segment on a bill is incorrect, you must cancel / rebill each individual bill segment.

> **Note**. Using the cancel or cancel/rebill functionality will cause the cancel and rebill details to be swept on to the customer's next bill. If your organization requires cancellation details to be presented to the customer separately from the new bill, then you will need to use Credit Notes. Refer to Credit Notes - Presenting Cancellation Details on a Separate Bill for more information. If your organization requires cancellation and rebill details to be presented to the customer separately from the new bill, then you will need to use Correction Notes. Refer to Correction Notes - Presenting Correction Details on a Separate Bill for more information.

Credit Notes - Presenting Cancellation Details on a Separate Bill

The system's Cancel / Rebill functionality will include cancellation and rebilling details on the customer's next bill. Some organizations are required to present cancellation details to the customer separately and not to commingle them with a new bill. This separate statement containing only the cancellation information is referred to as a Credit Note.

Credit Notes may be created for an individual bill segment or for all the bill segments linked to a bill. To create a credit note, a Credit Note button is available on the Bill Segment page and on the Bill page.

> Refer to How To Create A Credit Note for more information about how to create credit notes for a bill or bill segment.

The topics in this section provide describe the impact of this functionality.

Contents
Credit Notes Are Only Possible if the Installation Option Is Turned On
Credit / Correction Notes and Auto Pay
Adjustments On Credit Notes
Credit Note Routing Suppression

Credit Notes Are Only Possible if the Installation Option Is Turned On

The Credit Notes button on the bill segment and bill pages will only be available if you have selected the Credit Note Bill Correction option on the Installation record.

Credit / Correction Notes and Auto Pay

If a credit or correction note is being created for a customer who is enrolled in Auto Pay, note the following functionality:

When creating a credit or correction note for a bill (and all its bill segments):

- The system will cancel an automatic payment behind-the-scenes if a credit or correction note is issued BEFORE the automatic payment is interfaced to the financial institution. When you recomplete the bill, the system will create a new automatic payment that reflects the new amount due (and the canceled automatic payment will net out the original automatic payment). This is standard auto pay logic. Refer to How Are Automatic Payments Cancelled? for more information.

- If the customer has automatic payments that have already been interfaced to the financial institution, the creation of the credit or correction note will have no affect on any automatic payment. A warning will be issued in this case.

When creating a credit or correction note for a bill segment:

- Because automatic payments are for an entire bill, creating a credit or correction note at the bill segment level will not affect any automatic payments. A warning is issued in this case.

> For more information about correction notes, see Correction Notes - Presenting Correction Details on a Separate Bill.

Adjustments On Credit Notes

Above, we described how a credit note is a separate document that contains the cancellation details of the various bill segments that appeared on a given bill. Some implementations also want the adjustments that appeared on the original bill to be cancelled when a credit note is produced. Then, when the next bill is produced for the customer, they want these same adjustments reproduced. The following points describe how to implement this functionality:

- Plug in a **_Bill Completion_** algorithm on the applicable Customer Classes. A base-package algorithm (C1-CN-RADJ) will reverse a bill's adjustments when a credit note is completed.

- Plug in a **_Post Bill Completion_** algorithm on the applicable Customer Classes. A base-package algorithm (C1-CN-ADNB) will recreate the adjustments on the original bill after the credit note is completed. These adjustments will be swept onto the next bill produced for the account.

You can restrict the above functionality to specific adjustment types (for whatever reason). You do this by putting a given char type / char value on the adjustment types that should be reversed and recreated when a credit note is created. You define this char type / char value combination as parameters of the two algorithms described above.

> **When the original bill contains adjustment cancellations.** The above discussion explained how adjustments can be canceled on a credit note and then recreated on the next bill. These same algorithms also do the opposite, i.e., if the original bill contains an adjustment cancellation, the credit note will contain the recreated adjustment, and the next bill will contain its cancellation. Without this, the credit note would not be the reversal of the bill (and this is how some organizations operate).

Credit Note Routing Suppression

Some implementations do not send credit notes to their customers. To implement this functionality, plug in a **_Bill Completion_** algorithm on the applicable Customer Classes. A base-package algorithm (C1-CN-BRT) will cause the routing information to be suppressed when a credit note is completed.

Correction Notes - Presenting Correction Details on a Separate Bill

The system's Cancel / Rebill functionality will include cancellation and rebilling details on the customer's next bill. Some organizations are required to present cancellation and rebilling details to the customer separately and not to commingle them with a new bill. This separate statement containing the cancellation and rebill information is referred to as a Correction Note.

Correction notes may be created for an individual bill segment or for all the bill segments linked to a bill. To create a correction note, a **Correction Note** button is available on the Bill Segment and Bill pages.

> Refer to How To Create A Correction Note for more information about how to create correction notes for a bill or bill segment.

The topics in this section describe correction notes.

Contents
Correction Notes Are Only Possible if the Installation Option Is Turned On
Correction Notes Versus Credit Notes
Correction Notes and Auto Pay

Correction Notes Are Only Possible if the Installation Option Is Turned On

The **Correction Note** button on the bill segment and bill pages will only be available if you have selected the Correction Note Bill Correction option on the Installation record.

> If your implementation uses *Correction Notes*, it is recommended to also use the *Freeze At Bill Completion* installation option. For more information, see Installation Options - Billing.

Correction Notes Versus Credit Notes

Correction notes are a mixture of Credit Note and Cancel / Rebill functionality. However, unlike credit notes, correction notes are like regular bills and are subject to payment.

When you issue a correction note for a bill, the system cancels and rebills the bill segments for that bill. The new bill (the correction note) contains both the cancelled bill segments and the rebilled bill segments.

Similar to credit notes, the new bill (or correction note) is stamped with the ID of the original bill. After you review the bill segments, you can complete the correction note. During completion, the rebilled bill segments and the cancelled financial transactions (of the original bill's bill segments) are swept onto the correction note.

Correction Notes and Auto Pay

> Refer to Credit / Correction Notes and Auto Pay for a description of how the system handles correction notes for customers using auto pay.

How The System Determines How Much Was Consumed

There are two types of service agreements:

- Those that charge for some commodity (e.g., electricity, water, garbage, street lighting).

- Those that charge for something intangible (e.g., deposit, charitable contribution, payment arrangement).

For service agreements that charge for something intangible, there is no notion of determining how much was consumed and therefore the topics in this section are not relevant. For service agreements that charge for a commodity, the first step in the creation of a bill segment is the determination of how much was consumed. For example,

- If the service agreement bills for electricity, the system must determine how much electricity was consumed.

- If the service agreement bills for lamp service, the system must determine how many lamps the customer uses.

After the system determines how much was consumed during the bill period, it saves the consumption on the bill segment in the following snapshots:

- The **meter read snapshot** contains information about the meter reads that were used to determine consumption for metered service points.

- The **item snapshot** contains information about the items that existed at the service points.

- The **service quantity snapshot** contains the billable service quantities that were derived using the meter read and item snapshots.

The topics in this section describe how each of the above snapshots is built.

> **This logic is in a plug-in.** The logic described below resides in algorithms that are plugged-in on the bill segment type referenced on a service agreement's SA type. If you need different logic, you should develop the appropriate algorithm and plug it in on your bill segment types.

Contents

Meter Read Snapshot

To understand this section, you have to come to grips with the concept of a "perfect" end meter read. Our definition of perfection is a meter read that results in a number of days of usage that is in sync with the prices on the service agreement's rate. You see, many prices in a rate are expressed in respect of some period of time, e.g., a monthly flat charge of $10 is expressed in respect of 30 days. If the number of days on a bill segment is not in sync with the days of the prices, the bill segment must be prorated and proration is not desirable because it confuses the customer.

When selecting the perfect read, not only are we trying to prevent the current bill segment from prorating, we're also trying to prevent future bills from prorating. Remember, it's the end read on the current bill segment that serves as the start read on the next bill segment. So, if we don't pick the right read, the next bill will prorate (ad infinitum).

The topics in this section describe how the system selects the perfect reads while it assembles the meter read snapshot.

Contents

Determine The Bill Period For Metered Service

First, the system determines a start date and temporary end date for the bill segment. These dates form the boundary of the meter reads to be included on the bill segment.

- If this is the first bill segment for the service agreement, the billing segment start date is set to the start date of the service agreement. If this is not the first bill segment, the start date is the previous bill segment's end date.

- As for the end date, it can only be estimated at this point (the end read determines the actual end date and this read is only selected a few steps later). The temporary end date is either the end date of bill cycle schedule window, the service agreement's end date, or, in the case of on-line billing, determined by the user.

Refer to Service Agreement – Main Information for more information about a service agreement's start and end dates.

Determine The Consumption Period For Metered Service

The consumption period is the inclusive period passed in to the rate application. It is used for calculating the charges for the bill segment. The consumption period is visible on the bill calculation header that groups together the bill calculation lines.

- Consider a bill segment that covers June 1st through July 1st and a subsequent bill segment that covers July 1st through August 1st. The charges for July 1st are included on the first bill segment, so the second bill segment should not actually bill July 1st. In this scenario, the inclusive consumption period provided to rate application for the second bill segment will be July 2nd through August 1st.

- Consider a bill segment that must include bill factor value proration.

  Assume the bill segment dates are July 1st - August 1st and that a new rate version is effective on July 20th and that the charges should be prorated. The rate application process will be called twice, with the following inclusive dates:

  - Period for charges calculated by old rate version: July 2 – July 19

  - Period for charges calculated by new rate version: July 20 – August 1

  Two bill calculation headers will be created in this case, each with the appropriate dates and the collection of bill calculation lines that represent the charges for the bill.

- Consider what should occur for the very first bill segment for a service agreement.

  - It is possible that the start date of the new customer's service agreement matches the end date of the previous customer's service agreement. In this case, the stop/start date is billed to the old customer and the new customer should not be billed for it.

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- It is possible that no other service agreement has been billed for the start date. Perhaps this is new service that has never been billed. Perhaps there is a gap in time between when the previous customer stopped service and when the new customer starts service.

You configure your SA types to tell the system what to do for the initial consumption period. You may instruct the system to calculate the start of the consumption period from the day after SA start date, to always include the SA start date, or include the SA start date only if no previous customer was billed for that day (i.e., a 'back-to-back' situation).

Determine The Service Agreement's Billable Service Points

The system looks at every service point linked to the service agreement. The system ignores service points that:

- Are not billable (e.g., check meters).

- Were disconnected before the bill period started.

- Have yet to be connected as at the bill end date.

Refer to Service Agreement – SA / SP for more information about a service agreement's service points.

Determine The Service Points' Meters

The system retrieves each meter linked to each service point during the bill period (a service point has multiple meters when a meter exchange has occurred during the bill period).

Refer to Installing / Removing A Meter for more information about a service agreement's service points.

Determine The Meters' Start And Stop Meter Reads

The system retrieves a start and stop meter read for each meter linked to the service agreement during the bill period.

Subtractive versus Consumptive meters. The system only looks for both start and stop reads when it has to subtract the start read from the stop read to derive consumption. There are some types of registers that are reset every time the meter is read and therefore each reading contains the total amount consumed. For this latter type of register, the system just looks for a single read. For more information, refer to Meter Configuration Maintenance for information about the Consumptive / Subtractive indicator.

The start read can come from any of the following sources:

- If this is the first bill segment for a service point, the start read is defined on the service agreement / service point relationship.

- If the meter was installed at an existing service point during the bill period, the start read is defined on the service point installation history. This happens when a meter is exchanged for another meter during a bill period.

- Otherwise, the start read is the same as the end read on the customer's previous bill segment.

The stop read can come from any of the following sources:

- If this is the final bill segment for a service point, the stop read is defined on the service agreement / service point relationship. Refer to Service Agreement – SA / SP for more information about the start and stop reads.

- If the meter was removed from an existing service point, the stop read is defined on the service point installation history. This happens when a meter is exchanged during a bill period. Refer to SP / Meter Installation for more information about installing and removing meters while a service agreement is in effect.

- Otherwise, the system looks for the next scheduled meter read date. Not just any date can be used, the system attempts to find a read that meets the following criteria:

  - Is after the end date of the last bill segment plus the rate's frequency's minimum offset days, and

  - Is on/before the cutoff date of the bill

If no such meter read date could be found, the service agreement is skipped. Otherwise, the system then looks for a read that exists in the time period that starts X days before the service point's next scheduled meter read date, and ends Y days after the scheduled meter read date (where X and Y are the rate's frequency's minimum and maximum offset days, respectively).

If more than one such read exists, the selection is based on the priority of read types (the read with the highest priority read type is selected). For example, verified reads are preferred to regular reads. Refer to the Description of Page section under Meter Read – Main for more information about read types and their billing selection priority.

If no read can be found, the system estimates consumption and generates a corresponding estimated meter read if:

- The service agreement allows estimation.

- The user allows estimation (if the bill is produced as a result of an ad hoc request);

- The bill cycle schedule (if one is being used) allows estimation.

- The register is not a peak register (this is an artificial constraint, but most organizations do not estimate peak consumption).

- The rate schedule allows estimation;

- The register is subtractive. This is because only subtractive registers are self-correcting. For example, assume we estimate a reading of 100 and the next real read is 102, the customer will only be charged for 2 units. However, consider what would happen if we estimated a consumptive register – the consumption associated with the next real read would be billed in its entirety.

- The register does not measure peak consumption.

- Negative consumption is not allowed for the SP/meter combination.

Refer to Estimation and Negative Consumption for more information about negative consumption.

The number of days in the bill period is then computed (this equals the start date of the bill segment through the date of the end read). If this is less than the SA type's minimum number of days on a bill, the service agreement is skipped.

Item Snapshot

The steps the system follows to build the item snapshot are the same as those used to build the meter read snapshot. The major differences are as follows:

- Items (e.g., lamps, hydrants, traffic lights) are not read so there are no meter reads to access.

- There are two sources of items:

  - Item-based service points have a single, **badged** item that may be installed at any instant in time. These types of service points are used, for example, when your organization keeps track of the installation history of specific lamps. If an item is installed at an item-based service point during the bill period, it will be included in the item snapshot.

  - All types of service points (metered, item-based, and non-badged) may contain one or more **unbadged** items. Multiple items exist at a service point, for example, when your organization chooses to record multiple lamps on a single service point rather than creating a separate service point for each lamp (this might be useful for a parking lot at a shopping mall). Each item referenced in the service point's collection of unbadged items is included in the snapshot.

Refer to Service Points With Multiple Items for more information about service points with multiple items. Refer to SP / Item Installation for more information about installing and removing badged items at a service point. Refer to Service Point – Multiple Items for more information about the collection of items that may exist at both meter and item-based service points.

Service Quantity Snapshot

For service agreements where the meter reads are maintained in Oracle Utilities Customer Care and Billing, the service quantity (SQ) snapshot is the total amount consumed for each unit of measure referenced on the bill segment's meter read snapshot. For service agreements where the meter reads are not maintained in Oracle Utilities Customer Care and Billing and bill determinants are requested from a meter data management system via a usage request, the service quantity (SQ) snapshot is the total amount consumed for each unit of measure referenced on the bill segment's usage request

Register Rules and SQ Rules. If the service agreement's rate has register rules or SQ rules, they may alter the amount of measured consumption or add additional units of measure to the SQ snapshot. Refer to Defining Measured Quantity Manipulation Rules for more information.

Lamps and estimated consumption. If any of the items linked to the service agreement's service points indicate the system should estimate consumption (e.g., lamps), additional entries will be added to the SQ snapshot for each such item. Refer to Setting Up Estimated Consumption For Items for more information.

Note. Meter read details used for interim calculations are ignored when producing the service quantity snapshot.

Calculation / Audit Read Details

We use the term "calculation / audit read" to describe a meter read that appears on a bill segment but for which no "real" meter read exists. The following points provide examples of when calculation / audit reads may be required:

- Some retail companies upload meter read details when they upload pass through charges. They do this in order to print the read details that were used to calculate the pass-through charges. It should be stressed that these reads are not used to derive billable consumption (because the charges have already been calculated). These reads are only uploaded for printing purposes and therefore "real" meter reads are not created. We categorize these reads as "calculation / audit reads". Refer to Billable Charge Upload - Read Details for more information about uploading meter reads with pass-through charges.

- You may have interval billing rates where you're required to print the intervals that contain, for example, the intervals with the three highest peak charges. To do this, you setup a "calculation only" rate component to find these intervals and create a "calculation / audit read" for each such interval. Refer to RCCL-CVTOSC for an example of such an algorithm that would be plugged-in on a "calculation only" rate component.

- You may have interval billing rates that map interval consumption into time-of-use consumption. If you use a base-package algorithm to do this (refer to RCTMPS and RCTMS for examples), a "calculation / audit read" is created for each resultant time-of-use quantity. These algorithms do this in case you need this information for bill print purposes or in case you have multiple bill lines that need to use the same mapped consumption.

- You may have situations where a meter has been temporarily removed from a service point but the business practice dictates that usage for the service point should be calculated during billing.

Both real and calculation / audit reads are stored in a bill segment's read details (the name of the table is **CI_BSEG_READ**). The following points describe the differences between these two types of rows on this table:

- Calculation / audit reads may or may not reference a service point.

- Calculation / audit reads do not reference the prime key of a real read.

- Calculation / audit reads have a usage flag with a value of **Calculation**.

- Calculation / audit reads do not require a UOM code. If a UOM is not supplied, an SQI must be supplied.

If you encounter other scenarios during your implementation that necessitate calculation / audit reads, you can develop bill segment type and rate component algorithms to add additional calculation / audit reads to a bill segment's read details.

In order to avoid confusing end-users, we do not show calculation / audit reads on Bill Segment - Read Details (this page only shows "real" reads). Rather, calculation / audit reads are shown in a separate section on Bill Segment - SQ Details.

Calculation / Audit Usage Details

We use the term "calculation / audit usage" to describe service quantities retrieved from the bill segment's usage request. An example of when calculation / audit usage may be required:

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- You may have situations where meter reads are not maintained in Oracle Utilities Customer Care and Billing and bill determinants are requested from a meter data management system via a usage request. MDM might return both bill determinants and meter reads to print on the bill.

Usage service quantities are also stored in a bill segment's read details (the name of the table is **CI_BSEG_READ**). The following points describe the differences between these types of rows on this table:

- Calculation / audit usage may or may not reference a service point.

- Calculation / audit usage does not reference the prime key of a real read.

- Calculation / audit usage has a usage flag with a value of *Service Quantity*.

- Calculation / audit usage does not require a UOM code. If a UOM is not supplied, an SQI must be supplied.

If you encounter other scenarios during your implementation that necessitate calculation / audit usage, you can develop bill segment type and rate component algorithms to add additional calculation / audit usage to a bill segment's read details.

In order to avoid confusing end-users, we do not show calculation / audit reads on Bill Segment - Read Details (this page only shows "real" reads). Rather, calculation / audit usage is shown in a separate section on Bill Segment - SQ Details.

How To Override The Commodity Amount In A Bill Segment

As described earlier, the calculation of the amount consumed is one of the first steps that takes place when a bill segment is created. 99.9% of the time, the system does a perfect job in this effort. However, there are rare circumstances when, due to missing or incorrect data, the quantity calculated by the system is not what you want to charge the customer for (consider what the consumption should be if the meter is broken?).

To help you deal with these rare situations, a "back door" exists that allows a bill segment's billable quantities to be overridden. This truly is a "back door" because the proper way to fix the amount of a commodity is to correct the cause of the error and then cancel / rebill the bill segment.

Refer to How To Override Service Quantities On A Specific Bill Segment for more information.

How Rates Affect The Information On Bill Segments

After consumption has been compiled, the system applies the service agreement's rate to the consumption to determine how much to charge the customer. We refer to this process as "rate application". Refer to Rates for detailed information about rates.

> **Not all service agreements use a rate!** There are a small number of service agreements that don't use a rate to calculate the charges that appear on their bill segments. For example, a service agreement used to levy a customer's payment arrangement amount doesn't need a rate because the amount to charge is defined on the service agreement. Whether or not a service agreement needs a rate is defined by the service agreement's SA type. Whether or not the system calls the service agreement's rate to calculate charges is controlled by the bill calculation algorithm plugged-in on the bill segment type that's referenced on the service agreement's SA type. Refer to Designing and Defining Bill Segment Types for a description of the various bill segment creation algorithms that are supported in the system.
>
> **Your proration choices impact what appears on a bill.** A rate contains a variety of effective-dated information (e.g., the prices are effective-dated, the structure of the rate is effective-dated, etc.). If this effective-dated information changes during a bill period, the system may need to prorate the charges. For example, if the sales tax percentage changes mid-period, the system can prorate the tax change (e.g., 20 days at 6% and 11 days at 6.25%). When you setup a rate, you define exactly how the system handles changes that occur during a bill segment. For example, you can tell the system that sales tax changes should not be prorated. Rather, it should use the value effective at the start / end of the bill period (note, you have several other options). We mention this because your choices have a large impact on how a rate affects the information on bill segments. Refer to Effective Dates & Price Proration for more information.

Rate application is a very sophisticated process as it can affect every aspect of a bill segment. The following points describe how rate application works at a high-level:

- The read details that were amassed earlier are passed into rate application.

- First, the rate schedule's register rules (if any) are executed. Register rules are used to manipulate the amount consumed on each read detail. For example, gas rates typically use one or more register rules to convert a cubic foot / meter into a thermal unit. Each affected read detail is updated to show the before and after quantities.

- Next, the total amount of each unique unit of measure / time-of-use code that's referenced on every read detail is summarized in the bill segment's "service quantity (SQ) details".   For example, if a service agreement has 3 meters and each meter has one register that measures kWh, there will be three read details (assuming there are not meter exchanges during the bill period). In this step, the total amount from all three read details is summarized in one entry in the bill segment's SQ details.

- Next, the rate schedule's service quantity rules (if any) are executed. Service quantity rules are used to calculate service quantities (SQ) referenced in the rate that cannot be derived from the read details. For example, if you have a rate that has a charge based on the number of days in the bill period, a service quantity rule would be necessary to calculate the number of days in the bill period.

- Next, the system determines which of the rate's rate versions should be processed. Note, a flag on the rate schedule allows you to control what happens if multiple rate versions are detected during the bill period. A bill segment "calculation detail" is created for each such rate version. Each calculation detail contains the results of executing the rate version's rate components (where a separate bill line is created for each rate component). Each bill line contains:

  - An audit of what was priced.

  - How the printed bill line should look (if the bill lines is printed).

- How the amount of the bill line should be booked in the general ledger.

> **Note.** There are many plug-in spots available on a rate component. These plug-ins can manipulate virtually every aspect of the bill segment. This means if you require functionality that isn't support by the base package rate components, you can build additional rate component plug-ins to do whatever you need.

- After every rate version is processed, rate application returns the calculation details to the process that called it. This point is important as it means that rate application executes in memory (i.e., it does NOT insert the calculation details on the database, rather, it returns them to whatever process called rate application). Because rate application executes in memory, it can be used to perform billing calculations in many parts of the system. For example:

  - Both online and batch billing use rate application to calculate the charges that are eventually saved on the bill's bill segments.

  - The Rate Check transaction calls rate application when you want to check a rate real-time. When you use this transaction, you enter the consumption that's passed into rate application and then rate application shows you the calculation details that result.

  - Plug-ins exist that call rate application to estimate bill segments when adequate billing history doesn't exist. For example, the BUDCALC-PH budget recommendation algorithm calls rate application to calculate a budget amount for a customer without adequate history. Another example is the DEPRECOM-MBT deposit recommendation algorithm. This plug-in calls rate application to calculate a recommended deposit amount for a customer without adequate history.

> Refer to Rates for more information about how rates are constructed.

Bill Frequency - Bill Cycle vs Bill Segment Duration

An account's bill cycle defines when the system attempts to create bill segments for the account's service agreements. The word "attempt" is stressed because a service agreement may not have a bill segment on every bill created for its account.

Some examples will help make the point:

- An account may be on a monthly bill cycle (meaning we attempt to create a bill every month for the account) but contain only biannual service agreements. However, this is not sensible. Why? Because the system would attempt to create a bill every month for the account's service agreements, but only twice during the year would it succeed (because the service agreements have a biannual duration).

- An account may be on a biweekly bill cycle (meaning we attempt to create a bill every 2 weeks for the account) and contain a mixture of biweekly, monthly, and quarterly service agreements. In this scenario, every two weeks the system would create a bill that contains at least one bill segment (for the biweekly service agreement). However, 12 times a year, the bill will contain an additional bill segment for the monthly service agreement. And 4 times a year, the bill will contain one more bill segment (for a total of 3) for the quarterly service agreement.

In sum, the account's bill cycle controls when the system attempts to create a bill for the account's service agreements. Whether a service agreement contributes a bill segment to the bill is a complicated subject. The topics in this section describe how the system knows it's time to create a bill segment for a service agreement.

> **Important!** An account's bill cycle should attempt to create bill segments at least as often as the shortest service agreement duration. For example, if an account has both monthly and quarterly service agreements, the account should be placed on a monthly bill cycle. Refer to How Does An Account Get Its Bill Cycle? for more information.

> For more information about bill cycles, refer to Defining Bill & Service Cycles.

Contents

Ways To Control The Start Date Of A Bill Segment

Bill segments produced for a service agreement have two time periods:

- The bill segment period. The bill segment period defines the entire period of time covered by a bill segment's charges.

- The consumption period. The consumption period defines the period of time used to calculate the number of days for daily charges.

The consumption period almost always starts one day after the bill segment period. The consumption period always ends on the bill segment's end date. For example, a bill segment period that spans 5-Jan-2002 through 6-Feb-2002 will almost always have a corresponding consumption period of 6-Jan-2002 through 6-Feb-2002. The reason that the start dates don't match is because a bill segment's start date equals the end date of the prior bill segment (i.e., the start date was already counted in the previous bill segment's consumption period and we don't want to count it twice).

The only time when the previous paragraph isn't true is the first bill segment that's produced for a new service agreement. This is because different companies count the first day of a new service agreement differently than others. Refer to Initial Consumption Period Considerations for examples and an explanation of how you can control the start date of the consumption period.

Ways To Control The End Date Of A Bill Segment

The following points describe the different methods that can be used to define the end date on a service agreement's bill segments:

- **Meter Read Date.** For service agreements with metered consumption (excluding real time meters), the end date is the date of the meter read used on the last day of the bill segment. This is a deceptively disingenuous statement because the algorithm used to select this end read is complex (and it relies on the service cycle schedule - hence the name of this option).

- **Bill Period Schedule.** Non-metered service agreements may have the end date of their bill segments defined on the user-maintained bill period calendar. This option is used when bill segments must fall on strict calendar boundaries (e.g., quarterly bills that end on the last day of the quarter).

- **Anniversary**. In addition to the Bill Period Calendar method, non-metered service agreements may have their bill segment end date based on the first day of service. For example, if service started on the 16th of some month, the ongoing bill segments will start on roughly the 16th of each month. This option is frequently used to bill for garbage or cable service.

- **ASAP.** For non-meter service agreements that use neither the Bill Period Calendar nor Anniversary methods, the system assumes the end date of a bill segment is the current date. This option is frequently used for service agreements that deal with items (e.g., street lamps, phone booths).

- **Billable Charge.** For non-metered service agreements that exist to levy billable charges, the start AND end dates are defined on the billable charge information that is entered by a user or interfaced from an external system.

The topics in this section discuss each of the above methods.

Contents

Using The Meter Read Date Method

A metered service agreement's SA type does not contain a specific indication that the service agreement is used to charge for metered service. Rather, if the system finds metered service points linked to the service agreement, it knows to use a meter read date as the end date of the bill segment. The trick is finding the perfect read amongst many possible reads. Refer to Meter Read Snapshot for a description of how the system finds the perfect end read.

If the next read date is in the future. The system will not create a bill segment for a metered service agreement if the next expected read date is in the future. The system determines the next expected read date using the service cycle schedule linked to the service agreement's service points.

Multiple scheduled read during a bill period. A base-package *Get Consumption* algorithm let's you control what happens when a service agreement's service point(s) have multiple scheduled meter readings during a bill period. You have two choices: 1) create a single bill segment using the latest scheduled meter read for the bill period, or 2) create a separate bill segment for every scheduled meter read during the bill period. The choice is yours. Refer to BSGC-SP for a description of the base-package algorithm type.

Using The Bill Period Schedule Method

The bill period schedule method causes the bill segment end date to be calculated using a bill period schedule. The bill period's schedule defines when bill segments are produced and their respective end dates. This method is used when the bill segment needs to fall on strict calendar boundaries (e.g., quarterly bills that end on the last day of the quarter).

The service agreement's SA type indicates if the service agreement uses this method, and if so, the specific bill period whose schedule defines the end dates.

> **Future and Past End Dates.** It's important to be aware that a bill period schedule can be used to generate end dates that are in the future or in the past.

For more information about bill periods, refer to Designing Bill Periods.

Using The Anniversary Method

The anniversary date method causes the bill segment end date to be calculated based on the first day of service. For example, if a service agreement started on the 16[th] of some month, the ongoing bill segments will start on roughly the 16[th] of each month. This method is frequently used to bill for garbage or cable service. When using this method, you also define the applicable billing frequency (i.e., monthly, bi-monthly, quarterly, etc.).

The following table contains the bill periods for a service agreement's starting on 23-Feb-99 that uses a monthly frequency.

Start Date	End Date	Billing Days
23-Feb-99	25-Mar-99	30
25-Mar-99	25-Apr-99	31
25-Apr-99	25-May-99	30
25-May-99	25-Jun-99	31
25-Jun-99	25-Jul-99	30
25-Jul-99	25-Aug-99	31
25-Aug-99	24-Sep-99	30
24-Sep-99	24-Oct-99	30
24-Oct-99	24-Nov-99	31
24-Nov-99	24-Dec-99	30
24-Dec-99	24-Jan-00	31
24-Jan-00	23-Feb-00	30
23-Feb-00	25-Mar-00	31

Future and Past End Dates. It's important to be aware that anniversary billing can generate end dates that are in the future or in the past. The future-option generates the next anniversary date after the current date. The past-option generates the anniversary date that immediately precedes the current date.

The service agreement's SA type indicates if the service agreement uses this method, and if so, the billing frequency.

For more information about the SA Type attributes that control this method, refer to Setting Up SA Types.

Using Billable Charges

Bill segments for billable charge service agreements have both their start and end dates defined on the respective billable charge.

For more information about billing billable charges, refer to How To Create A One-Time Invoice. For more information about creating a billable charge, refer to Maintaining Billable Charges. For more information about interfacing a billable charge from an external system, refer to Uploading Billable Charges.

The service agreement's SA type indicates if the service agreement uses this method, and if so, the billing frequency.

For more information about the SA Type attributes that control this method, refer to Setting Up SA Types.

Preventing Short Bill Segments

Every SA type contains an attribute defining the minimum number of days on a bill segment. Whenever the system attempts to create a bill segment other than the final bill segment, it checks if the number of days is at least as great as the minimum. If not, the bill segment will not be created as part of this bill run. Rather, the system waits until the number of days in the bill segment is at least as large as the minimum. This is true for all methods of bill duration calculation.

Prorating Charges When a Rate is Applied

It is possible for some of the prices that appear on a bill segment to change during the course of the bill period.

Refer to Effective Dates & Price Proration for more information about how charges are prorated during rate application.

Batch Billing

99.9% of all bills are created by the batch bill process (known by the batch control ID of ***BILLING***) and require no human intervention before they can be finalized and sent to a customer. The other 0.1% are created by users on-line / real time. This section discusses several important concepts associated with batch billing.

Contents

Window Billing And The Bill Cycle Schedule

Refer to The Cyclical Billing Process & Window Billing for more information about how an account's bill cycle dictates when a customer is billed.

Confirming A Batch Of Bills Before Completing Them

If you're implementing new rates or if something unusual is being introduced that affects billing, you may want to turn off the bill cycle schedule's Freeze and Complete switch. If this switch is off, the system creates bills, it just doesn't freeze and complete them. You can then review the entire batch of bills to make sure they're clean.

- If you find the bills are wrong, correct the source of the error and rerun the bill cycle. The system will remove all incomplete bills and then reproduce them using the corrected information in the system.

- If you find the bills are correct, turn the Freeze and Complete switch on and rerun the cycle. The system will remove all incomplete bills and then reproduce them. Assuming nothing changed, the bill amounts will be the same.

Refer to Setting Up Bill Cycle Schedules for more information.

Canceling A Batch Of Bills After They're Complete

If you need to cancel an entire batch of bills because they were created using faulty data (e.g., the wrong tax rate was defined in the rate), you can. A background process called MASSCNCL exists for this purpose.

This background process will cancel all the frozen bill segments for the latest run of a given bill cycle's schedule. Optionally, you can cancel bills for a given bill date within the bill cycle's schedule. The cancel reason used on the bill segment is the one marked as the bill cancel reason for mass cancel. Refer to Setting Up Bill (Segment) Cancellation Reasons for more information.

When the cycle is billed again, new bill segments will be created, and the original bill segments and the cancellations will automatically be hidden from the customers.

Reopening A Batch Of Bills After They're Complete

If you need to reopen an entire batch of bills because they were completed prematurely (e.g., payments did not get posted before billing ran, so recent payments were not reflected in the account balances), you can. A background process called MASSROBL exists for this purpose.

This background process will reopen all the bills for a given bill date for the latest run of a given bill cycle's schedule.

Fixing Errors Detected In Batch Billing

If an "error" bill segment is created by the batch billing process, the system attempts to fix the offending segment each night by regenerating it using the information that exists at that time. Therefore, if the cause of the error is fixed during the day, the system will automatically regenerate the bill segment when batch billing next runs; you don't have to manually correct each bill. And, once a bill is error-free, it will be completed and sent to the customer.

> **Important!** Automatic regeneration only works during the account's bill window. If an "error" bill segment is not successfully regenerated on the last night of the account's bill cycle, it will remain in error until the next time the account's cycle runs (unless a user corrects it real time). At that time, the system will generate another bill error indicating the prior bill segment is in error (and then there'll be two bill segments in error).

Completing Pending Bills

If you need to complete pending bills created by the batch billing process, you can. A background process called C1-BLCMP, exists for this purpose.

This background process will complete all pending bills on a given bill date for a given bill cycle's schedule. This process does not delete and regenerate freezable bill segments linked to pending bills.

> Refer to Bill Errors for more information.

Billing Financial Transaction Considerations

The topics in this section provide information about the financial impact of a bill segment.

Contents

Billing - Current Balance versus Payoff Balance

A bill segment's financial transaction affects a service agreement's payoff balance and/or current balance. In this section, we describe these two balances.

> **Warning!** If you do not understand the difference between payoff balance and current balance, refer to Current Amount versus Payoff Amount.

When Current Balance Equals Payoff Balance

For most service agreements, payoff balance and current balance are always the same (or in colloquial speech – the amount the customer thinks they owe equals what they really owe). Let's run through a typical example. The values in the payoff balance and current balance columns reflect the amount due after the financial transaction has been applied (i.e., the running balance):

Date	Financial Transaction	Payoff Balance	Current Balance
1-Jan-99	Bill: $125	125	125
15-Jan-99	Payment: $150	-25	-25
2-Feb-99	Bill: $175	150	150
14-Feb-99	Payment: $150	0	0
3-Mar-99	Bill: $200	200	200
15-Mar-99	Payment: $150	50	50
2-Apr-99	Bill: $225	275	275

As you can see, payoff balance and current balance are always in sync.

When Current Balance Differs From Payoff Balance

For some service agreements, payoff balance and current balance differ (or in colloquial speech - the amount the customer thinks they owe differs from what they would owe if they wanted to pay off their account).

Let's run through an example of a customer on a budget to illustrate a classic service agreement where these two balances are not the same. The values in the payoff balance and current balance columns reflect the amount due after the financial transaction has been applied:

Date	Financial Transaction	Payoff Balance	Current Balance
1-Jan-99	Bill: $125, Budget $150	125	150
15-Jan-99	Payment: $150	-25	0
2-Feb-99	Bill: $175, Budget $150	150	150
14-Feb-99	Payment: $150	0	0
3-Mar-99	Bill: $200, Budget $150	200	150
15-Mar-99	Payment: $150	50	0

The following table describes the various types of service agreements where these balances may differ.

Type Of Service Agreement	What Payoff Balance Holds	What Current Balance Holds
Deposit	Payoff balance holds the amount of deposit you are	Current balance holds the amount

	holding on behalf of the customer's debt. This amount is showed as a credit (with a negative sign) because you truly owe the customer this money.	the customer owes for a deposit.
Charitable contribution	N/A - charitable contribution service agreements never have a payoff balance.	Current balance holds the amount the customer owes for a charitable contribution.
Payment arrangements	Payoff balance holds the total amount of delinquent debt that remains unpaid. When a payment arrangement is started, you transfer the payoff balance from the utility service agreement to the payment arrangement service agreement. Each billing period, the customer pays down this balance.	Current balance holds the amount the customer owes in respect of the billed payment arrangement amounts.
Service agreements on a budget plan	Payoff balance holds the actual amount owed (actual bills minus payments).	Current balance holds the amount the customer owes in respect of the billed budget amount.

Bill Segment Type Controls Which Balance(s) Are Affected

Every bill segment references a bill segment type (the bill segment type comes from its service agreement's SA type). The bill segment type controls how payoff balance and current balance are affected by the bill segment amount. It also controls the algorithm used by the system to calculate the bill segment's bill lines.

Refer to Designing and Defining Bill Segment Types for more information about how bill segment type affects how a bill segment is produced and how its financial transaction is generated.

The Source Of GL Accounts On A Bill Segment's Financial Transaction

A bill segment's financial transaction also contains the double-sided accounting entry that defines how the bill segment affects the general ledger.

Refer to The Source Of GL Accounts On Financial Transactions for a description of where the system extracts the distribution codes used to construct the GL accounts.

Determining the Statistical Quantity

The statistical quantity for each general entry line in the financial transaction is populated by adding together the statistical quantity for all bill calculation lines for the same distribution code. The bill calculation line indicates a statistical quantity if its corresponding rate component has marked the GL statistical quantity setting.

The statistical quantity for a bill calculation line is the prorated billable quantity for that line.

- If the corresponding rate component for the bill calculation line is not marked **measures peak**, then the statistical quantity corresponds to the billable quantity for the bill line. This is because billable quantities for SQs that do not represent a peak quantity are prorated when applying the rate.

- If the corresponding rate component for the bill calculation line is marked **measures peak**, then the statistical quantity may not correspond to the billable quantity for the bill calculation line. SQs that measure peak are not prorated when applying the rate. However, when determining the statistical amount to send to the general ledger, the quantity is prorated in the same manner as quantities that do not measure peak amounts.

> **Bill Calc Line Statistical Quantity**. The statistical quantity for each bill calculation line is calculated when generating the bill segment and used to populate the statistical quantity for the FT GL entry. The calculated value is not saved in the bill calc line record.

The Source Of Bill Routing Information

When a bill is completed, the system creates a bill routing for each person linked to the account who receives a copy of the bill. The bill routing record contains the information that controls how, where and to whom a bill is sent.

The following points describe how this works:

- Each person who receives a copy of an account's bill is listed on the account's person information.

- A bill routing is created for each such person when the bill is completed.

- The information that appears on the bill routing record is controlled by the **bill route type** specified on the respective account / person information:

  - If the bill route type indicates the person's bills are routed via fax, the "address line 1" address constituent is populated with the person's fax number. The system knows which of a person's phone numbers is a fax number by the phone type. If the person has multiple fax numbers, one is selected at random.

  - If the bill route type indicates the person's bills are routed via email, the "address line 1" address constituent is populated with the person's Email address.

  - If the bill route type indicates the person's bills are routed via the postal service, the address constituents are populated with the address specified on the account / person's **bill address source**. Note, if the person has a seasonal address effective on the business date, the seasonal address will be used regardless of the value of **bill address source**.

> Refer to Printing Bills and How To Reprint A Bill (For The Original Recipients or For Someone New) for more information. Refer to Account – Person Information for information regarding how to control who receives a copy of a bill, where the bill is sent, and how the bill is formatted.

Bill Messages

The topics in this section describe how messages are linked to a bill and bill segment.

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The Source Of Bill Messages

When a bill is completed, the system sweeps bill messages from the following sources onto the bill.

> **Bill or Bill Segment Messages.** Bill messages will be linked either to the bill or to one its bill segments depending on the source of the bill message code. In other words, messages associated with a service agreement (directly or indirectly) will be linked to the bill segment; messages associated with an account (directly or indirectly) will be linked to the bill.

- All permanent and temporary bill messages linked to an account are linked to the <u>bill</u> when it is completed. Refer to Account – Bill Messages for more information. Note well that all temporary bill messages are removed from the account when they are swept onto a bill (a temporary message is swept onto the next bill produced for the account).

- The system checks if the bill's account's customer class has bill messages. If so, it links all such messages that are effective on the bill date to the <u>bill</u> when it is completed. Refer to Setting Up Customer Class Bill Messages.

- All permanent and temporary bill messages linked to service agreements that contributed bill segments to the bill are linked to their respective <u>bill segment</u> when the bill is completed. Refer to Service Agreement – Miscellaneous for more information. Note well that all temporary bill messages are removed from the service agreement when they are swept onto a bill segment (a temporary message is swept onto the next bill segment produced for the service agreement).

- The system checks if each bill segment's rate has bill messages. If so, it links all such messages that are effective on the bill segment's start date to the <u>bill segment</u> when the bill is completed. Refer to Rate Schedule – Bill Messages.

- The system checks if the service provider associated with each sub bill segment has bill messages. If so, it links all such messages that are effective on the bill segment's start date to the <u>bill segment</u> when the bill is completed. Refer to Service Provider – Bill Messages.

- The system checks if the meter read remarks referenced on meter reads used on a bill segment have bill messages. If so, it links all such messages that are effective on the bill segment's start date to the <u>bill segment</u> when the bill is completed. Refer to Meter Read Remark – Bill Messages.

In addition, a user may manually add an ad hoc message to a bill.

And finally, you can develop your own background processes and algorithms that add bill messages to accounts, service agreements, bills and/or bill segments. Refer to Substituting Field Values Into A Bill Message for examples.

Substituting Field Values Into A Message

Many bill messages contain static text (i.e., the message is the same on every bill). However, the system supports messages whose contents are dynamic. For example, consider the bill message ***Thank you for your charitable contributions in 2000 for $123.12, please keep this bill for tax purposes***. This message contains two substitution values (the year and the amount) as is therefore considered dynamic.

Dynamic messages can be implemented as follows:

- Create a bill message code whose Message on Bill contains substitution values. For example, the bill message code to produce the message illustrated above would contain the following Message on Bill - *Thank you for your charitable contributions in %1 for %2, please keep this bill for tax purposes*.

- Use either of the following methods to link the message code and its substitution parameters to the bill:

  - Create a background process or algorithm to insert a permanent or temporary bill message on the appropriate accounts. Then, when an account's bill is next completed, the system will sweep the message (and its substitution parameters onto the bill).

    In addition to inserting the appropriate bill message code, your background process / algorithm must also insert the appropriate substitution values. The name of the table in which account messages are inserted is CI_ACCT_MSG. The name of the table in which a message's substitution values are inserted is CI_ACCT_MSG_PRM (you will insert one row for each substitution field).

    Please see the background process identified by the process ID *REACH* for an example of a background process that performs this type of function. Please see the algorithm identified by *DEP PIF MSG* for an example of an algorithm that performs this type of function.

  - Rather than adding the dynamic message to account (and then letting the bill completion logic transfer the account message to the bill), you could construct a bill completion algorithm that adds the message code and substitution values on the bill (during bill completion). The name of the table in which bill messages are inserted is CI_BILL_MSGS. The name of the table in which a message's substitution values are substituted is CI_BILL_MSG_PRM (you will insert one row for each substitution field).

A Bill May Affect More Than Just Customer Balances

The topics in this section provide information about obscure things that may happen when a bill is created, frozen, or canceled.

Contents

Auto Cancel / Rebill If A Service Agreement Is Stopped Retroactively

If the system detects a bill segment with a bill date after the stop date of the service agreement (because the service agreement was retroactively stopped), the system automatically cancels the bill segment and creates a new one with an end date equal to the service agreement's stop date.

Cancel Historical, Estimated Bill Segments When A Real Read Is Found

A special plug-in spot exists on bill segment type that can be used to automatically cancel historical, estimated bill segments when a "real" read is used on the current bill. Refer to BSAXERLIM for more information about this algorithm. This algorithm would typically be specified on bill segment types that calculate bills using meter reads.

> **Note.** This algorithm is called by the system when creating bills in batch. It does not get called when a user creates bills online.

Deposits May Be Refunded

> Refer to Refunding Deposits for how deposits may be refunded when a deposit service agreement is "final billed".

FT Freeze Repercussions

> Refer to Obscure Things That Can Happen for more information about things that can happen when an FT is frozen (and FT's get frozen during billing).

Budget Billing

The topics in this section provide background information about a variety of budget billing issues.

> We strongly recommend familiarizing yourself with the topics described in Designing and Defining Budget Plans to fully appreciate how budgets fit into the system's financial architecture.

Contents

Account versus Service Agreement

Customers who pay on a budget plan tend to believe that there is one budget amount applied to their account's bill each month. This is not true. Rather, each service agreement has an individual budget amount (stored in the recurring charge array). The sum of an account's service agreements' budget amount is the account's budget amount.

Why does each service agreement have a unique budget amount? Because all financial accounting in the system is performed at the service agreement level, not for an entire account.

While a unique budget amount is defined for each service agreement, a user can use a simple page to view and change the budget amount for all eligible service agreements linked to an account.

It's important to be aware that some service agreements linked to an account may not be eligible for budget plans. For example, assume you have a customer with a deposit service agreement and one or more utility service agreements. This customer will be billed for their deposit regardless of the utility service agreements' budget amounts. You define whether a service agreement may participate in a budget plan on the service agreement's SA type.

How To Set Up A Customer To Participate In A Budget Plan

If a customer wants to participate in a budget billing plan, simply transfer to Account – Budget and generate a new budget for the customer.

The Financial Impact Of Budget Plans

The only difference between a customer who participates in budget billing and one who doesn't is that budget billing customer have bill segments where payoff amount differs from current amount. Why? Because the payoff amount is the actual amount of the bill. The current amount is the amount the customer is expected to pay (i.e., their budget amount).

Let's run through an example of a customer on a budget to illustrate a service agreement where these two balances are not the same. The values in the payoff balance and current balance columns reflect the amount due after the financial transaction has been applied:

Date	Financial Transaction	Payoff Balance	Current Balance
1-Jan-99	Bill: $125, Budget $150	125	150
15-Jan-99	Payment: $150	-25	0
2-Feb-99	Bill: $175, Budget $150	150	150
14-Feb-99	Payment: $150	0	0
3-Mar-99	Bill: $200, Budget $150	200	150
15-Mar-99	Payment: $150	50	0

For more information about current and payoff amounts, refer to Current Balance versus Payoff Balance.

Budget Billing Background Processes

The topics in this section describe the background processes that automate management of customer who participate in budget billing plans.

Budget Processing. The budget background processes only calculate budget amounts for pending start, active and pending stop SAs whose start and end date (if any) includes the budget date. Additionally, the budget date is used to select the rate schedule that is in effect for an SA if estimating consumption is necessary.

Contents
    Budget True Up
    Budget Monitor

Budget True Up

The Budget True Up background process (referred to by the batch control ID of **BUDTRUP**) examines all accounts who participate in budget billing plans. If enough time has passed since the customer's budget was last trued up, the system will calculate the account's recommended budget amount. If the recommended amount differs from their existing budget amount by more than a given tolerance percentage, the customer's budget amount (actually, the recurring charge amount on the account's service agreements) will be changed.

> The amount of time between true ups and the true up method used to true up is defined on the account's budget plan. The tolerance percentages are defined as parameters of the true-up algorithm that is plugged in on the account's budget plan. Refer to Designing and Defining Budget Plans for all the details.

Budget Monitor

The Budget Monitor background process (referred to by the batch control ID of **BUDMON**) examines all accounts that participate in budget billing plans. If the account's existing budget amount is out-of-sync with predefined tolerance percentages, the system will highlight the account on the Budget Review page.

> The tolerance percentages are defined as parameters of the budget monitor algorithm that is plugged in on the account's budget plan. Refer to Designing and Defining Budget Plans for all the details.

Canceling A Budget

The following points describe when a budget is cancelled:

- A user can cancel a budget at any time by using the Cancel Budget action on the Account - Budget page.

- The system may cancel a budget during a collection process (if the collection process contains a Cancel Budget collection event). Refer to Types Of Collection Events for more information.

- When a service agreement is stopped, the system automatically cancels the budget.

When a customer's budget is cancelled, the following events transpire:

- Any recurring charge entry whose effective date is after the cancel date is deleted. This is possible if you are entering a back-dated stop date for the service agreement. For example, perhaps you run the Budget True Up process, which adds a new budget amount to the service agreement (effective today).   Then imagine that the customer calls you and informs you that they moved out last week. If you stop the customer's service as of last week, the recurring charge effective today is deleted when the stop is finalized.

- A new recurring charge amount of zero is created for each of the customer's service agreement.

- Each service agreement's current balance is synchronized with its payoff balance (using the sync adjustment code defined on the service agreement's SA type).

Using Billable Charges For Pass Through / Convergent Billing

The term "pass through" billing is used to describe the practice of receiving charges calculated by third parties and presenting them on the customer's bill along with your own charges. "Pass through" billing is implemented in the system using Billable Charges.

The following points provide information to help you decide the most appropriate way to implement "pass through" billing given your specific requirements:

- Customers with pass through charges will need a separate service agreement to hold the pass through charges. We refer to this type of service agreement as a "billable charge" service agreement.

> **Note.** A service agreement's SA type controls whether a service agreement can have billable charges linked to it. Specifically, the SA type must have a "special role" of ***Billable Charge***.

- A billable charge service agreement holds the billable charges until the customer is next billed. At that time, a separate bill segment will be created for each unbilled billable charge linked to the billable charge service agreement.

- While it is not required, we recommend creating a separate billable charge service agreement for each type of pass through charge. For example, if you can receive "pass through" charges from the local water company and the local cable company, we'd recommend having two billable charge service agreements for each customer.

- As described under We Bill For Them, you can setup the system to automatically create billable charge service agreements when you start regular service for your customers. If you take this approach, you can also have the system create the payable transaction to pay the 3rd party. Refer to Pay At Bill Time vs. Pay At Pay Time for more information.

- You can interface billable charges using the Billable Charge Interface. The interfaced charges can consist of any of the following:

    - Pre-calculated bill lines that will be presented "as is" to the customer.

    - Service quantities that are used by the system to calculate the charges on behalf of the third party. For example, the 3rd party may pass through the number of kilowatt hours and you calculate the bill lines for them. Refer to Uploading Consumption Rather Than Bill Lines for more information.

    - Meter read details that you want printed on the bill. Note, the base package bill segment creation algorithm simply sweeps billable charge read details onto the related bill segment's read detail. This algorithm does NOT use these reads to derive service quantities. This is intentional as most implementations that import reads also import service quantities and therefore deriving service quantities is unnecessary (and also error prone). If your implementation needs to derive service quantities from these reads, you can develop your own bill segment creation algorithm to do just this.

    - All of the above. You might interface both bill lines and service quantities if the third party calculated the charges but did not calculate the taxes. The dollar amount for which taxes will be calculated would be defined using a service quantity. Refer to Calculating Taxes On Uploaded Charges for more information.

> **Note.** You cannot interface interval data via the billable charge interface. Rather, you would need to interface the interval data using the standard interval data set interface and then let the system calculate the charges for you.

- The bill lines on a billable charge can fit into any of the following categories:

- Memo-only (i.e., don't affect the general ledger). A bill line that is memo-only contain information that is purely informational. For example, the 3rd party might pass the start and end meter reads that they used to calculate the charges. You can use memo-only bill lines to show this information on the customer's bill. If a bill line is not memo-only (i.e., it affect the general ledger), a distribution code must also be specified to define how the lines affects the general ledger.

- Show on the customer bill. It is possible to create bill lines that affect the general ledger, but are not shown on the customer's bill. This is an unusual practice, but it happens.

- Summary / detail. Each bill line has an indication of whether it is a summary or detail line. This only impacts bill presentation.

> **Note.** The above indicators can be defaulted onto a billable charge line by using Billable Charge Line Types when you interface the lines into the system.

- Characteristics (i.e., user-defined fields) can be associated with billable charge lines. You might populate this information if you are interfaced information that may be useful during bill presentation or for reporting purposes.

- If service quantities are specified on a billable charge, they are saved on the bill segment created when the billable charge is billed. This means that they system can support creation of a graph of historical usage on the bill, as well as other queries on customer usage. In addition, it might be possible to event estimate consumption based on these service quantities (but such a plug-in is not supplied with the base package).

> **Note.** The system does not support passing in items (e.g., street lamps). This could be a problem if you need to perform ratable calculations for the 3rd party based on, say, the number of street lights. However, if you require ratable, street light pass through billing, you can calculate a service quantity for each type of street light and save this information on the billable charge. The associated rate would then have a price per service quantity rather than a price per item type.
>
> **Note.** The system does not support sending in raw meter reads with billable charges. This consumption needs to be passed in as a service quantity. However, you can pass in meter read details to be printed on the bill segment.

- Cancel / rebill for billable charges is quite different than for normal bill segments. A billable charge bill segment can be cancelled, and this will reverse the financial effects of the billable charge. But without new information from the source, there is no way to rebill the customer. Therefore, if the original charges were incorrect, the source system would send both a reversal of the charges and a newly revised set of information. These could be passed as two separate billable charges or they could combined on a single billable charge.

- In terms of the customer information setup, while a service agreement that holds billable charges does not need a service point, there are advantages to having this information in the system. For one thing, if jurisdictional taxes are being calculated by the system, the definition of the jurisdiction(s) is held on the service point or premise. Also, the link to the service point defines the service address, facilitates customer lookup, causes information to appear in Control Central's trees, etc.

- For most other functionality, the billable charge service agreement supports the same functionality as normal service agreements. This includes budget billing, payment distribution, credit & collection tracking and events, current & payoff balances, movement of old debt onto payment arrangements, etc.

> For more information about billing billable charges, refer to How To Create A One-Time Invoice. For more information about creating a billable charge, refer to Maintaining Billable Charges.   For more information about creating sub service agreements to hold billable charges, refer to We Bill For Them. For more information about interfacing a billable charge from an external system, refer to Uploading Billable Charges.

Printing Bills

The contents of this section describe the technical implementation of both an online and batch bill production.

Contents

Bill Routings Are Created For Each Recipient Of A Bill

Refer to The Source Of Bill Routing Information for a description of how the system constructs the information used to route a bill to one or more recipients.

Bill Route Types Control The Information Merged Onto Bills

Every bill routing record references a Bill Route Type. The bill route type controls the following:

- It contains an algorithm that is responsible for extracting the information merged onto your bills. Algorithms of this type are called under the following scenarios:

  - The background process that interacts with your bill print software calls these algorithms.

  - If your bill print software has the ability to construct a real-time image of a bill, you can plug-in an *Online Bill Image* algorithm on the Installation Record. This type of algorithm will call the extract algorithm for an appropriate bill route type to extract the information that is merged onto the bill. Refer to Technical Implementation Of Online Bill Image for the details.

- It contains the ID of the background process responsible for interacting with your bill print software in batch.

Technical Implementation Of Online Bill Images

Users can view an image of any bill that is sent to a customer on Bill - Main if you set up the following:

- Plug-in an **Online Bill Display** construction algorithm on the Installation Record.

- Plug-in the appropriate bill extract algorithm on each Bill Route Type.

The system provides algorithms that interact with bill print software that renders an image of the bill in a PDF. The following points describe what takes place when clicking **Display Bill** when these sample algorithms are used.

- The sample **Online Bill Display** algorithm ONLN-BL-DSP is executed.

- This algorithm calls the bill extract algorithm for an appropriate bill route type (as determined by the algorithm). The sample bill extract algorithm BLEX-EX constructs the information that appears on the bill and returns it to the **Online Bill Display** algorithm. This algorithm, in turn, passes it to your bill print software.

Refer to The Doc 1 Records for examples of the record layouts passed to the Doc 1 print software.

- Your bill print software renders an image of the bill in a PDF and returns it to the **Online Bill Display** algorithm.

- And finally, the system displays the PDF in a separate browser session. Note that the client must have Adobe Acrobat Reader installed to view PDF files.

The system provides algorithms that interact with BI Publisher or Crystal Reports to render an online image of your bill. The following points describe what takes place when clicking **Display Bill** when these sample algorithms are used.

- The sample **Online Bill Display** algorithm C1-ONLIN-CR is executed.

- This algorithm calls the bill extract algorithm for an appropriate bill route type (as determined by the algorithm). The sample bill extract algorithm C1-BLEX-CR is supplied for displaying bills via BI Publisher or Crystal. This is not actually extracting data because when you use BI Publisher or Crystal reports, the report itself is responsible for extracting and formatting the data. The base product algorithm supplied returns the appropriate report code to the **Online Bill Display** algorithm, which in turn returns the report code to the bill page.

- A user exit on the bill page invokes BI Publisher or Crystal and displays the bill in a separate browser session.

Refer to Bill Print in BI Publisher or Crystal for examples of the data extracted for the report.

Technical Implementation Of Printing Bills In Batch

The batch process that extracts bill information reads all bill routing records in a given run number that are marked with its batch control ID

The base package example of this process (known by the batch control ID of POSTROUT) simply calls the extract algorithm on the routing record's route type to format the information placed onto the flat file. Refer to Bill Route Types Control The Information On Bills for more information.

The base package also supplies a batch bill print production (known by the batch control ID of RTTYPOST) specifically used to print bills via Crystal reports. This process invokes every distinct extract algorithm found on route types referring to this batch control id. The extract algorithms are responsible for building the information needed to schedule the report to run in Crystal and submitting the report to be scheduled.

> **If your software doesn't support online bill images.** The algorithm that formats bill extract records that's plugged in on bill route type serves two purposes: 1) it interacts with the online bill display algorithm plugged into to the installation record to support online images of a bill, and 2) it interacts with the background process to support printing your bills in batch. If your bill print software does not support the rendering of bill images real time, there is no need to create an extract algorithm. Rather, you should simply develop your own download process that works with your bill print software to print bills in batch (and then specify this batch process on your bill route type).

Reproducing The Bill Print Flat File

You can reproduce the flat file at any time. Simply request the download process and specify the run number associated with the historic run.

How To Reprint A Specific Bill

Refer to How To Reprint A Bill (For The Original Recipients or For Someone New) for instructions describing how to reprint a specific bill.

Who Gets A Copy Of A Bill?

A copy of a bill is sent to every individual / business specified in the bill's routing details.

There are two ways in which a bill routing detail can be created:

- When a bill is completed, the system creates a routing detail for every person linked to the account that wants to receive a copy of the bill (as specified on Account – Person Information). Refer to The Source Of Bill Routing Information for more information.

- After a bill is completed, you may insert a bill routing record. Refer to How To Reprint A Bill (For The Original Recipients or For Someone New) for more information.

Final Bills and Bill Print

If a bill is produced for an account where all of the accounts SA's are *stopped*, *closed* or *cancelled*; the bill is flagged as being the final bill on the flat file produced by the postal routing process (refer to Bill Record - 0100 for the details of this switch).

If a bill is considered to be a final bill and the amount owing for the entire account is less than the final bill threshold amount on the installation record, the bill will be skipped (i.e., it won't appear on the flat file produced by the postal routing process). Note, this logic also suppresses bills from being produced when a payment is received AFTER the final bill and the account's balance falls beneath the installation record's final bill threshold amount. Refer to Installation Options - Billing for more information.

The Doc 1 Records

Numerous different types of records are interfaced to the Doc 1 bill print software. However, they all share a common structure:

- The first 4 bytes are called the **Printer Key**. This field is a record type used by the Doc 1 bill template.

- The next 184 bytes are called the **Sort Key**. This field is used to ensure the various records used to construct a printed bill appear in the correct order in the interface file.

- The next 12 bytes are called the **Mailing Key**. This field is used to control the order in which the formatted bills are printed.

- The next 3 bytes are a filler that is available for future use.

- The remaining bytes contain the **Bill Information** that appears on the printed bill. The type of information differs for each type of record.

The topics in this section describe each component.

Contents

Printer Keys (Record Types)

The following table defines each printer key (i.e., record type) on the bill print flat file.

Record Type	Description	Notes
0010	Global extract information	Required. 1 per flat file.
0100	Bill record	Required. 1 per bill.
0300	Current charge record	1 per current charge.
0600	Payment record	1 per payment.
0900	Premise record	1 per premise.
1100	Service agreement record	1 per SA linked to the premise.
1300	Bill segment record	1 per bill segment linked to the SA.
1500	Bill calculation header	1 per bill calculation header linked to the bill segment.
1700	Bill calc line	1 per bill calculation line linked to the bill calculation header
1900	End of record type 1500	1 for each bill calculation header
2100	Read detail	1 for each meter read detail linked to the bill

		segment
2400	Service quantity detail	1 for each service quantity detail linked to the bill segment
2700	Item detail	1 for each item detail linked to the bill segment
2840	Bill segment messages	1 for each message detail linked to the bill segment
2900	End of record type 1300	1 for each bill segment
3100	Consumption history (for graph)	1 for each historical consumption period that appears on the graph
3400	Adjustment detail	1 for each adjustment
3600	End of record type 1100	1 for each service agreement
3700	End of record type 0900	1 for each premise
3900	Bill message detail	1 for each message
9999	End of record type 0100	1 for each bill

Sort Key

The following table defines the structure of the sort key that appears on each bill print record.
Please note that different components are filled in for each printer key.

Field Name	Format	Source/Value/Description
Bill Print Intercept	A8	This is the user ID, if any, who reviews the bill (as specified on the account record)
Bill ID	A12	
Sequence Number	N2	The sequence number of the account / person information associated with this bill routing information.
Copy Number	N1	The number of copies desired by the account / person associated with this bill routing information.
Bill record group	A2	10 Bill 20 Payment 30 Current charge 40 Message 50 Non-Premise 55 Non-Premise end 60 Premise 70 Bill end
Filler	A2	
Premise State	A6	Only applicable for Premise based records.
Premise City	A30	Only applicable for Premise based records.

Premise Address 1	A64	Only applicable for Premise based records.
Premise Id	A10	Only applicable for Premise based records.
Premise record group	A2	10 Premise record 20 SA level record 30 Premise end record
SA Print Priority	A2	
SA Id	A10	

SA Group	A2	For Premise based records:
		
		  10 SA
		
		  20 Histogram
		
		  30 Current charge
		
		  40 Adjustment
		
		  50 SA end record
		
		For Non-Premise based records:
		
		  10 SA
		
		  20 Current Charge
		
		  30 Adjustment
		
		  40 SA end record

Bill Segment End Date	A10	If the record is related to an adjustment, this is the adjustment creation date. If the record is for histogram detail, this contains the histogram detail number.
Bill Segment Id	A12	If the record is related to an adjustment, this is the adjustment ID.
Bill Segment Group	A2	10 Bill segment 20 Bill segment calculation group 30 Bill segment read detail 40 Bill segment SQ detail 50 Bill segment item detail 55 Bill segment message 60 Bill segment end
Bill Calc Header Sequence	N2	For records related to read detail, SQ detail, item detail or bill message detail, this field contains the related sequence number for that record.
Bill Calc Header Group	A2	10 Bill calculation header 20 Bill calculation line 30 Bill calculation end
Line Seq	N3	Defines order of rows for similar record types
Filler	65	Only applicable for non-premise based records. (This makes up for the premise address related fields that are not applicable above).

Mailing Key

The following table defines the structure of the mailing key that appears on each bill print record.

Field Name	Format	Source/Value/Description
Postal code	A12	This is the postal code on the bill routing record.

Bill Information

The topics in this section describe the information that appears on each on each bill print record.

Contents

Global Extract Information Record (0010)

This is a "header" record that contains information about the extract run as a whole.

> **Note.** Please be aware that if you do not sort your extract file by **CIS Sort Key** after it is produced, this record will physically be the last record on the extract file.

Field Name	Format	Source/Value/Description
BATCH_CD	A8	Batch Control Code of the extract process.
BATCH_NBR	N10	Batch Number of the extract process
BATCH_RERUN_NBR	N10	Batch Rerun number of the extract process.
BILL_CNT	N10	Count of bills on this extract. Multiple copies of a bill are counted multiple as well.
EXTRACT_DTTM	A26	System time of extraction. Also updated in bill routing table.
BILL_ID_START	A12	This is only used when a bill is produced as a result of an online request (from Bill – Main). It contains the Bill Id to extract.

Field Name	Format	Source/Value/Description
BILL_ID_END	A12	This is only used when a bill is produced as a result of an online request (from Bill – Main). It contains the Bill Id to extract.
THREAD_NBR	N10	This field is only used if bills are extracted in batch. It contains the thread number in which the bill was extracted.
THREAD_CNT	N10	This field is only used if bills are extracted in batch. It contains the total number of threads that were extracted.

Bill Record (0100)

Field Name	Format	Source/Value/Description
BILL_ID	A12	CI_BILL
ACCT_ID	A10	CI_BILL
BILL_DT	D	CI_BILL
DUE_DT	D	CI_BILL
COPY_NBR	N1	
NBR_BILL_COPIES	N1	CI_BILL_RTG
BILL_PRT_INTERCEPT	A8	CI_BILL_RTG
BILL_FORMAT_FLG	A2	CI_BILL_RTG
REPRINT_SW	A1	CI_BILL_RTG
CASH_ONLY_SW	A1	
CUR_BAL	S13.2	CI_BILL_SA
CUR_CHG_AMT	S13.2	CI_FT
CUR_CORR_AMT	S13.2	CI_FT
CUR_ADJ_AMT	S13.2	CI_FT
CUR_PAY_AMT	S13.2	CI_FT
CUR_PREV_BAL	S13.2	CI_FT
TOT_BAL	S13.2	CI_BILL_SA
TOT_CHG_AMT	S13.2	CI_FT
TOT_CORR_AMT	S13.2	CI_FT
TOT_ADJ_AMT	S13.2	CI_FT
TOT_PAY_AMT	S13.2	CI_FT
TOT_PREV_BAL	S13.2	Computed during extract.
CURRENCY_CD	A3	CI_BILL_SA
DELINQUENT_AMT	S13.2	Computed during extract.
CUST_PO_ID	A20	CI_BILL_RTG
ACCT_ENTITY_NAME	A64	CI_PER_NAME. Account Entity Name. Might include prefix/suffix from Account/Person if available.
ENTITY_NAME	A64	CI_BILL_RTG. Mailing Entity Name.

Field Name	Format	Source/Value/Description
ADDRESS_SBR	A361	CI_BILL_RTG. Refer to its components in a later section.
FINAL_BILL_SW	A1	Computed during extract. Contains a value of Y if this bill is considered to be a "final" bill.
SCHED_EXTRACT_DT	D	CI_APAY_CLR_STG. This is the date that the automatic payment will be downloaded.
ENTITY_NAME1	A64	CI_BILL_RTG. Mailing Entity Name1.
ENTITY_NAME2	A64	CI_BILL_RTG. Mailing Entity Name2.
ENTITY_NAME3	A64	CI_BILL_RTG. Mailing Entity Name3.
ACCT-CUR-SYMBOL	A4	Currency symbol for the account's currency code.

Current Charge Record (0300)

Field Name	Format	Source/Value/Description
DEBT-CLASS-CD	A4	Debt Class of SA Type
DEBT-CLASS-DESCR	A30	Debt Class Description
CUR-CHARGE-AMT	S13.2	Derived from CI_FT (Only the current charge bill segments.)
TOT-CHARGE-AMT	S13.2	Derived from CI_FT (Only the current charge bill segments.)

Payment Record (0600)

Field Name	Format	Source/Value/Description
FT TYPE	A2	Pay or Pay Cancel ('PS' or 'PX')
PAY-DT	D	Derived from CI_FT
CAN_RSN_CD	A4	Derived from CI_PAY, Only for cancellation
CAN-RSN-DESCR	A30	Derived form CI_PAY_CAN_RSN
CUR-PAY-AMT	S13.2	Derived from CI_FT.
TOT-PAY-AMT	S13.2	Derived from CI_FT.

Premise Record (0900)

Field Name	Format	Source/Value/Description
NON_PREM_SW	A1	Y/N switch to indicate (Y) special (non-premise) premise record. This is for non-premise service agreements such as charity or payment arrangement.
PREM_ID	A10	From CI_SA or CI_BSEG
ADDRESS_SBR	A361	Service Address (Address of Char Premise) from CI_PREM. Refer to its components in a later section.

Service Agreement Record (1100)

Field Name	Format	Source/Value/Description
SA_ID	A10	CI_SA
OLD_ACCT_ID	A15	CI_SA

Field Name	Format	Source/Value/Description
CUST_READ_FLG	A2	CI_SA
SIC_CD	A4	CI_SA
SIC_DESCR	A30	CI_SIC
BUSINESS_UNIT	A10	CI_SA
SA_TYPE_CD	A8	CI_SA
SA_TYPE_DESCR	A30	CI_SA_TYPE
SA_TYPE_DFLT_DESCR	A80	CI_SA_TYPE
SVC_TYPE_CD	A2	CI_SA_TYPE
SVC_TYPE_DESCR	A30	CI_SVC_TYPE
REV_CL_CD	A8	CI_SA_TYPE
CHAR_PREM_ID	A10	CI_SA
SA_REL_ID	A10	CI_SA_REL
SA_REL_TYPE_CD	A8	CI_SA_REL
SA_REL_TYPE_DESCR	A30	CI_SA_REL_TYPE
SPR_CD	A12	CI_SA_REL
SPR_DESCR	A50	CI_SPR
SPR_ENTITY_NAME	A64	CI_PER_NAME (this is the service provider's person's name)

Bill Segment Record (1300)

Field Name	Format	Source/Value/Description
START_DT	D	CI_BSEG
END_DT	D	CI_BSEG
CLOSING_BSEG_SW	A1	CI_BSEG
EST_SW	A1	CI_BSEG
BILL_CYC_CD	A4	CI_BSEG
SQ_OVERRIDE_SW	A1	CI_BSEG
ITEM_OVERRIDE_SW	A1	CI_BSEG
BSEG_STAT_FLG	A2	CI_BSEG
CAN_RSN_CD	A4	CI_BSEG
CAN_RSN_DESCR	A30	CI_BILL_CAN_RSN
CUR_AMT	S13.2	CI_FT
TOT_AMT	S13.2	CI_FT

Bill Calc Header Record (1500)

Field Name	Format	Source/Value/Description
START_DT	D	CI_BSEG_CALC
END_DT	D	CI_BSEG_CALC

Field Name	Format	Source/Value/Description
SETID	A10	CI_BSEG_CALC
RS_CD	A8	CI_BSEG_CALC
CALC_AMT	S13.2	CI_BSEG_CALC
DESCR_ON_BILL	A80	CI_BSEG_CALC

Bill Calc line Record (1700)

Field Name	Format	Source/Value/Description
APP_IN_SUMM_SW	A1	CI_BSEG_CALC_LN
CALC_AMT	S13.2	CI_BSEG_CALC_LN
EXEMPT_AMT	S13.2	CI_BSEG_CALC_LN
UOM_CD	A4	CI_BSEG_CALC_LN
TOU_CD	A8	CI_BSEG_CALC_LN
SQI_CD	A8	CI_BSEG_CALC_LN
BILL_SQ	S12.6	CI_BSEG_CALC_LN
DESCR_ON_BILL	A80	CI_BSEG_CALC_LN

End Bill Calc Header Record (1900)

Field Name	Format	Source/Value/Description
Dummy field		

Bill Segment Read Record (2100)

Field Name	Format	Source/Value/Description
SP_ID	A10	CI_BSEG_READ
BADGE_NBR	A16	CI_MTR
UOM_CD	A4	CI_BSEG_READ
TOU_CD	A8	CI_BSEG_READ
RDG_DEC_POS	N1	CI_REG. Decimal positions of the reads.
START_REG_READING	S9.6	CI_BSEG_READ
START_READ_DTTM	T	CI_BSEG_READ
START_ESTIMATE_SW	A1	CI_REG_READ
END_REG_READING	S9.6	CI_BSEG_READ
END_READ_DTTM	T	CI_BSEG_READ
END_ESTIMATE_SW	A1	CI_REG_READ
MSR_QTY	S12.6	CI_BSEG_READ
USAGE_FLG	A2	CI_BSEG_READ
USE_PCT	N3	CI_BSEG_READ
HOW_TO_USE_FLG	A2	CI_BSEG_READ
CONSUM_SUB_FLG	A2	CI_REG

Field Name	Format	Source/Value/Description
MSR_PEAK_QTY_SW	A1	CI_BSEG_READ
REGISTER_CONST	S6.6	CI_BSEG_READ
QTY_DEC_POS	N1	CI_UOM. Decimal positions of the final quantity.
FINAL_UOM	A4	CI_BSEG_READ
FINAL_TOU	A8	CI_BSEG_READ
FINAL_REG_QTY	S12.6	CI_BSEG_READ
SQI_CD	A8	CI_BSEG_READ
FINAL_SQI_CD	A8	CI_BSEG_READ

Bill Segment SQ Record (2400)

Field Name	Format	Source/Value/Description
UOM_CD	A4	CI_BSEG_SQ
TOU_CD	A8	CI_BSEG_SQ
SQI_CD	A8	CI_BSEG_SQ
SQ_DEC_POS	N1	CI_BSEG_SQ
BILL_SQ	S12.6	CI_BSEG_SQ

Bill Segment Item Record (2700)

Field Name	Format	Source/Value/Description
START_DT	D	CI_BSEG_ITEM
END_DT	D	CI_BSEG_ITEM
ITEM_CNT	S9.2	CI_BSEG_ITEM
ITEM_DESCR	A30	CI_ITEM_TYPE

Bill Segment Message Record (2840)

Field Name	Format	Source/Value/Description
BILL_MSG_CD	A4	CI_BSEG_MSG
MSG_ON_BILL	A254	CI_BILL_MSG_L

End Bill Segment Record (2900)

Field Name	Format	Source/Value/Description
Dummy field		

Histogram Record (3100)

Field Name	Format	Source/Value/Description
UOM_CD	A4	CI_SA_TYPE
TOU_CD	A8	
SQI_CD	A8	
SQ_DEC_POS	N1	CI_UOM. Decimal positions of SQ.

Field Name	Format	Source/Value/Description
SQ_CNT	N2	Count of SQ (maximum of 13.)
MAX_BILL_SQ	S12.6	Maximum Bill SQ from list. This is derived from CI_BSEG_READ.
SQ_DT (1:13)	D	Date (for label of the SQ). This is derived from CI_BSEG.
BILL_SQ (1:13)	S12.6 (1:13)	13 occurrences of QTY, one for each period ending on the SQ_DT. This is derived from CI_BSEG_READ.

Adjustment Record (3400)

Field Name	Format	Source/Value/Description
ADJ_DT	D	CI_FT
FT_TYPE_FLG	A2	CI_FT
CUR_AMT	S13.2	CI_FT
TOT_AMT	S13.2	CI_FT
ADJ_TYPE_CD	A8	CI_ADJ
ADJ_TYPE_DESCR	A30	CI_ADJ_TYPE
DESCR_ON_BILL	A80	CI_ADJ_TYPE
CAN_RSN_CD	A4	CI_ADJ
CAN_RSN_DESCR	A30	CI_ADJ_CAN_RSN

End Service Agreement Record (3600)

Field Name	Format	Source/Value/Description
Dummy field		

End Premise Record (3700)

Field Name	Format	Source/Value/Description
Dummy field		

Message Record (3900)

Field Name	Format	Source/Value/Description
BILL_MSG_CD	A4	CI_BILL_MSGS
MSG_PRIORITY_FLG	A2	CI_BILL_MSG
INSERT_CD	A8	CI_BILL_MSG
MSG_ON_BILL	A254	CI_BILL_MSG

End Bill Record (9999)

Field Name	Format	Source/Value/Description
Dummy field		

Address Sub-record

The address sub-record that appears in both the bill record (0100) and the premise record (0900) is composed of the following:

Field Name	Format	Description
COUNTRY	A3	
ADDRESS1	A64	Refer to The Source Of Bill Routing Information for a description of conditions when this field will contain a fax number or an Email address rather than the first line of a postal address (this only occurs for a bill record (0100)).
ADDRESS2	A64	
ADDRESS3	A64	
ADDRESS4	A64	
CITY	A30	
NUM1	A6	
NUM2	A4	
HOUSE_TYPE	A2	
COUNTY	A30	
STATE	A6	
POSTAL	A12	
GEO_CODE	A11	
IN_CITY_LIMIT	A1	

Sequential Bill Numbers

Every bill is uniquely identified by its bill ID. Bill ID is a <u>random</u>, system-assigned number. In some locales, bills have an additional identifier known as a "sequential bill number". Sequential bill numbers are system-assigned, <u>sequential</u> numbers. For example, the first bill produced by the system is assigned a sequential bill number of *1*, the next bill is assigned a value of *2*, etc. An additional requirement is that no gaps may exist between the sequential bill numbers.

The topics in this section describe how sequential bill numbers are implemented in the system.

Contents
Sequential Numbers Are Only Assigned If The Installation Option Is Turned On
Pending Bills Do Not Have A Sequential Bill Number
When / How Is The Sequential Bill Number Assigned
Additional Functionality for Sequential Bill Numbering

Sequential Numbers Are Only Assigned If The Installation Option Is Turned On

Sequential bill numbers will only be assigned if you have selected Sequential Bill Numbers as the Alternative Bill ID Option on the Installation record.

Pending Bills Do Not Have A Sequential Bill Number

Bills are assigned a sequential bill number after they are *completed*. This means that *pending* bills will not have a sequential bill number. This is intentional as pending bills can be *deleted* and if a deleted bill had a sequential bill number, gaps would result. Refer to Bill Lifecycle for more information about a bill's state transition lifecycle.

When / How Is The Sequential Bill Number Assigned

Warning! This section is a technical explanation of how sequential bill numbers are assigned. It contains background information for those who wish to understand the rationale of the design.

The batch billing process (known by the batch control ID of **BILLING**) takes advantage of parallel processing to allow multiple bills to be produced concurrently. In addition, we allow groups of bills to be committed in "chunks" (based on the commit frequency assigned to the billing background process). These two facts make it impossible to allocate sequential bill numbers during batch billing (because back outs could result in gaps and parallel processing could result in duplicates). This is why sequential bill numbers are allocated as follows:

- A sequential bill number is allocated when a bill is completed online (by clicking the **Complete** button on Bill – Main).

- If you submit the batch billing process with the following parameters, sequential bill numbers will be allocated when bills are completed:

  - **Batch thread number** must equal 1.

  - **Batch thread count** must equal 1.

  - **Override maximum records between commits** must equal 1.

  The above parameters mean that bills are not being produced in parallel and they are not being committed in "chunks". This allows the system to allocate sequential bill numbers when the bills are completed.

- If you do not run batch billing single-threaded, you must schedule the Assign Sequential Bill Numbers background process (known by the batch control ID of **ASSGNSBN**) to run immediately after batch billing. This single-threaded process assigns sequential bill numbers to completed bills.

- The following measures are in place as a fail-safe:

  -

  - If the billing download process (known by the batch control ID of **POSTROUT**) encounters a bill without a sequential bill number, it will abort with an appropriate error message.

  - Users are not allowed to delete a **completed** bill with a sequential bill number. Note, deletion of **completed** bills is typically prohibited due to the presence of frozen bill segments. However, it's possible to create a bill without frozen bill segments and additional logic exist to inhibit the deletion of such bills if they have sequential bill numbers.

Additional Functionality for Sequential Bill Numbering

The following points describe additional features that are enabled when the Installation record indicates sequential bill numbers are used:

- The bill's number appears in "bill info". "Bill info" is the concatenated string of information that summarizes a bill on many pages in the system.

- The Bill Search page includes an additional search option to search by bill number.

- The match type algorithm that allows payments to be matched to a given bill id will try to match the payment to a bill with a matching sequential bill number.

Document Numbers

Every bill is uniquely identified by its bill ID. Bill ID is a <u>random</u>, system-assigned number. In some locales utilities may be required to assign and print an additional document number. For example, in Argentina a utility must obtain authorization from the national tax agency before they are allowed to print bills at a local office. Once authorized, the utility is assigned a printing authorization code valid for a period. The printing authorization code and expiration, as well as an official document number are printed on the bill at the location where the bill is issued.

The topics in this section describe how document numbers are implemented in the system.

Contents

Document Numbers Are Only Assigned If the Installation Option Is Turned On

Document numbers will only be assigned if you have selected Document Numbers as the Alternative Bill ID Option on the Installation record. In addition, the Document Number and Document Number Details algorithms must be enabled on the Installation record. These algorithms contain the logic used by the system to assign a document number to a bill.

Pending Bills Do Not Have a Document Number

Similar to sequential bill numbers, bills are assigned a document number after they are **completed**. This means that **pending** bills will not have a sequential bill number. Refer to Bill Lifecycle for more information about a bill's state transition lifecycle.

When/How Is the Document Number Assigned

Warning! This section is a technical explanation of how document numbers are assigned. It contains background information for those who wish to understand the rationale of the design.

- An installation algorithm assigns a document number to a bill.

Similar to sequential bill numbers, document numbers are allocated as follows:

- A document number is allocated when a bill is completed online (by clicking the **Complete** button on Bill – Main).

- The Assign Bill Document Numbers background process (known by the batch control ID of **C1-BNBAS**) should be scheduled to run immediately after batch billing. This single-threaded process assigns document numbers to completed bills.

- The logic used to assign a document number resides in the installation options Document Number algorithm

- The following measures are in place as a fail-safe:

  - If the billing download process (known by the batch control ID of **POSTROUT**) encounters a bill without a document number, it will abort with an appropriate error message.

- Users are not allowed to delete a *completed* bill with a document number. Note, deletion of *completed* bills is typically prohibited due to the presence of frozen bill segments. However, it's possible to create a bill without frozen bill segments and additional logic exist to inhibit the deletion of such bills if they have sequential bill numbers.

Additional Functionality Exists When Document Numbers Are Used

The following points describe additional features that are enabled when the Installation record indicates that document numbers are used:

- The Bill Search page includes an additional search option to search by Document Number and Document Type.

- The bill's document number and type appear in "bill info". "Bill info" is the concatenated string of information that summarizes a bill on many pages in the system.

- The match type algorithm thatallows payments to be matched to a given bill id will try to match the payment to a bill with a matching document number and type.

Writing Off Bills

If your organization practices open-item accounting and your credit and collections rules revolve around collecting on unpaid bills, you can set up the system to automatically write-off bills.

If you've enabled this functionality, Bill - Main will contain a button that a user can click to manually write off a bill. A corresponding button exists that a user can click to reverse a written-off bill.

> Refer to Writing Off Bills for a description of how to set up the system to allow both automated and manual bill write off.

Idiosyncratic Manual Bill Cancellation

If a bill's account is associated with a Customer Class that has a *Cancel Bill* algorithm, the system invokes this algorithm before the bill is displayed to determine if the bill is "cancellable". If the algorithm indicates the bill is cancellable, a button appears on Bill - Main. When clicked, the *Cancel Bill* algorithm is invoked again to cancel the bill. This functionality is meant to support unique cancellation needs required by some implementations; the sample base-package algorithm is empty.

Maintaining Bills

A bill is used to communicate changes in a customer's financial obligations to the customer. The topics in this section describe how to maintain bills.

> **The system creates most bills behind-the-scenes.** Most bills are created by the system when it processes the bill cycle schedule. You should only have to access the bill pages to correct a bill or to add a bill real-time. For information about how the system creates bills, refer to The Big Picture of Billing.

It's important to be aware that there are very few fields that are directly modifiable by a user. To modify most fields on a bill, you have to change source information (e.g., service agreement, rate, meter read) and then regenerate the bill. For example, if you want to change a bill's amount, you must cancel or add bill segments; you cannot change the bill's amount by modifying the bill amount field. Refer to How To for step-by-step instructions that explain how to perform common bill maintenance functions.

Contents

Bill Lifecycle
Bill - Main Information
Bill - Bill Segments
Bill - Bill Routings
Bill - Bill Messages
Bill - Characteristics
How To

Bill Lifecycle

The following diagram shows the possible lifecycle of a bill.
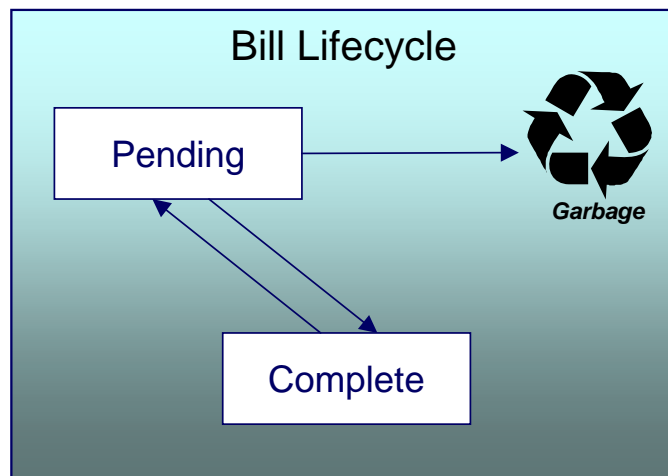
> **Warning!** This explanation only makes sense in the context of the page used to maintain bills. Refer to Bill – Main Information for the details.

A bill is initially saved in the *Pending* state. You may create one or more bill segments for the account's service agreements at this point. Refer to How To for information about generating bill segments for the bill.

A bill becomes *Complete* when it is ready to be sent to the customer. Completing a bill triggers many things to occur. Refer to the section below for information about what happens when a bill is completed.

When you *complete* a bill, several things may happen:

- Pre-completion algorithms associated with the account's service agreements' SA types are executed. The system executes these algorithms first in the order of the billing processing sequence on each service agreement's SA type then in the order of the algorithm's sequence. These are not executed for the completion of credit notes.

- Pre-completion algorithms associated with the account's customer class are executed.

- The bill's due date is calculated. This is equal to the bill date plus the number of days defined on the account's customer class. If the resultant date is not a workday, the due date is set to the next workday. Note, this due date can be overridden if an override algorithm exists on the account's customer class.

- The bill's routing information is set up using Account – Person Information.

- If the **Freeze At Bill Completion** installation option has been turned on, *freezable* bill segments and adjustments linked to the account are frozen. Note, only *freezable* adjustments whose adjustment type indicates **Freeze At Bill Completion** will be frozen at this time. Refer to Preventing SA Balances And The GL From Being Impacted Until Bill Completion for more information.

- If a final bill segment of a deposit service agreement is detected, the deposit is refunded to the customer using the refund method algorithm plugged-in on the deposit SA's deposit class. Refer to Deposit Refund for more information. This step is skipped during the completion of credit notes, or if the bill is linked to an off cycle bill generator.

- Post completion algorithms associated with the account's service agreements' SA types are executed. The system executes these algorithms first in the order of the billing processing sequence on each service agreement's SA type then in the order of the algorithm's sequence.

- Bill completion algorithms associated with the account's customer class are executed.

- Bill messages are amalgamated from various sources and linked to the bill. Refer to The Source Of Bill Messages for more information.

- Other financial transactions that have been frozen since the last bill and are marked to show on bill are linked to the new bill

  - For open-item customers adjustments and corrections are linked

  - For correction notes or credit notes, the bill cancellation financial transactions are linked

  - For off cycle bill generator bills:

    - Adjustments linked to the off cycle bill generator are linked to the bill

    - If the off cycle bill generator is linked to a service agreement, then all financial transactions associated with the SA are linked to the bill

  - For all other situations, payments, adjustments and corrections are linked assuming the adjustments are not linked to an off cycle bill generator

- All financial transactions that don't already have a user-defined aging date will be dated with the current date. In other words, they start aging from the date the bill is completed.

- If the account pays automatically and the installation's Autopay Creation Option is to **Create At Bill Completion**, an automatic payment is created. Refer to APAYCREATE for more information about the auto pay creation algorithm. This step is skipped during the completion of credit notes.

- If the account's customer class indicates the account is an open-item customer, a match event is created. The bill's FTs and the automatic payment's FTs are linked to it. Refer to Payments and Match Events for more information about match events. This step is skipped during the completion of credit notes.

- If the account pays automatically and the installation's Autopay Creation Option is to **Create On Extract Date**, the bill is stamped with the date when the automatic payment is to be created. Refer to The System Background Processes for more information about **APAYCRET**, the background process that creates the automatic payment and **APAYDSFR**, the background process that distributes and freezes the automatic payment. This step is skipped during the completion of credit notes.

- The bill's late payment date is calculated. This is equal to the due date plus the grace days defined on the account's customer class. If the resultant date is not a workday, the LPC date is set to the next workday. This step is skipped during the completion of credit notes.

- The account is marked for review by the account debt monitor on its due date plus a grace period defined on its customer class. This step is skipped during the completion of credit notes.

- If the account's customer class indicates the account is an open-item customer, the system will create a match event if the new charges are offset by other financial transactions. Refer to Payments and Match Events for more information about match events. This step is skipped during the completion of credit notes.

- The bill's status becomes **Complete**.

- Post bill completion algorithms associated with the account's customer class are executed.

If the system cannot complete the bill (for whatever reason), the bill remains **Pending** and an error message is shown on the main bill page. After correcting the cause of the problem, attempt to complete the bill again.

A **complete** bill may be changed back to **pending** using the Reopen button on Bill – Main Information. You would reopen a bill when

- Add more bill segments to a completed bill. Refer to the How To section for information about linking bill segments for a bill.

- Fine-tune the payments, adjustments, and corrections that were linked to a completed bill. Refer to the How To section for detailed instructions.

When you're happy with the bill, you can complete it again.

Cannot reopen historical bills. You may only reopen an account's most recent bill (except if this bill is linked to an off cycle bill generator) because recompleting the bill causes the ending-balance to change, and we don't want this to happen to historical bills.

Automatic payments. If an automatic payment was created when the bill was completed and it has already been interfaced to the financial institution, you cannot reopen the bill. If the automatic payment exists, but it has not yet been interfaced, the system will automatically cancel the payment when you reopen the bill.

> **Certain bill completion algorithms prevent reopening.** If a bill contains a service agreement whose SA type has a "transfer accounts receivable to service provider" algorithm, the system will not allow the bill to be reopened. Refer to If You Deal With TBFU Service Providers You Can't Reopen Bills for more information about this bill completion algorithm.

You may delete a ***Pending*** bill from the database. You may not delete a pending bill if: a) there are frozen bill segments linked to the bill, or b) if financial transactions were linked to the bill (and this can only happen if the bill had been previously completed).

In addition to removing the bill, the system will also remove unfrozen bill segments linked to the bill.

Bill - Main Information

Open **Financial, Bill, Main** to maintain core bill information.

The following discussion describes the fields on this page. Refer to How To for a description of how to perform common bill maintenance functions.

Description of Page

Bill Info contains a concatenation of important information about the bill (e.g., the bill date, its status, due date, ending balance, etc.). If sequential bill numbering has been enabled, the bill's number also appears. If document numbering has been enabled, the assigned document number and document type will also appear. If this bill is a correction note or credit note, a message will appear indicating this along with the ID of the original bill. If the batch billing background process generates the bill, the bill information includes the bill cycle and window start date. Bills generated manually, i.e., off-schedule, do not have this information.

Bill ID is the system-assigned unique identifier of the bill.

Account ID identifies the customer who is responsible for the bill. The name of the main customer on the account appears adjacent.

If this bill is a credit note or correction note, a message appears adjacent to the account information indicating that this bill is a credit note or correction note for another bill; this hyperlink will drill you to the original bill. If a credit note or correction note has been issued for one or more of this bill's bill segments, a message appears indicating such.**Bill Status** is the bill's status. Refer to Bill Lifecycle for the potential values and how to handle a bill when it exists in a given state. Adjacent to the bill status is the **Display Bill** button, which will display an online image of the bill when clicked. Refer to How To Display A Bill On-line for more information.

If the bill is associated with an off cycle bill generator, a message appears adjacent to the bill status indicating this and the hyperlink will take the user to the related off cycle bill generator.

> **Note.** You can only use the **Display Bill** button if your system has been configured to display an on-line image; otherwise, a message indicating that the service is not available will appear. This option can only be configured by your technical staff. The system comes with configurations to display bill images using BI Publisher, DOC1, and Crystal, but can work with other applications.

Due Date is the date on which the bill is due. A bill's due date is calculated as follows:

- Add the due days specified on the account's customer class to the bill date.

- The resulting date is the due date unless it's not a workday. In this case, the due date is set to the next workday (workdays are defined in the installation options tables).

- If the account's customer class has an override due date calculation algorithm, the due date may be overridden. Refer to Setting Up Customer Classes for more information.

Late payment charges. Late payment charges are calculated on the due date plus the grace period.   Refer to Defining Late Payment Charge Options for more information.

Bill Date is the business date that was used when the bill was completed. For example, if batch billing starts on 11:55 pm on 1-Jan-2000 and a bill is produced at 1:00 am on 2-Jan-2000, this bill's bill date would be 1-Jan-2000.

Create Date/Time is the date and time on which the bill was originally created.

Completion Date/Time is the date and time on which the bill was completed.

If the customer pays automatically and the automatic payment has not yet been created, a brief message appears highlighting the date and amount of the future automatic payment. In addition, a button appears called **Stop Autopay**, that, when clicked, causes the associated automatic payment to stop. You might click this button if the customer indicates that they will send in a payment. After you click the **Stop Autopay** button, a message appears highlighting the stoppage. Refer to How And When Are Automatic Payments Created for more information about how to setup the system to defer the creation of automatic payments until the future automatic payment extract date.

In the **Message** area, a brief error message appears if there's a problem with the bill. The message area is suppressed if there are no problems with the bill.

Click the magnifying button to view the long explanation. The long explanation will provide information about the cause of the error (and how to fix it).

The **Late Payment Charge Details** section contains information about how the system determines when and whether to levy late payment charges:

- **Eligible for Late Payment Charge** can be checked if a charge should be levied for late payment. This field is defaulted based on the customer's customer class. If you want to excuse a bill from late payment charge processing uncheck this box.

- **Late Payment Charge Date** is the date on which the system will levy a late payment charge if payment is not received. This date is calculated when the bill is completed. It is equal to the bill's due date plus the account's customer class's grace days. If this date does not fall on a workday, the date is set to the next available workday when the bill is completed. If you want to manually delay the onset of late payment charge processing, extend this date into the future.

Late payment charges. Late payment charges are calculated on the due date plus the grace period. Refer to How Late Payment Charges Get Calculated for more information.

Bill Summary summarizes the financial impact of the bill. The information that appears differs depending on whether the account is a balance-forward or open-item account. If the account is a balance-forward customer, the following information appears:

- **Previous Period's Balance** is the balance from the account's last bill.

- **Total Payments** is the total amount of frozen or canceled payment segment financial transactions linked to this bill. Frozen payment segments appear as negative numbers (decreasing the amount owed by the customer), while canceled payment segments appear as positive numbers (increasing the amount owed). You can drill down on this balance to view the financial transactions that contribute to this total. Refer to How To Remove Unwanted Payments From A Completed Bill for a description of how to perform common maintenance functions.

- **Total Adjustments** is the total amount of frozen or canceled adjustment financial transactions linked to this bill. You can drill down on the balance to view the financial transactions that contribute to this total. Refer to How To Remove Unwanted Adjustments From A Completed Bill for a description of how to perform common maintenance functions.

- **Total Bill Corrections** is the total amount of canceled and / or rebilled bill segment financial transactions linked to this bill. You can drill down on the balance to view the financial transactions that contribute to this total.

- **Total Current Billing Charges** is the total amount of frozen bill segment financial transactions linked to this bill. You can drill down on the balance to view the financial transactions that contribute to this total.

- **Ending Balance For This Period** is the sum of the five amounts above. It is the amount owed by the customer as of the end of the bill period.

If the account is an open-item customer, the following information appears under **Bill Summary**:

- **New Charges** is the total amount of frozen bill segment financial transactions linked to this bill. You can drill down on this value to view the financial transactions that contribute to this total.

- **Adjustments** is the total amount of frozen or canceled adjustment financial transactions linked to this bill. You can drill down on this value to view the financial transactions that contribute to this total. Refer to How To Remove Unwanted Adjustments From A Completed Bill for a description of how to perform common maintenance functions.

- **Corrections** is the total amount of canceled and / or rebilled bill segment financial transactions linked to this bill. You can drill down on this value to view the financial transactions that contribute to this total.

- **Total** is the sum of the above amounts. You can drill down on this value to view the financial transactions that contribute to this total.

If the account is an open-item customer, the following information appears under **Match Summary** (note, this section is not displayed for balance-forward accounts):

- X **Balanced Item(s)** contains the count and total amount of financial transactions linked to this bill that are linked to *balanced* match events.

- X **Unbalanced Item(s)** contains the count and total amount of financial transactions linked to this bill that are linked to *unbalanced* match events.

- X **Disputed Item(s)** contains the count and total amount of financial transactions linked to this bill that are linked to *disputed* match events.

- X **Unmatched Item(s)** contains the count and total amount of financial transactions linked to this bill that are not linked to any match event.

Total Changes After Completion only appears if bill segments that appeared on the original bill have been subsequently canceled or rebilled. The amount displayed is the net effect of all cancels and rebills. Note, you can use the **Remarks** column in the bill segments grid (to the right) to see which bill segments have been cancelled / rebilled.

If 25 or fewer bill segments are linked to this bill, the grid in the lower right portion of the page contains one row for every bill segment linked to the bill.

The following points describe each column in the grid:

- The **Bill Segment** column contains a concatenation of each bill segment's division, SA type, status and bill period. The division and SA type come from the bill segment's service agreement.

- The **Current Amount** column contains the bill segment's effect on the service agreement's current balance.

- The **Status** column shows the bill segment's status. Refer to Bill Segment Lifecycle for the possible values.

- The **Remarks** highlight special situations. The following remarks may appear:

  - *Rebill after completion* appears if the bill segment is a rebill that was created after the bill was sent to the customer. The financial impact of this bill segment appears as a "bill correction" on the next bill produced for the customer.

  - *Rebill prior completion* appears if the bill segment is a rebill that was created before the bill was sent to the customer.

  - *Canceled after completion* appears if the bill segment was canceled after the bill was sent to the customer. The financial impact of this bill segment appears as a "bill correction" on the next bill produced for the customer.

  - *Canceled prior completion* appears if the bill segment was canceled before the bill was sent to the customer.

  - If the bill segment's status is *Error* or *Incomplete*, this column contains an estimated value of this bill segment. The estimated value is calculated by computing an average daily amount from the service agreement's *frozen* bill segments in the last 365 days. This average is then applied to the number of days in this bill segment's bill period. If the bill segment doesn't have a bill period (rare, but possible), the historical average is not displayed.

  - If the bill segment's status is *Error*, this column also contains the error message.

  - *Rebilled due to correction* appears if a correction note was generated for the bill segment. This remark appears only if you have the Correction Note Billing Option specified in the Installation record.

  - *Rebilled due to correction. Canceled after completion* appears for a correction note that spawns another correction note. This remark appears only if you have the Correction Note Billing Option specified in the Installation record.

If more than 25 bill segments are linked to this bill, the grid in the lower right portion of the page contains a summary of the various bill segments linked to the bill.

The following points describe each column in the grid:

- The **Status** column shows the bill segment's status. Refer to Bill Segment Lifecycle for the possible values. Click on the hyperlink to transfer to the Bill Segments tab where the associated bill segments can be viewed.

- The **Total Bill Segments** column contains the number of bill segments linked to the bill with this **Status**. If the status is *Error* or *Incomplete*, this column contains an <u>estimated</u> value of these bill segments. The estimated value is calculated by computing an average daily amount from *frozen* bill segments in the last 365 days for each service agreement. This average is then applied to the number of days in each bill segment's bill period. Please note, an historical average cannot be computed if an *Error* or *Incomplete* bill segment does not have a bill period (rare, but possible).

- The **Total Amount** column contains the sum of the current amount of these bill segments.

At the bottom of the scroll is shown the **Total Generated Charge**. This represents the total amount of the bill segments. This amount may differ from the Total Current Billing Charges when:

- The bill is not *Complete*. A bill segment's financial effect is not shown on the bill until the bill is completed.

- A bill segment has been canceled / rebilled since the bill was completed.

The topics that follow describe each of the actions that appear in the **Bill Segment Action** and **Bill Action** areas. Refer to How To for a description of typical business processes that use these buttons.

Contents

Generate

The **Generate** button causes a bill segment to be created for each service agreement linked to the account. The system generates bill segments in the order of the billing processing sequence on each service agreement's SA type.

This button is enabled when you are in add mode (i.e., you are not displaying an existing bill) and you have selected an **Account ID**.

When clicked, the **Generate** window opens.

You must specify the following parameters in the **Generate** window to generate the bill segments:

- **Cutoff Date** is the last possible day of each bill segments bill period. The current date defaults when the window opens. Refer to Ways To Control The End Date Of A Bill Segment for more information.

- **Accounting Date** defines the financial period to which the new bill segments' financial transactions are booked. The current date defaults when the window opens.

- Check **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- If the service agreements use meter reads, use the **Billing Option** to control how the system retrieves meter reads that appear on the bill. Choose *Use Cut off Date* if the meter reads must exist on the **Cutoff Date** (defined above). Choose *Use Schedule* if you want the service agreement's service point(s) service cycle schedule to control the meter reads that are used (the schedule effective on the cutoff date is used to select the meter reads).

After specifying the parameters, click **Calculate** to create a new bill and new bill segments for the account. You see a summary of the bill segments in the lower right portion of the page.

Freeze

Clicking **Freeze** causes all *freezable* bill segments to become *frozen*. Refer to Bill Segment Lifecycle for more information about freezing.

This button is enabled if:

- the *Freeze At Will* **Bill Segment Freeze Option** on the installation option has been selected AND

- *freezable* bill segments exist AND

- there are no *error*, *incomplete* or *pending cancel* bill segments.

> **Freezing a day or more after generation.** If, during freezing, bill segments in *closed* accounting periods are detected, a pop-up appears in which you can specify a new accounting date; this date is updated onto the offending bill segments. This only happens if the accounting period closes before you freeze the bill segments (the accounting date is stamped on a bill segment when it's generated).

If, after freezing, you're ready to send the bill to the customer click Complete to finalize the bill.

> **If problems are detected after freezing.** A bill segment may not be changed after it is *frozen*. All subsequent changes must occur by canceling the frozen bill segment and creating a new bill segment. Refer to How To Cancel A Bill Segment and How To Cancel / Rebill A Bill Segment for more information.

Cancel Frozen

Clicking **Cancel Frozen** causes all *frozen* bill segments to become *canceled*. Refer to Bill Segment Lifecycle for more information about cancellation. This button is disabled if the bill is written off.

> **Pending cancels are not affected.** Clicking **Cancel Frozen** does not affect bill segments that are *pending cancel*. To make a *pending cancel* bill segment *canceled*, transfer to Bill Segment – Main and click Cancel.

If you need to cancel a specific bill segment, either transfer to the next tab and cancel the bill segment in question or follow the instructions under How To Cancel A Bill Segment.

This button is enabled if *frozen* bill segments are linked to the bill.

When clicked, the **Cancel Frozen Bill Segments** window opens.

In the **Cancel Frozen Bill Segments** window, you must specify the following parameters to cancel the frozen bill segments:

- **Cancel Reason** defines why you are performing the cancellation.

- **Accounting Date** defines the financial period to which the canceled bill segments' financial transactions are booked. The current date defaults when the window opens.

After specifying the parameters, click **Calculate** to cancel the frozen bill segments.

> **There is no Undo.** Unlike cancellations performed on Bill Segment – Main, there is no Undo action. This transaction moves the pending cancel bill segments to the cancel state immediately; whereas the bill segment transaction lets you examine the cancellation before you commit it. If you cancelled bill segments by mistake, you must generate and freeze new bill segments.

If the bill is *pending*, the cancellation causes the bill segments to be suppressed on the version of the bill sent to the customer (but they remain in the database for audit and financial reporting purposes).

If the bill is *complete* and you do not Reopen the bill, the financial impact of the canceled bill segments appears on the next bill created for the account (under Bill Corrections).

If the bill is *complete* you may be able to Reopen the bill and then Complete it. By doing this, you can suppress a *frozen* bill segment on a previously completed bill. This means that if you catch a problem after completion you don't necessarily have to show the problem to the customer. Rather, cancel the problem, reopen and then recomplete the bill (when you recomplete the bill the system marks the bill segment to be suppressed on the version sent to the customer because its cancellation appears on the same bill as the original charges).

Freeze / Complete

The **Freeze / Complete** button performs a variety of functions:

- all *freezable* bill segments (including rebills) become *frozen*

- all *pending cancel* bill segments become *canceled*

- all *freezable* adjustments whose adjustment type indicates *Freeze At Bill Completion* become *frozen*

- the bill is finalized and marked for transmission to the customer

Refer to Bill Lifecycle for information about what happens during bill completion. Refer to Bill Segment Lifecycle for more information about freezing.

This button is enabled if:

- the *Freeze At Bill Completion* Bill Segment Freeze Option on the installation option has been selected AND

- the bill is *pending* AND

- there are no bill segments or there are bill segments and all are *freezable*, *pending cancel*, *frozen* or *canceled* AND

- there are no *error* or *incomplete* bill segments.

When clicked, the **Complete** window opens.

If the **User May Override Bill Date** option has been enabled on the Installation Record, you may override the **Bill Date** prior to completion. Otherwise, the **Bill Date** is the current date and cannot be changed. The current date defaults when the window opens.

> **Freezing a day or more after generation.** If, during freezing, bill segments in *closed* accounting periods are detected, a pop-up appears in which you can specify a new accounting date; this date is updated onto the offending bill segments. This will only happen if the accounting period closes before you freeze the bill segments (the accounting date is stamped on a bill segment when it's initially generated).

After specifying the parameter, click **Calculate** to freeze and complete the bill.

Complete

The **Complete** button causes a bill to be finalized and marked for transmission to the customer. Refer to Bill Lifecycle for information about what happens during bill completion.

This button is enabled if:

- the *Freeze At Will* Bill Segment Freeze Option on the installation option has been selected AND

- the bill is *pending* AND

- there are no bill segments or there are bill segments and all are *frozen* or *canceled*.

When clicked, the **Complete** window opens.

If the **User May Override Bill Date** option has been enabled on the Installation Record, you may override the **Bill Date** prior to completion. Otherwise, the **Bill Date** is the current date and cannot be changed. The current date defaults when the window opens. If completing a correction note, the user is prompted to enter a **Correction Note Date instead of a bill date** in the **Complete** window.

After specifying the above parameters, click **Calculate** to complete the bill.

Delete

The **Delete** button deletes a bill and its bill segments.

This button is enabled if:

- the bill is *pending* AND

- all bill segments are *incomplete*, *freezable* or in *error*.

Reopen

The **Reopen** button causes a bill to be reopened. Refer to Bill Lifecycle for information about why you would reopen a bill.

This button is enabled if:

- the bill is *complete* AND

- the bill is not written off AND

- this is the most recent bill produced for the account AND

- the bill is not linked to an off cycle bill generator AND

- reopening hasn't been prohibited for the bill. Refer to Bill Lifecycle for information about conditions that can prevent a bill from reopening.

After reopening a bill, it returns to the *pending* state and you can make changes to the account's financial transactions (e.g., add payments, adjustments, and bill segments). After which, you click Complete or Freeze / Complete to finalize the bill. Only one of these buttons is shown – the specific one depends on how your organization has set the **Bill Segment Freeze Option** on the installation record.

Credit Note

The **Credit Note** button is used to cancel ALL bill segments and create a new bill that contains the cancellation details. We refer to this "negative bill" as a credit note. Refer to Credit Notes - Presenting Cancellation Details on a Separate Bill for more information.

This button is enabled if:

- the **Use Credit Notes** option on the Installation record is turned on AND

- the bill is *complete* AND

- the bill is not written off.

When clicked, the **Credit Note** window opens.

You must specify the following parameters in the **Credit Note** window to cancel the frozen bill segments:

- **Cancel Reason** defines why you are performing the cancellation.

- **Accounting Date** defines the financial period to which the canceled bill segments' financial transactions are booked. The current date defaults when the window opens.

- **Credit Note Date** defines the date of the credit note on which the cancellation details appear. The current date defaults when the window opens.

After specifying the parameters, click **Calculate** to cancel the frozen bill segments and create a credit note.

It should be noted that if this operation is successful, the new "negative bill" is *complete*. It is ready for transmission to the customer and for interface to the general ledger.

If you want to issue a credit note for a specific bill segment. Rather than cancel all bill segments on a bill, you can create a credit note for a specific bill segment on a bill. To do this, drill down on the bill segment in question and then click the Credit Note button on the bill segment page. You can also issue a credit note for selected bill segments on the next tab by selecting the desired bill segments and clicking the **Credit Note** button.

Correction Note

The **Correction Note** button is used to cancel and rebill ALL bill segments and create a new bill that contains the cancellation and rebill details. We refer to the resultant bill as a correction note. Refer to Correction Notes - Presenting Correction Notes on a Separate Bill for more information.

This button is enabled if:

- the **Correction Note** Billing Option is specified on the Installation record AND

- the bill is *complete* AND

- there is at least one frozen bill segment on the bill or all of the bill's bill segments are frozen or cancelled AND

- there are no bill segment financial transactions that have been transferred out of the system.

When clicked, the **Correction Note** window opens.

You must specify the following parameters in the **Correction Note** window to correct the bill segment:

- **Cancel Reason** defines why you are performing the correction.

- **Cutoff Date** is the last possible day of each bill period for a bill segment. The current date defaults when the window opens. Refer to Ways To Control The End Date Of A Bill Segment for more information.

- **Accounting Date** defines the financial period that the financial transactions are booked for a bill segment. The current date defaults when the window opens.

- Check **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- Use the **Billing Option** to define how the system looks for meter reads:

  - Select *Use Schedule* if the system should select reads based on the SA's SP service cycle schedule. Refer to How The System Determines How Much Was Consumed for more information.

  - Select *Use Cut off Date* if the system should only select reads from the end date of the existing bill segment.

- If you prefer to have the system use the consumption details used on the original bill segments, check **Use Old Read/Item/SQ**. If this switch is on, neither **Allow Estimates** nor **Billing Option** is relevant.

- After specifying the parameters, click **Calculate** to correct the bill segments and create a correction note. The Bill Page opens and displays the Correction Note.

Once you complete a correction note, it cannot be reopened.

After you create a correction note, the **Undo Correction Note** button is activated.

The button is enabled if:

- the **Correction Note** Billing Option is specified on the Installation record AND

- the bill is a correction note AND

- the bill is not linked to an off cycle bill generator AND

- all of the bill segments for the correction note are freezable.

> **If you want to issue a correction note for a specific bill segment.** You can create a correction note for a specific bill segment on a bill. To do this, drill down on the bill segment in question and then click the **Correction Note** button on the bill segment page. You can also issue a correction note for selected bill segments by selecting the desired bill segments and clicking the **Correction Note** button.

Write Off

Refer to Writing Off Bills for a description of when the **Write Off** button appears and what happens if the button is clicked.

Reverse Write Off

Refer to Writing Off Bills for a description of when the **Reverse Write Off** button appears and what happens if the button is clicked.

Cancel Bill

Refer to Idiosyncratic Manual Bill Cancellation for a description of when the **Cancel Bill** button appears and what happens if the button is clicked. Note that if the bill is linked to an off cycle bill generator, this button is not enabled.

Bill - Bill Segments

You can use this page to view all or selected bill segments linked to a bill. In addition, you can also perform certain maintenance functions on this page (see the details below).

Open **Financial, Bill, Bill Segments** to view this information.

> **Note.** If the bill has more than 25 bill segments and you don't use the go to buttons in the bill segment grid on the Main tab to drill over to this information, the search criteria are intentionally left blank in order to avoid retrieving all bill segments (with the resultant slow response times). You must therefore use the **SA Filter** and the **Status Filter** to define the type of bill segments that should be retrieved. See the *Description of page* below for more information about this page's search criteria.

The *Description of page* section below describes the fields on this page. Refer to How To for a description of how to perform common maintenance functions.

Description of page

Bill Info contains a concatenation of important information about the bill (e.g., the bill date, its status, due date, ending balance, etc.).

Bill ID is the system-assigned unique identifier of the bill.

> **Note.** If the bill has more than 25 bill segments and you don't use the hyperlinks in the bill segment grid on the Main tab to drill over to this page, the **Filters** are intentionally left blank in order to avoid retrieving all bill segments (with the resultant slow response times). You must therefore use the **SA Filter** and the **Status Filter** to define the type of bill segments that should be retrieved.

The area beneath **Bill Info** provides you with options that control which bill segments appear in the grid. The following points describe the various options:

- Use the **SA Filter** to define the types of service agreements whose bill segments appear in the grid. The following options are available:

    - *Address.* Use this option to restrict bill segments to those whose service agreements are linked to service points associated with a given **Address**, **City** and/or **Postal** code. Note, you can specify any combination of these fields.

    - *All.* Use this option if you do not wish to restrict bill segments based on service agreement attributes.

    - *Geographic Type.* Use this option to restrict bill segments to those whose service agreements are linked to service points associated with a given **Geo Type** and **Value**.

    - *SA Type.* Use this option to restrict bill segments to those whose service agreements are linked to a given **CIS Division** and **SA Type**.

- Use **Status Filter** to restrict the bill segments based on their status. The following options are available:

    - *All*. This option shows all bill segments regardless of status.

    - Refer to Bill Segment Lifecycle for the various status values.

Don't forget to click the search button after changing the filters.

The **Select All** / **Clear All** buttons are used to select bill segments if you plan on issuing any of the mass update actions at the bottom of the page. These buttons are enabled if either of the following conditions is true:

- All bill segments that appear in the grid are in the *Error*, *Freezable* and/or *Incomplete* states.

- All bill segments that appear in the grid are in the *Frozen* state

Refer to the description of the "mass update" actions below for more information.

> **100 bill segments at a time.** Clicking **Select All** selects the first 100 bill segments in the grid. If more than 100 bill segments exist, you must select them in batches.

The grid that follows contains the bill segments that match your search criteria. The following information appears in the grid:

- Select box. See the mass update description immediately above for conditions under which this checkbox can be used to select bill segments for mass update actions.

- The **Bill Segment** column contains a concatenation of the bill segment's division, SA type, status and bill period. The division and SA type come from the bill segment's service agreement. Click the hyperlink to transfer to Bill Segment – Main Information. On this page you can perform maintenance functions (e.g., cancel/rebill, delete, cancel, etc., depending on the segment's status) on the bill segment in question.

- The **Current Amount** column contains the bill segment's effect on the service agreement's current balance.

- The **Status** shows the bill segment's status. Refer to Bill Segment Lifecycle for the possible values.

- The **Remarks** column highlights special circumstances associated with the bill segment.

  - *Rebill after completion* appears if the bill segment is a rebill that was created after the bill was sent to the customer. The financial impact of this bill segment appears as a "bill correction" on the next bill produced for the customer.

  - *Rebill prior completion* appears if the bill segment is a rebill that was created before the bill was sent to the customer.

  - *Canceled after completion* appears if the bill segment was canceled after the bill was sent to the customer. The financial impact of this bill segment appears as a "bill correction" on the next bill produced for the customer.

  - *Canceled prior completion* appears if the bill segment was canceled before the bill was sent to the customer.

  - If the bill segment's status is *Error* or *Incomplete*, this column contains an estimated value of this bill segment. The estimated value is calculated by computing an average daily amount from the service agreement's *frozen* bill segments in the last 365 days. This average is then applied to the number of days in this bill segment's bill period. If the bill segment doesn't have a bill period (rare, but possible), the historical average is not displayed.

  - If the bill segment's status is *Error*, this column also contains the error message.

  - *Rebilled due to correction note* appears if the correction note was generated for the bill segment. This remark is generated only if you have Correction Note specified in the Installation record.

  - *Rebilled due to correction. Canceled after completion* appears for a correction note that spawns another correction note. This remark is generated only if you have Correction Note specified in the Installation record.

- The **Service Quantity** and **UOM** (unit of measure) columns contain the amount of consumption that was billed. The UOM is defined on the service agreement's SA type.

- The **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

This transaction has sophisticated logic that can be used to perform "mass updates" to the bill segments that appear in the grid (using the buttons at the bottom of the page). The following points describe these mass update actions:

Contents

Generate (Bill - Bill Segments)

The **Generate** button is used to delete and recreate one or more bill segments. This button is enabled if you select at least one row from the bill segments grid that's in the *Error*, *Freezable* and/or *Incomplete* state.

Note that you can only select a bill segment for regeneration if ALL bill segments in the grid are in the *Error*, *Freezable* and/or *Incomplete* states. Note, you can use the **Status Filter** to restrict the type of bill segments in the grid.

When clicked, the **Generate** window opens.

You must specify the following parameters in the **Generate** window to regenerate a new bill:

- **Accounting Date** defines the financial period to which the new bill segments' financial transactions will be booked. The current date defaults when the window opens.

- Check **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- If the service agreements use meter reads, use the **Billing Option** to control how the system retrieves meter reads that appear on the bill. Choose *Use Cut off Date* if the meter reads must exist on the **Cutoff Date** (defined above). Choose *Use Schedule* if you want the service agreement's service point(s) service cycle schedule to control the meter reads that are used (the schedule effective on the cutoff date is used to select the meter reads).

After specifying the parameters, click **Calculate** to regenerate the selected bill segments. A summary of what the system does is presented next.

Freeze (Bill - Bill Segments)

The **Freeze** button is used to freeze one or more bill segments. This button is enabled if you select at least one row from the bill segments grid that's in the *Freezable* state AND the installation option indicates users are allowed to "freeze at will".

Note that you can only select a bill segment for freezing if ALL bill segments in the grid are in the *Freezable* state. Note, you can use the **Status Filter** to restrict the type of bill segments in the grid.

When clicked, the **Freeze** window opens.

Accounting Date is used to define the financial period to which the frozen bill segments' financial transactions are booked. The current date defaults when the window opens.

After specifying the above parameters, click **Freeze** to freeze the selected bill segments. A summary of what the system does is presented next.

Delete (Bill - Bill Segments)

The **Delete** button is used to delete one or more bill segments. This button is enabled if you select at least one row from the bill segments grid that's in the *Error*, *Freezable* and/or *Incomplete* state.

Note that you can only select a bill segment for deletion if ALL bill segments in the grid are in the *Error*, *Freezable* and/or *Incomplete* states. Note, you can use the **Status Filter** to restrict the type of bill segments in the grid.

If the system is successful in deleting the selected bill segment(s), a confirmation window summarizes what the system just did (i.e., it shows the number of bill segments that were deleted).

Cancel/Rebill/Freeze (Bill - Bill Segments)

If problems are detected with a *frozen* bill segment, it should be canceled and a new bill segment should be created. We refer to this process as cancel / rebill. Refer to Cancel / Rebill Incorrect Bill Segments for more information.

Before you cancel / rebill, you'll probably need to fix the cause of the problem. The following table describes common problems and how to fix them.

Problem	How To Fix It
The wrong rate was used	Go to Service Agreement – Rate Info and correct the rate.
The wrong meter read was used	Add a meter read with a more powerful read type for the service point in question.
The wrong meter was connected to the service point	Go to SP / Meter Installation and correct the SP / Meter linkage. Then go to Service Agreement – SA / SP and indicate the appropriate start read for the service point's correct meter.
A contract rider was applied incorrectly	Go to Service Agreement – Rate Info and correct the contract rider information.
The wrong tax exemption amount was calculated	Go to Service Agreement – Rate Info and correct the tax exemption information.

Multi-Cancel/Rebill Saves Time. If the cause of the problem impacts many bill segments related to a service agreement, you should use the Multi Cancel Rebill transaction as it allows you to cancel / rebill an unlimited number of bill segments at once.

Credit Notes. Using the cancel/rebill functionality causes the cancel and rebill details to be swept on to the customer's next bill unless you Reopen the bill. If your organization requires cancellation details to be presented to the customer separately from the new bill, you should not use the **Rebill** functionality. Rather, you should issue a Credit Note and then generate a new bill containing the revised charges.

The **Cancel/Rebill/Freeze** button is used to cancel, rebill and freeze one or more bill segments. This button is enabled if you select at least one row from the bill segments grid that's in the *Frozen* state AND the bill is not written off.

Note that you can only select a bill segment for cancel/rebill/freeze if ALL bill segments in the grid are in the *Frozen* state. Note, you can use the **Status Filter** to restrict the type of bill segments in the grid.

When clicked, the **Cancel/Rebill/Freeze** window opens.

- **Cancel Reason** defines why the bill segment(s) are being canceled.

- **Accounting Date** defines the financial period to which the canceled and new bill segments' financial transactions are booked. The current date defaults when the window opens.

- Check **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- Use the **Billing Option** to define how the system looks for meter reads:

  - Select *Use Schedule* if the system should select reads based on the SA's SP service cycle schedule. Refer to How The System Determines How Much Was Consumed for more information.

  - Select *Use Cut off Date* if the system should only select reads from the end date of the existing bill segment.

- If you prefer to have the system use the consumption details used on the original bill segments, check **Use Old Read/Item/SQ**. If this switch is on, neither **Allow Estimates** nor **Billing Option** is relevant.

> **Warning!** If the cause of the rebill is an incorrect rate and the new rate requires service quantities that were not calculated when the bill was originally calculated, do not turn on **Use Old Read/Item/SQ**. Why? Because you want the system to derive new service quantities during the rebill process.

After specifying the parameters, click **Calculate** to cancel, rebill and freeze the selected bill segments.

> **Errors.** Bill segment errors may occur when you cancel / rebill the bill segments. For example, if you change the SA's rate to a rate that requires a unit-of-measure that doesn't exist on the SA's meter, a bill segment error is generated. If this occurs, you must go to Bill Segment – Main for the *pending cancel* bill segment and use the **Undo** action to remove the offending bill segment (and restore the original segment to the *Frozen* state). Alternatively, you can drill down on the *Error* bill segment and use the **Regenerate** action after correcting the cause of the problem.
>
> **There is no Undo.** Unlike cancel / rebills performed on Bill Segment – Main, there is no Undo action. This is because this transaction freezes the newly created bill segments after it cancel/rebills; whereas the bill segment transaction lets you examine the new bill segment before you freeze it. If you made a mistake, simply correct the cause of the mistake and then cancel / rebill again. The erroneous financial transactions are automatically suppressed on the next bill produced for the customer.

A confirmation window summarizes what the system just did (i.e., it shows the number of bill segments that were deleted / generated).

Cancel (Bill - Bill Segments)

The **Cancel** button is used to cancel one or more bill segments. This button is enabled if you select at least one row from the bill segments grid that's in the *Frozen* state AND the bill is not written off.

Note that you can only select a bill segment for cancellation if ALL bill segments <u>in the grid</u> are in the *__Frozen__* state. Note, you can use the **Status Filter** to restrict the type of bill segments in the grid.

When clicked, the **Cancel** window opens.

- **Cancel Reason** defines why the bill segment(s) are being canceled.

- **Accounting Date** is used to define the financial period to which the canceled bill segments' financial transactions are booked. The current date defaults when the window opens.

After specifying the above parameters, click **Calculate** to cancel the selected bill segments.

There is no Undo. Unlike cancellations performed on <u>Bill Segment – Main</u>, there is no Undo action. This transaction moves the pending cancel bill segments to the cancel state immediately; whereas the bill segment transaction lets you examine the cancellation before you commit it. If you cancelled bill segments by mistake, you must generate and freeze new bill segments.

Credit Note (Bill - Bill Segments)

The **Credit Note** button is used to cancel selected bill segments and create a new bill that contains the cancellation details. We refer to this "negative bill" as a credit note. Refer to <u>Credit Notes - Presenting Cancellation Details on a Separate Bill</u> for more information.

This button is enabled if:

- the **Use Credit Notes** option on the <u>Installation</u> record is turned on AND

- if you select at least one row from the bill segments grid that's in the *__Frozen__* state AND

- the bill is not written off.

Note that you can only select a bill segment for this action if ALL bill segments <u>in the grid</u> are in the *__Frozen__* state. Note, you can use the **Status Filter** to restrict the type of bill segments in the grid.

When clicked, the **Credit Note** window opens.

You must specify the following parameters in the **Credit Note** window to cancel the frozen bill segments:

- **Cancel Reason** defines why you are performing the cancellation.

- **Accounting Date** defines the financial period to which the canceled bill segments' financial transactions are booked. The current date defaults when the window opens.

- **Credit Note Date** defines the date of the credit note on which the cancellation details appear. The current date defaults when the window opens.

After specifying the parameters, click **Calculate** to cancel the frozen bill segments and create a credit note.

It should be noted that if this operation is successful, the new "negative bill" is *__complete__*. Refer to <u>Bill Lifecycle</u> for information about the steps that take place during completion. It is ready for transmission to the customer and for interface to the general ledger.

> **If you want to issue a credit note for an entire bill.** Rather than cancel a specific bill segment, functionality exists that allows you to create a credit note for ALL bill segments on a bill. To use this feature, display the bill in question and then click the Credit Note button on the bill page.

Correction Note (Bill - Bill Segments)

The **Correction Note** button is used to cancel and rebill bill segments and create a new bill that contains the cancellation and rebill details. We refer to the resultant bill as a correction note. Refer to Correction Notes - Presenting Correction Notes on a Separate Bill for more information. This button is enabled if:

- the **Correction Note** option is specified on the Installation record AND

- the bill is *complete* AND

- the bill segment is *frozen* AND

- there are no bill segment financial transactions that have been transferred out of the system.

When clicked, the **Correction Note** window opens.

You must specify the following parameters in the **Correction Note** window to correct the bill segment:

- **Cancel Reason** defines why you are performing the correction.

- **Cutoff Date** is the last possible day of each bill segments bill period. The current date defaults when the window opens. Refer to Ways To Control The End Date Of A Bill Segment for more information.

- **Accounting Date** defines the financial period to which the corrected bill segments' financial transactions are booked. The current date defaults when the window opens.

- Check **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- Use the **Billing Option** to define how the system looks for meter reads:

    - Select *Use Schedule* if the system should select reads based on the SA's SP service cycle schedule. Refer to How The System Determines How Much Was Consumed for more information.

    - Select *Use Cut off Date* if the system should only select reads from the end date of the existing bill segment.

- If you prefer to have the system use the consumption details used on the original bill segments, check **Use Old Read/Item/SQ**. If this switch is on, neither **Allow Estimates** nor **Billing Option** is relevant.

- After specifying the parameters, click **Calculate** to correct the bill segments and create a correction note. The Bill Page opens and displays the Correction Note.

> **If you want to issue a correction note for an entire bill.** You can create a correction note for ALL bill segments on a bill. To use this feature, display the bill in question on the Bill page and click the **Correction Note** button.

Bill - Bill Routings

This page is used to view the recipients of a bill. Refer to Printing Bills for a discussion of how this information is used to produce bill images.

This page is also used to request a new copy of a bill. Refer to How To Reprint A Bill (For The Original Recipients or For Someone New) for a description of how to do this.

No routing information until completion. A bill has no routing details until it is completed. At completion time, the system creates a routing detail for every person linked to the account that receives a copy of its bills. Refer to The Source Of Bill Routing Information for more information about how this information is constructed.

Use **Financial, Bill, Bill Routings** to open this page.

Description of Page

Bill Info contains a concatenation of important information about the bill (e.g., the bill date, its status, due date, ending balance). If sequential bill numbering has been enabled, the bill's number also appears.

Bill ID is the system-assigned unique identifier of the bill.

The **Bill Routing Information** scroll contains an entry for each recipient of the bill. This information is disabled after the bill has been routed to the recipient. The remainder of this discussion describes the fields that can be defined for each recipient of the bill.

Person ID identifies the person who was originally associated with the routing record. You may change the **Person ID** to any person in the system as this information is only used to default the recipient's name and address information, below.

The **Bill Routing Parameters** area contains information explaining how and when the bill is routed to the recipient. This information is gray when the rill routing information has been extracted or if a bill is reopened:

- **Bill Route Type** is the method used to transmit the bill to the customer. If the **Person ID** is linked to the account, the bill route type defaults from the person's Account – Person Information.

- **Sequence** is the system-assigned identifier assigned to this bill routing.

- **Batch Control** is the identifier of the batch of bills in which the recipient's copy was downloaded. The batch process is defined on the **Bill Route Type**.

- **Extract Date/Time** is the date and time the bill was downloaded. This information only appears after the download has commenced.

- **Format** indicates if the customer should receive a *Detailed* or a *Summary* bill. If the **Person ID** is linked to the account, this information defaults from Account – Person Information.

- **Reprint** is checked if a user created this routing. This switch is populated by the system and is always protected.

- Turn on **Do Not Extract** if the bill should not be routed to the individual for whatever reason.

- **Copies** indicates the number of copies of the bill the person receives. If the **Person ID** is linked to the account, this information defaults from Account – Person Information.

- **PO ID** is the purchase order Id the customer wants printed on their copy of the bill. If the **Person ID** is linked to the account, this information defaults from Account – Person Information.

- **Intercept** is the user ID of the individual who wants to review the bill before it is sent to the customer. This field is only populated when the account has a Bill Print Intercept specified. Intercept information is defined on Account – Main Information.

The **Mailing Address Information** area contains the recipient's name and address.

- If the recipient has an override mailing name, **Name1**, **Name2** and **Name3** contain the person's override mailing name. Otherwise, **Name1** contains the recipient's primary name (this name might also include a prefix or suffix if the related Account – Person relationship has these fields defined).

- The remaining fields are the recipient's address. Refer to The Source Of Bill Routing Information for information about how the system constructs the recipient's address. Note:

  - If the recipient's address is a mailing address (as opposed to fax or email), the **Country** associated with the address controls the fields that appear in the address. Refer to Defining Countries for more information on the address constituents.

  - If a user manually adds a routing record, the mailing address information defaults from the information on the current routing record.

  - If a user specifies a **Person ID** that is linked to the bill's account, the **Bill Route Type** defined on the Account – Person record is defaulted.

  - If a user specifies a **Person ID** that is not linked to the bill's account, the **Bill Route Type** on the installation record is defaulted. Note, if the bill route indicates the bill is routed via the postal service, the system will only be able to default the person's address if the person has an override mailing address on their correspondence information.

  - If the user changes the **Bill Route Type** after the initial default, the system populates the address information as described under The Source Of Bill Routing Information.

Bill - Bill Messages

The Messages page is a grid containing one row for every message that appears on the bill. Open **Financial, Bill, Bill Messages** to view this information.

No messages until completion. A bill has no messages until it is completed (unless you insert them manually). At completion time, the system assembles messages from the various message sources. Refer to The Source Of Bill Messages for information about these sources.

The bill segment(s) may also have messages. Be aware that only account-oriented messages are linked to a bill. There may also be service agreement-oriented messages linked to the bill's bill segments. Refer to Bill - Bill Messages for information about the page on which service agreement-oriented messages are displayed. Refer to The Source Of Bill Messages for information about the various message sources and whether each is linked to a bill or a bill segment.

> **Bill messages may contain dynamic information.** Refer to Substituting Field Values Into A Bill Message for more information.

The **Description of Page** section below describes the fields on this page. Refer to How To Add Ad Hoc Messages To A Bill for a description of how to perform common maintenance functions.

Description of Page
Bill Info contains a concatenation of important information about the bill (e.g., the bill date, its status, due date, ending balance). If sequential bill numbering has been enabled, the bill's number also appears.

Bill ID is the system-assigned unique identifier of the bill.

The following columns are displayed in the grid:

- **Bill Message** is the code that identifies the bill message.

- **Message On Bill** is the message associated with the code.

- **Priority** is the bill messages priority (on the printed bill).

- **Insert Code** defines if the bill message causes an insert in the envelope.

Bill - Characteristics

The Characteristics page is a grid containing one row for each characteristic linked to the bill. Bill characteristics are purely informational.

> **Note.** You can only choose characteristic types defined as permissible on a bill record. Refer to Setting Up Characteristic Types and Their Values for more information.

Description of Page
The following fields display on the grid:

- **Characteristic Type** must be a type of characteristic defined as permissible on a bill record.

- **Sequence** Controls the order in which characteristics of the same type are displayed.

- **Characteristic Value** indicates the value of the characteristic if the characteristic type is pre-defined or foreign key reference.

How To

The topics in this section describe how to perform common bill maintenance functions.

Contents

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How To Create A Bill For All Service Agreements Linked To An Account

99.9% of all bills are created by the batch bill process and require no human intervention before they are finalized and sent to a customer. The other 0.1% are created by users on-line / real time. This section explains how to create the 0.1%.

The following points describe how to use this page to create a new bill:

- Navigate to the Bill – Main Information page:

    - If you have already selected the customer (say on Control Central), select **Go To Bill +** option on the account context menu. This will transfer you to this page with the respective account populated.

    - If you haven't selected the account, use the main menu to navigate to this page (Main Menu, Financial, Bill, +) and then select the **Account ID** using the adjacent search button.

- Click the Generate button to create a new bill.

- You will see a summary of the bill segments in the lower right portion of the page. If there are errors, refer to How To Correct A Bill Segment That's In Error. If there are no errors, the **Bill Segment Freeze Option** on the installation option controls the next step:

    - If this option is set to **Freeze At Bill Completion**, click the Freeze / Complete button.

    - If this option is set to **Freeze At Will**, click the Freeze button and, if everything looks clean, click the Complete button.

How To Create A Bill For A Specific Service Agreement

Most bills contain a bill segment for every service agreement linked to the account. If you want to produce a bill that contains bill segments for a subset of service agreements (e.g., you want to create a one-time invoice for an account's billable charge service agreement), follow these steps:

- Navigate to the Bill – Main Information page:

    - If you have already selected the customer (say on Control Central), select **Go To Bill +** option on the account context menu. This will transfer you to this page with the respective account populated.

    - If you haven't selected the account, use the main menu to navigate to this page (Main Menu, Financial, Bill, +) and then select the **Account ID** using the adjacent search button.

- Click the save button to create a bill without bill segments for the account.

- Select **Go To Bill Segment +** option on the Bill's context menu to transfer to Bill Segment - Main.

- Select the **SA ID** of the service agreement for which you want to create a bill segment.

- Click the Generate button to generate a bill segment.

- If an error exists, refer to How To Correct A Bill Segment That's In Error.

- If there are no errors, the **Bill Segment Freeze Option** on the installation option controls the next step:

    - If this option is set to **Freeze At Bill Completion**, return to Bill – Main (using the bill context menu) and click the Freeze / Complete button.

    - If this option is set to **Freeze At Will**, click the Freeze button and, if everything looks clean, return to Bill – Main and click the Complete button.

How To Create a Bill with no Bill Segments

You may wish to generate a bill that contains no bill segments. For example, perhaps your customer is billed quarterly but pays monthly. During the months where no charges are calculated, you may choose to send a "bill" that does not show new charges, but includes the payments received. To produce a bill with no bill segments, follow these steps:

- Navigate to the Bill – Main Information page:

    - If you have already selected the customer (say on Control Central), select **Go To Bill +** option on the account context menu. This will transfer you to this page with the respective account populated.

    - If you haven't selected the account, use the main menu to navigate to this page (Main Menu, Financial, Bill, +) and then select the **Account ID** using the adjacent search button.

- Click the save button to create a bill without bill segments for the account.

- At this point either the **Complete** or **Freeze / Complete** button (based on the value of Bill Segment Freeze Option on installation options) becomes enabled. Click the applicable button for your installation to complete the bill. At this point, all the steps described for completing a bill in Bill Lifecycle are performed, including sweeping onto the bill any payments received since the last bill was generated.

How To Create A One-Time Invoice

The following points describe the steps necessary to create and bill a one-time invoice:

- If the customer to be invoiced doesn't already have an appropriate billable charge service agreement, create one. The easiest way to do this is from Start/Stop Service.

- Use Maintaining Billable Charges to add a billable charge for the service agreement. The billable charge contains the invoice lines and amounts. The system will produce the bill for this charge when the account's bill cycle next executes. If you can't wait until that time, proceed to the next step.

- If you created a new billable charge service agreement in step 1, you must activate it before billing can bill it. To do this, transfer to Service Agreement – Main Information and click the activate button.

- Refer to How To Create A Bill For A Specific Service Agreement for instructions describing how to create a bill with a bill segment for the billable charge service agreement.

How To Correct A Bill Segment That's In Error

A bill segment will exist in the *Error* state if a problem was encountered during the generation of a bill segment. To fix an *error* bill segment you must correct the cause of the error and then regenerate the bill segment. Refer to Bill Segment Errors for background information.

> **Error segments created during batch billing.** If the *error* bill segment was created as part of the batch bill process, the system attempts to fix the offending segment(s) each night during the account's bill window by regenerating it. Therefore, if the cause of the error is fixed during the day, the system will automatically regenerate the bill segment when batch billing next runs; you don't have to manually correct each bill. And once a bill is error-free, it will be completed and sent to the customer. Refer to Batch Billing for more information.

Correcting the cause of a bill segment error can be difficult or trivial; we hope that the error messages (along with their long descriptions) provide a good description of how to resolve the issue.

After you have corrected the cause of the error, you should regenerate the bill segment. There are two ways to do this:

- You can use the Generate action on Bill – Bill Segment to regenerate one or more bill segments. We recommend using this method if the cause of the error affected many bill segments because you can regenerate many bill segments at a time on this page. Also, be aware that this transaction shows the estimated value of *error* bill segments so you can gauge whether to invest a lot of time in correcting the problem. For example, if the bill segment's estimated value is $10,000, it's probably worth correcting the problem before sending the bill out. However, if the bill segment's value is small, you may decide to simply delete the error bill segment and send the bill without it (the system will attempt to create a bill for the deleted period the next time the account is billed).

- You can use the Generate action on Bill Segment - Main to regenerate an individual bill segment. We'd recommend using this method if the problem is bill segment-specific and you need to examine the information that is snapshot on the bill segment to resolve the error (e.g., you need to look at the meter reads and service quantities).

> **Drilling Into Bill Segment Errors.** When you use the bill segments in error To Do list to work through errors, you will be transferred to Bill Segment - Main with the bill segment displayed.

After all errors have been resolved on a bill, return to Bill – Main. The **Bill Segment Freeze Option** on the installation option controls the next step:

- If this option is set to *Freeze At Bill Completion*, click the Freeze / Complete button.

- If this option is set to *Freeze At Will*, click the Freeze button and, if everything looks clean, click the Complete button.

How To Correct A Bill That's In Error

Besides errors on bill segments, there may also be errors detected when the system attempts to complete a bill. For example, if the system cannot find a mailing address, the bill will be in error (as opposed to one of its bill segments). Refer to Bill Errors for background information.

To correct such an error:

- Navigate to Bill – Main.

- Look at the bill's error message. Push the view button to view the long explanation that will provide suggestions as to the cause of the error (and how to fix it). Transfer to the appropriate page to fix the problem.

- After fixing the cause of the error, return to Bill – Main. The **Bill Segment Freeze Option** on the installation option controls the next step:

    - If this option is set to *Freeze At Bill Completion*, click the Freeze / Complete button.

    - If this option is set to *Freeze At Will*, click the Freeze button and, if everything looks clean, click the Complete button.

How To Cancel A Bill Segment

If a bill segment was *frozen* and it should never have been created in the first place, the bill segment must be canceled. There are several ways to do this:

- You can use the Cancel Frozen action on Bill – Main to cancel all frozen bill segments linked to the bill. We recommend using this method if you need to cancel everything on a bill.

- You can use the Cancel action on Bill – Bill Segments to cancel selected bill segments. We recommend using this method if you need to cancel multiple bill segments.

- You can use the Cancel action on Bill Segment - Main to cancel an individual bill segment. We'd recommend using this method if you need to examine the information on the bill segment before canceling it.

If the related bill is *pending*, the cancellation will cause the bill segment to be suppressed on the version of the bill sent to the customer (but it remains in the database for audit and financial reporting purposes).

If the related bill is *complete* and you do not Reopen the bill, the financial impact of the canceled bill segment(s) will appear on the next bill created for the account (under Bill Corrections).

If the related bill is *complete* you may be able to Reopen the bill and then Complete it. By doing this, you can suppress a *frozen* bill segment on a previously completed bill. This means that if you catch a problem after completion you don't necessarily have to show the problem to the customer. Rather, cancel the problem, reopen and then recomplete the bill (when you recomplete the bill the system will mark the bill segment to be suppressed on the version sent to the customer because its cancellation appears on the same bill as the original charges).

How To Cancel / Rebill A Bill Segment

If a bill segment was *frozen* but it contains incorrect information, it should be canceled and a new bill segment should be created. We refer to this process as cancel / rebill. Refer to Cancel / Rebill Incorrect Bill Segments for more information.

Before you cancel / rebill, you must correct the cause of the problem. The following table describes common problems and where to go to fix them.

Problem	How To Fix It
The wrong rate was used	Go to Service Agreement – Rate Info and correct the rate.
The wrong meter read was used	Add a meter read with a more powerful read type for the service point in question.
The wrong meter was connected to the service point	Go to SP / Meter Installation and correct the SP / Meter linkage. Then go to Service Agreement – SA / SP and indicate the appropriate start read for the service point's correct meter.
A contract rider was applied incorrectly	Go to Service Agreement – Rate Info and correct the contract rider information.
The wrong tax exemption amount was calculated	Go to Service Agreement – Rate Info and correct the tax exemption information.

After correcting the cause of the problem, you're ready to cancel and rebill the offending bill segment(s). There are several ways to do this:

- You can use the Cancel / Rebill / Freeze action on Bill – Bill Segments to cancel, rebill and freeze selected bill segments. We recommend using this method if you need to cancel / rebill multiple bill segments due to a pervasive problem.

- You can use the Rebill action on Bill Segment - Main to cancel and rebill an individual bill segment. We'd recommend using this method if you need to examine the information on the bill segment before and after canceling it. If you use this method, you must also use the Freeze action to freeze the newly created bill segment.

- If the cause of the problem impacts many bill segments related to a service agreement, you should use the Multi Cancel Rebill transaction as it allows you to cancel / rebill an unlimited number of bill segments at once.

If the related bill is *pending*, the cancellation will cause the erroneous bill segment to be suppressed on the version of the bill sent to the customer (but it remains in the database for audit and financial reporting purposes).

If the related bill is *complete* and you do not Reopen the bill, the financial impact of the canceled bill segment(s) and their rebill bill segment(s) will appear on the next bill created for the account (under Bill Corrections).

If the related bill is *complete* you may be able to Reopen the bill and then Complete it. By doing this, you can suppress an erroneous *frozen* bill segment on a previously completed bill. This means that if you catch a problem after completion you don't necessarily have to show the problem to the customer. Rather, cancel / rebill the problem, reopen and then recomplete the bill (when you recomplete the bill the system will mark the bill segment to be suppressed on the version sent to the customer because its cancellation appears on the same bill as the original charges).

How To Create A Credit Note

A credit note is used to cancel bills segments and present the results of this cancellation on a separate bill. This separate bill is referred to as a credit note. Refer to Credit Notes - Presenting Cancellation Details on a Separate Bill for more information.

> **Installation option must be turned on.** If your organization creates credit notes, be sure to select the Credit Note Billing Option on the Installation Options. If you don't select this option, the credit note buttons will not be enabled.

Before creating a credit note, you must first determine whether a single bill segment must be canceled or whether all bill segments for a bill must be canceled:

- If you need to issue a credit note for the entire bill, navigate to the Bill page and click the Credit Note button.

- If you need to issue a credit note for a specific bill segment, navigate to the Bill Segment page and click the Credit Note button.

> **Open-item customers**. If any of the bill segments are associated with an open-item customer class AND the original bill segment is an open item, the match event will be created and balanced with the original FT and the cancellation FT, assuming you have the appropriate FT freeze algorithm plugged-in on the customer class.
>
> **Issuing a credit note for a specific bill segment**. You may also issue a credit note for an individual bill segment.   When you create a credit note for an individual bill segment, that bill segment is canceled and a new credit note bill is created for that single bill segment's cancellation information.

How To Create A Correction Note

The **Correction Note** button is used to cancel and rebill bill segments and present the cancellation and rebill details on a separate bill. Refer to Correction Notes - Presenting Correction Notes on a Separate Bill for more information.

> **Installation option must be turned on.** If your organization creates correction notes, be sure to select the Correction Note Billing Option on the Installation Options. If you don't select this option, the correction note buttons will not be enabled.

Before creating a correction note, you must first determine whether the note should impact a single bill segment or whether all bill segments for a bill must be corrected:

- If you need to issue a correction note for the entire bill, navigate to the Bill page and click the Correction Note button.

- If you need to issue a correction note for a specific bill segment, navigate to the Bill Segment page and click the Correction Note button.

> **Open-item customers**. If any of the bill segments are associated with an open-item customer class AND the original bill segment is an open item, the match event will be created and balanced with the original FT and the cancellation FT, assuming you have the appropriate FT freeze algorithm plugged in on the customer class.

> **Issuing a correction note for a specific bill segment**. You can also issue a correction note for an individual bill segment. When you create a correction note for an individual bill segment, that bill segment is canceled and a new correction note bill is created for that single bill segment's cancellation information.

How To Create An Off Cycle Bill Generator

An off cycle bill generaor is used to create an off cycle bill for an account. You control the financial transactions that are linked to the bill. To create a bill using the base off cycle bill generator business object, follow these steps:

- With an account in context, select **Go To Off Cycle Bill Generator +** on the account context menu. This will transfer you to this portal with the respective account populated.

- Select the adjustments, billable charges and/or service agreements that you wish to include in the bill.

- Enter the required bill information to be used when creating the bill; this includes the Cutoff Date, Accounting Date, Allow Estimates switch, Billing Option and Bill Date.

- Click the save button.

- Click the **Complete** button to transition the off cycle bill generator to the complete state and create the bill. Any errors encountered while attempting to create the bill will be captured in the off cycle bill generator's log.

- Refer to Off Cycle Bill Generator for more information.

How To Override Service Quantities On A Specific Bill Segment

The calculation of the amount of the commodity used by the customer is one of the first steps that happens when a bill segment is created. 99.9% of the time, the system does a perfect job in this effort. However, there are rare circumstances when, due to missing or incorrect data, the quantity calculated by the system is not correct (consider what the consumption should be if the meter is broken).

To help you deal with these rare situations, a "back door" exists that allows a bill segment's service quantities to be overridden. This truly is a "back door" because the proper way to fix the amount of a commodity is to correct the cause of the error and then cancel / rebill the bill segment (or issue a credit note).

This section describes how to override the total amount of service quantity consumption billed on a bill segment. You would do this in the rare situation when you cannot get the meter reads (and exchanges) to reflect the amount of consumption you need to bill.

- Display the *error* or *freezable* bill segment on Bill Segment – Main.

> **Important!** You can only override consumption on a bill segment that is in *Error* or *Freezable*. This means you must generate a bill segment before you can override the SQ details.

- Transfer to the Bill Segment – SQ Details tab.

- Insert one row in the service quantity (SQ) grid (click the + button) for each service quantity you need to add. You may also change service quantities that were populated by the system when it initially generated the bill segment by overwriting the respective values.

- Save the bill segment.

- Generate the bill segment.

- If the bill segment still looks wrong, repeat the above points until the bill segment is correct.

- The **Bill Segment Freeze Option** on the installation option controls the next step:

    - If this option is set to *Freeze At Bill Completion*, return to Bill – Main (using the bill context menu) and click the Freeze / Complete button.

    - If this option is set to *Freeze At Will*, click the Freeze button and, if everything looks clean, return to Bill – Main and click the Complete button.

> **Warning!** Even though the system doesn't use the consumption associated with the bill segment's meter reads when you override consumption, it will use the end reading(s) as the start read(s) on the NEXT bill segment produced for the service agreement. Therefore, make sure the end read(s) are correct, otherwise you'll have to override the service quantities on the next bill segment.

> **Override Calculation/Audit Read Details.** The above steps may also be taken to override entries in the calculation/audit read details collection.

How To Override The Items Billed On A Specific Bill Segment

The calculation of the amount of the commodity used by the customer is one of the first steps that happens when a bill segment is created. 99.9% of the time, the system does a perfect job in this effort. However, there are rare circumstances when, due to missing or incorrect data, the quantity calculated by the system is not correct.

To help you deal with these rare situations, a "back door" exists that allows a bill segment's billable quantities to be overridden. This truly is a "back door" because the proper way to fix the amount of a commodity is to correct the cause of the error and then cancel / rebill the bill segment.

This section describes how to override the total number of items billed on a bill segment. You would do this in the rare situation when you cannot get the item snapshot to reflect the amount of consumption you need to bill.

- Display the *error* or *freezable* bill segment on Bill Segment – Main.

> **Important!** You can only override consumption on a bill segment that is in *Error* or *Freezable*. This means you must generate a bill segment before you can override the item details.

- Transfer to the Bill Segment – Item Details tab.

- Insert one row in the item grid (click the + button) for each item you need to add. You may also change item amounts that were populated by the system when it initially generated the bill.

- Save the bill segment.

- Generate the bill segment.

- If the bill segment still looks wrong, repeat the above points until the bill segment is correct.

- The **Bill Segment Freeze Option** on the installation option controls the next step:
  - If this option is set to *Freeze At Bill Completion*, return to Bill – Main (using the bill context menu) and click the Freeze / Complete button.
  - If this option is set to *Freeze At Will*, click the Freeze button and, if everything looks clean, return to Bill – Main and click the Complete button.

How To Remove Unwanted Adjustments (or Payments) From A Completed Bill

If the system (or a user) has created adjustments that have been swept onto a recently completed bill but you don't want them to appear on the bill (e.g., the system generated a late payment charge but you want to forgive it) perform the following steps:

- Cancel the adjustment (Adjustments – Main Information).
- Navigate to the Bill - Main page.
- Click the Reopen button to reopen the previously completed bill.
- Click the Complete button to recomplete the bill. When the bill is recompleted, the system will see that an adjustment that was swept onto the bill when it was originally completed has been canceled and it will mark the adjustment for suppression on the printed bill.

You can remove unwanted payments using an analogous approach – Cancel the payment, Reopen the bill, Complete the bill.

> **Cannot reopen historical bills.** You may only reopen an account's most recent bill because recompleting the bill causes the ending-balance to change, and we don't want this to happen to historical bills.

How To Add An Adjustment (or Payment) To A Completed Bill

If you want to add an adjustment to a completed bill perform the following steps:

- Add and freeze the adjustment (Adjustments – Main Information).
- Navigate to the Bill - Main page.
- Click the Reopen button to reopen the previously completed bill.
- Click the Complete button to recomplete the bill.   When the bill is recompleted, the system will sweep the recently created financial transactions onto itself.

You can add a payment to a bill using an analogous approach – Add the payment, Reopen the bill, Complete the bill.

> **Cannot reopen historical bills.** You may only reopen an account's most recent bill because recompleting the bill causes the ending-balance to change, and we don't want this to happen to historical bills.

How To Reprint A Bill (For The Original Recipients or For Someone New)

A copy of a bill is sent to every individual / business specified in the bill's routing details. The system creates the routing details when a bill is completed. Refer to The Source Of Bill Routing Information for more information about how this information is compiled during bill completion.

If you want to reprint a bill OR if you want to send a bill to someone other than the original recipient(s):

- Navigate to the Bill - Main page.

- Transfer to the Bill - Bill Routings tab.

- Insert a new row (click the + button). Note well, you can only insert information on a bill that is *Complete*.

- Specify the name and address to which the bill should be sent. If you want to send the bill to someone other than the original recipient, simply specify the individual's name and address. If the recipient is a person in the system, you can select their person ID and let the system default this information for you.

- Save the bill.

> If a bill is *Complete* but the print process hasn't yet executed, you don't have to insert a new routing row. Rather, you can simply change the name and address on the original routing details.

How To Add Ad Hoc Messages To A Bill

If you want to add a message to a completed bill:

- Navigate to the Bill - Main page.

- Transfer to the Bill - Bill Messages tab.

- Insert a new row (click the + button). Note, you can only insert a message on the most recent bill that is *Complete*.

- Specify the desired message code.

- Save the bill.

- Reprint the bill as per How To Reprint A Bill (For The Original Recipients or For Someone New).

> Refer to The Source Of Bill Messages for more information about the messages the system automatically links to a bill when the bill is completed.

How To Remove A Completed Bill

You can't physically remove a *completed* bill from the system. However, you can remove all financial transactions from the bill (and therefore end up with a zero value bill). You can also suppress the bill from being printed. To do this, perform the following steps:

- If the bill has bill segments, cancel each bill segment. Refer to How To Cancel A Bill Segment for instructions describing how to do this.

- If the bill has payment amounts or adjustment amounts that were entered incorrectly, navigate to the payment and/or adjustment pages and cancel the payments / adjustments.

- Navigate to the Bill - Main page.

- Click the Reopen button to reopen the previously completed bill.

- Transfer to the Bill - Bill Routings tab. Turn on the Do Not Print switch for every routing entry.

- Click the Complete button to recomplete the bill. When the bill is recompleted, the system will sweep the canceled segments onto it and the net effect should be zero current charges.

> **Cannot reopen historical bills.** You may only reopen an account's most recent bill because recompleting the bill causes the ending balance to change, and we don't want this to happen to historical bills.

If the bill has payment amounts or adjustment amounts that are valid, but you don't want them to appear on this bill, navigate to the **Bill, Financial Details** page. Drill over to each respective financial transaction by clicking the drill down button. Clicking this button transfers you to Financial Transaction - Main. On this page, clear out the value of the Bill ID. Clearing out the Bill ID unlinks the financial transaction from the bill. When the system next completes a bill for the account, it will find the unbilled financial transaction and link it to the bill.

How To Display A Bill On-line

To display a bill on-line, you must first have installed software to render the bill in a format suitable for displaying. You must also configure the system to invoke this software; otherwise, you will get a message indicating that the service is not available. This option can only be configured by your technical staff.

The system can be configured to work with different bill production software, and it comes configured with the ability to display a bill on-line using BI Publisher, DOC1, or Crystal. With DOC1, the bills are presented in PDF format. To view the bills, you must have Adobe® Acrobat® Reader installed.

To view a bill on-line, click the **Display Bill** button.

Financial Transactions On A Bill

Open **Financial Query, Financial Transactions On A Bill** to view the financial transactions on a bill.

> **Note.** You can also open this page using the go to buttons that prefix the financial transaction summaries on Bill - Main.

Description of page

Bill Id is the system-assigned unique identifier of the bill.

Account ID is the bill's account.

The area beneath **Account ID** provides you with options that control which financial transactions appear in the grid. The following points describe the various options:

- Use the **SA Filter** to define the types of service agreements whose financial transactions appear in the grid. The following options are available:

  - *Address.* Use this option to restrict financial transactions to those whose service agreements are linked to service points associated with a given **Address**, **City** and/or **Postal** code.

  - *All.* Use this option if you do not wish to restrict financial transactions based on service agreement attributes.

  - *Geographic Type.* Use this option to restrict financial transactions to those whose service agreements are linked to service points associated with a given **Geo Type** and **Value**.

  - *SA ID*. Use this option to restrict financial transactions to those of a specific service agreement.

  - *SA Type.* Use this option to restrict financial transactions to those whose service agreements are linked to a given **CIS Division** and **SA Type**.

- Use **FT Type Filter** to restrict the type of financial transactions that appear in the grid. The following options are available:

  - *Adjustments*. This option shows all financial transactions associated with adjustments.

  - *All*. This option shows all financial transactions.

  - *Corrections*. This option shows all financial transactions associated with corrections (i.e., cancel / rebills that have occurred after the bill was completed).

  - *Current Charges*. This option shows all financial transactions associated with bill segments (that aren't *Corrections*).

  - *Payments*. This option shows all financial transactions associated with payments.

- Use **Match Event Status Filter** to restrict the financial transactions based on the status of their match event. This filter only appears if the bill's account is an open-item customer.   The following options are available:

  - *All*. This option shows all financial transactions.

  - *Balanced*. This option shows all financial transactions whose match event is *balanced*.

  - *Disputed*. This option shows all financial transactions whose match event is *disputed*.

  - *Unbalanced*. This option shows all financial transactions whose match event is *unbalanced*.

  - *Unmatched*. This option shows all financial transactions that are not linked to a match event.

Don't forget to click the search button after changing the filters or after selecting a new Bill ID.

The grid that follows contains the financial transactions that match your search criteria. The following information is displayed:

- **Match Event Status** shows the status of the financial transaction's match event. This column only appears if the bill's account is an open-item customer.

- **FT Type** displays the type of financial transaction except for adjustments. For adjustments, the adjustment type's description is shown. Click on the hyperlink to transfer to Financial Transaction - Main. On this page, you can change certain aspects of the FT in question. Refer to How To Remove Unwanted Adjustments (or Payments) From A Completed Bill for a description of how to perform common maintenance functions.

- **Accounting Date** is the date the system uses to determine the financial transaction's accounting period in your general ledger.

- **Current Amount** contains the financial transaction's effect on the service agreement's current balance.

- **Payoff Amount** contains the financial transaction's effect on the service agreement's payoff balance. The **Payoff Amount** will be dim if it equals the **Current Amount**.

- **Show on Bill** indicates if information about the financial transaction appears on the customer's bill.

- **SA Information** contains a summary of the respective service agreement.

- **Financial Transaction ID** is the system-assigned unique identifier of the financial transaction.

At the bottom of the page is a summary of the financial transactions that match the search criteria.

Maintaining Bill Segments

A bill typically contains one bill segment for every active service agreement linked to its account. A bill segment contains information showing how the segment was calculated and how it should be printed on the customer's bill.

The actions taken to create a bill segment are dependent on the service agreement's SA type. For example, a service agreement that charges for metered service is produced as follows:

- The system calculates the amount of the commodity that was consumed (e.g., the number of lamps, the number of gallons of water, the peak kW, etc.). Refer to How The System Determines How Much Was Consumed for the details.

- The service agreement's rate is applied to the amount consumed to calculate how much the customer owes for the service. A bill segment and a financial transaction are generated to reflect the results of this calculation. Refer to How Rates Affect The Information On Bill Segments for the details. Refer to Effective Dates & Price Proration for information about how the system prorates changes to rates and prices during a bill period.

> **SA type controls everything.** The above points explain how a bill segment is produced for a *metered* service agreement. It's important to be aware that the system has other bill segment creation algorithms. For example, if the service agreement charges for a deposit, the system neither amalgamates consumption nor does it apply a rate. You may be wondering how the system knows which method to use? It uses the bill segment type on the service agreement's SA type. Refer to Designing and Defining Bill Segment Types for a description of the various bill segment creation algorithms that are supported in the system.

It's important to be aware that there are very few fields that are directly modifiable by a user. To modify most fields on a bill segment, you have to change source information (e.g., service agreement, rate, meter read) and then regenerate the bill segment. For example, if you want to change the rate used to calculate a bill segment, you must change the rate history on the respective service agreement and then cancel / rebill the bill segment. Refer to How To for step-by-step instructions that explain how to perform common bill segment maintenance functions.
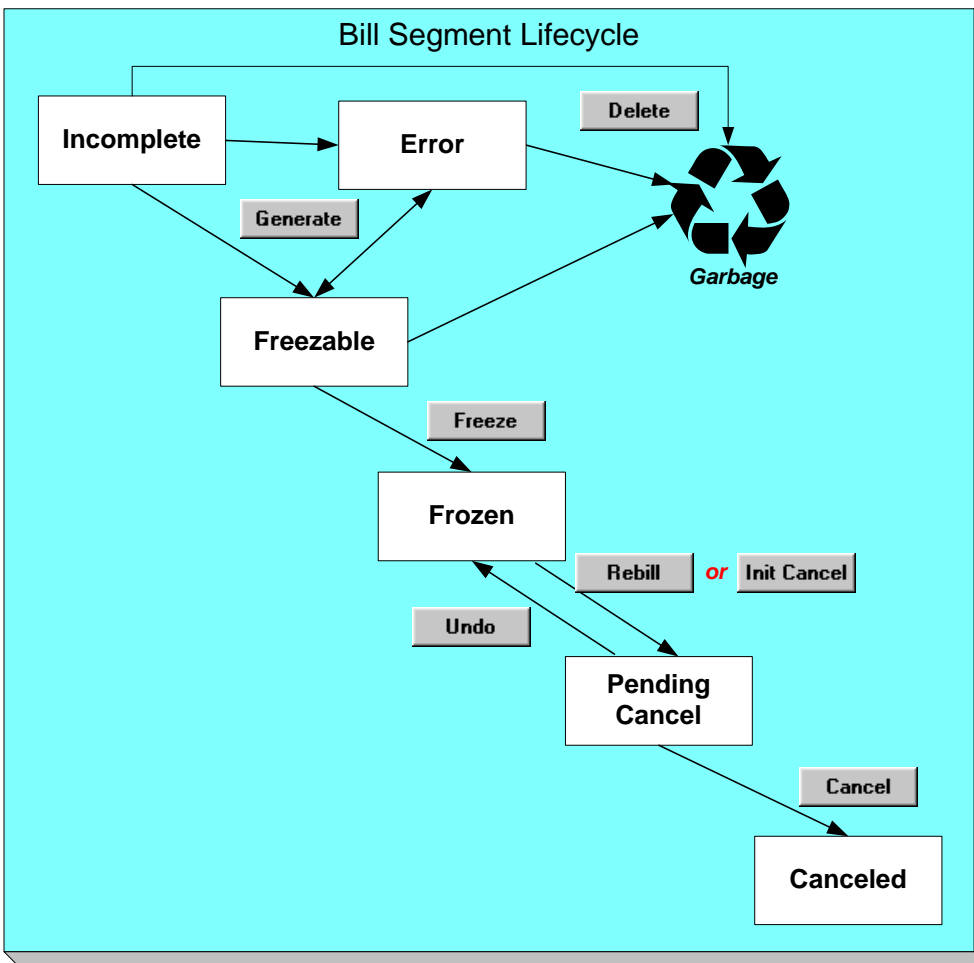
Contents

Bill Segment Lifecycle

The following diagram shows the possible lifecycle of a bill segment.

Warning! This diagram only makes sense in the context of the page used to maintain bill segments. Refer to Bill Segment – Main Information for the details.

Bill Segment Lifecycle

Bill segments are initially created in the *Incomplete* state. Bill segments in this state don't have bill lines or a financial transaction; they are simply a stub awaiting generation.

Click **Generate** to generate the bill segment's bill lines and its financial transaction.

- If the system cannot generate the bill segment (for any number of reasons), the bill segment is moved to the *Error* state. You may regenerate the bill segment after correcting the source of the error (by clicking **Generate**). You may also delete such a bill segment.

- If the system successfully generates a bill segment, the bill segment becomes *Freezable*. If the bill segment is incorrect, correct the cause of the problem (e.g., fix the meter read, change the service agreement's rate) and regenerate the bill segment (by clicking **Generate**).

Click the delete button to physically remove an *Incomplete*, *Error* or *Freezable* bill segment from the database. Note, batch billing will delete unfrozen bill segments when it attempts to create bill segments for an account that has unfrozen bill segments. Also note, if you've plugged-in the appropriate pre-completion algorithm, the system will delete bill segments in error on the last night of the bill cycle. Refer to DELBSEG for more information.

Click **Freeze** to freeze a bill segment and its financial transaction. After doing this, the bill segment's state becomes *Frozen* and the bill segment may now appear on a customer's bill. Also note, when a bill segment is frozen, its financial details will be interfaced to the general ledger the next time the GL interface executes.

You may not change a bill segment once it is frozen. However, you have two options if you want to change a frozen bill segment's financial impact:

- If you need to remove the financial effects of a bill segment, click **Init Cancel**. Clicking this button causes a new financial transaction to be generated and linked to the bill segment. This financial transaction reverses the financial effects of the original bill segment. The bill segment becomes *Pending Cancel* after the system successfully generates this financial transaction. At this point, you have two options:

  - Click **Cancel** to freeze the cancellation. Clicking this button causes the bill segment to move to the *Canceled* state. Once canceled, the bill segment cannot be uncanceled or changed.

  - Click **Undo** to return the pending cancellation to the *Frozen* state.

- Click **Rebill** if you need to recalculate the bill segment because something has changed since it was originally created (e.g., the service agreement's rate was changed, a new read was entered). Clicking this button causes the following events to take place:

  - The original bill segment is moved to the *Pending Cancel* state.

  - A new bill segment is created in the *Freezable* (or *Error*) state.

  At this point, you have two options.

  - Click **Freeze** to make the new bill segment *Frozen* and make the original bill segment *Canceled*.

> **Multi-Cancel/Rebill Saves Time.** If you need to rebill many bill segments related to a service agreement (e.g., because many bill segments were created using the wrong rate), you should use the Multi Cancel Rebill transaction as it allows you to cancel / rebill an unlimited number of bill segments at once.
>
> **Note**. Using the cancel and cancel/rebill functionality will cause the cancel and rebill details to be swept on to the customer's next bill. If your organization requires cancellation details to be presented to the customer separately from the new bill, then you will need to use Credit Notes. Refer to Credit Notes - Presenting Cancellation Details on a Separate Bill for more information.

Click **Undo** to delete the new bill segment and return the original bill segment to the *Frozen* state.

Bill Segment - Main Information

> The **Description of Page** section below describes the fields on this page. Refer to How To for a description of how to perform common bill maintenance functions.

The Main page contains core bill segment information. Open **Financial, Bill Segment, Main** to view this information.

> **Note.** Most bill segments are created by a background process. Refer to A High Level Overview Of The Bill Creation Process for information describing how the system creates a bill segment.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

Account ID references the bill segment's account.

Current Amount is the bill segment's effect on the service agreement's current balance. **Payoff Amount** is only shown if it differs from current amount. Refer to Billing – Current Balance versus Payoff Balance for more information.

Bill ID is the system-assigned unique identifier of the bill on which the bill segment appears. A concatenation of its bill date, status, due date and amount is displayed.

SA ID contains information about the bill segment's service agreement. A concatenation of the service agreement's division, SA type, start option (if any), status and start date is displayed.

If the quotation module is not turned off, you can generate simulated bill segments when you create a quote. You can view simulated bill segments by drilling down on the desired bill segment from Quote - Quote Details. When a simulated bill segment is displayed on this page, the **Billing Scenario ID** that controlled the bill segment's billing period (and consumption) is displayed. Refer to Creating Quotes And Quote Details for more information.

Period is the start and end dates of the bill segment.

Usage Period is the period used by the meter data management system to determine the correct interval data to process for the bill segment. This field appears when the bill segment is for an SA that has *Bill Determinants Required* for the special role flag.

Bill Cycle displays the bill cycle and window start date of the bill segment's bill. This information is only populated on bills when they are generated on-schedule by the batch billing background process. Bills generated manually, i.e. off-schedule, do not have this information.

Status is the bill segment's status. Refer to Bill Segment Lifecycle for the potential values and how to handle a bill segment when it exists in a given state.

If the **Closing** switch is on, this is the final bill segment for the service agreement (i.e., the service agreement has been stopped and this is the final bill segment).

If the **Estimate** switch is on, consumption on this bill segment has been estimated by the system. Refer to The Theory Behind Consumption Estimation for more information.

If the **SQ Override** switch is on, a user has overridden the service quantities (i.e., the amount of consumption for which the customer is charged is not consistent with the customer's meter reads). This switch is also set if a user has overridden the calculation/audit read details. Refer to How To Override Service Quantities On A Specific Bill Segment for more information.

If the **Item Override** switch is on, a user has overridden the type and/or number of items (i.e., the type/number of items for which the customer is charged is not consistent with the customer's service point information). Refer to How To Override The Items Billed On A Specific Bill Segment for more information.

If this bill segment was created for a sub service agreement where we calculate the charges (i.e., not for a "pass through" billing situation):

- **SA Rel ID** shows the unique identifier of the record that defines the relationship between the sub service agreement and the master service agreement (this record shows the service provider associated with the bill segment). Click the go to button to transfer to this record.

- **Master Bseg ID** shows the unique identifier of the master bill segment whose bill triggered the creation of this sub service agreement. This bill segment's consumption was used to calculate the charges on this bill segment.

Premise is the address of the main premise associated with the service agreement (as defined on the service agreement's characteristic premise). It's important to note that the service agreement may cover service at multiple premises, but only one may be defined as the main premise.

Create Dt/Tm is the date and time on which the bill segment was created or regenerated.

In the **Message** area, a brief error message appears if there's a problem with the bill segment. The message area is suppressed if there are no problems with the bill.

Push the magnifying glass button to view the long explanation. The long explanation will provide information about the cause of the error (and how to fix it).

If the bill segment is a rebill of a canceled bill segment, a reference to the original bill segment is displayed. Click the adjacent go to button to transfer to the bill segment that was canceled.

If the bill segment was canceled and rebilled by another segment, a reference to the new bill segment is displayed. Click the adjacent go to button to transfer to the new bill segment that superceded the canceled segment.

The topics that follow describe each of the actions on that appear in the **Bill Segment Actions** area. Refer to How To for a description of typical business processes that use these buttons.

Mass update actions. This page allows you to work on individual bill segments. If you want to update many bill segments linked to a bill at once, try using the mass update actions available on Bill -Bill Segments.

Contents

Generate (Bill Segment)

Click the **Generate** button to create a new a bill segment.

This button is enabled when either of the following conditions is true:

- You are in add mode (i.e., you are not displaying an existing bill segment) and you have selected an **Account ID**, **Bill ID** and **SA ID**.

- You are displaying a bill segment that is *Incomplete*, *Error*, or *Freezable*. Refer to Bill Segment Lifecycle for more information about these status values.

When clicked, the **Generate** window opens.

You must specify the following parameters to generate a new bill segment:

- **Cut-off Date** is the last possible day of the bill segment's bill period. The current date defaults when the window opens. Refer to Ways To Control The End Date Of A Bill Segment for more information.

- **Accounting Date** is used to define the financial period to which the new bill segment's financial transaction will be booked. The current date defaults when the window opens.

- Turn on **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- If the service agreement uses meter reads, use the **Billing Option** to control how the system retrieves meter reads that appear on the bill. Choose *Use Cut off Date* if the meter reads must exist on the **Cutoff Date** (defined above). Choose *Use Schedule* if you want the service agreement's service point(s) service cycle schedule to control the meter reads that are used (the schedule effective on the cutoff date is used to select the meter reads).

After specifying the above parameters, click the **Calculate** button to create a new bill segment for the bill.

If an error exists, refer to How To Correct A Bill Segment That's In Error.

If there are no errors, the **Bill Segment Freeze Option** on the installation option controls the next step:

- If this option is set to *Freeze At Bill Completion*, return to Bill – Main (using the bill context menu) and click the Freeze / Complete button.

- If this option is set to *Freeze At Will*, click the Freeze button and, if everything looks clean, return to Bill – Main and click the Complete button.

Delete (Bill Segment)

The **Delete** button deletes a bill segment.

This button is enabled if you are displaying a bill segment that is *Incomplete*, *Error*, or *Freezable*. Refer to Bill Segment Lifecycle for more information about these status values.

Freeze (Bill Segment)

Clicking the **Freeze** button causes a *freezable* bill segment to become *frozen*. Refer to Bill Segment Lifecycle for more information about freezing.

This button is enabled if:

- the *Freeze At Will* **Bill Segment Freeze Option** on the installation option has been selected AND

- the bill segment is *freezable*.

> **Freezing a day or more after generation.** If the bill segment is linked to a *closed* accounting period, a pop-up appears in which you can specify a new accounting date. This will only happen if the accounting period closes before you freeze the bill segment (the accounting date is stamped on a bill segment when it's initially generated).

> **If problems are detected after freezing.** A bill segment may not be changed after it is *frozen*. All subsequent changes must occur by canceling the frozen bill segment and creating a new bill segment. Refer to How To Cancel A Bill Segment and How To Cancel / Rebill A Bill Segment for more information.

Rebill (Bill Segment)

If problems are detected with a *frozen* bill segment, it should be canceled and a new bill segment should be created. We refer to this process as cancel / rebill. Refer to Cancel / Rebill Incorrect Bill Segments for more information.

Before you cancel / rebill, you'll probably need to fix the cause of the problem. The following table describes common problems and where to go to fix them.

Problem	How To Fix It
The wrong rate was used	Go to Service Agreement – Rate Info and correct the rate.
The wrong meter read was used	Add a meter read with a more powerful read type for the service point in question.
The wrong meter was connected to the service point	Go to SP / Meter Installation and correct the SP / Meter linkage. Then go to Service Agreement – SA / SP and indicate the appropriate start read for the service point's correct meter.
A contract rider was applied incorrectly	Go to Service Agreement – Rate Info and correct the contract rider information.
The wrong tax exemption amount was calculated	Go to Service Agreement – Rate Info and correct the tax exemption information.

> **Multi-Cancel/Rebill Saves Time.** If the cause of the problem impacts many bill segments related to a service agreement, you should use the Multi Cancel Rebill transaction as it allows you to cancel / rebill an unlimited number of bill segments at once.
>
> **Credit Notes**. Using the cancel/rebill functionality will cause the cancel and rebill details to be swept on to the customer's next bill unless you Reopen the bill. If your organization requires cancellation details to be presented to the customer separately from the new bill, you should not use the **Rebill** functionality. Rather, you should issue a Credit Note and then generate a new bill containing the revised charges.

The **Rebill** button causes an existing bill segment to be canceled, and a new bill segment to be created.

This button is enabled when you display a *Frozen* bill segment AND the bill segment's bill is not written off AND the bill segment's bill is not linked to an off cycle bill generator. Refer to Bill Segment Lifecycle for more information about these status values.

When clicked, the **Rebill** window opens.

You must specify the following parameters to cancel and rebill a new bill segment:

- **Cancel Reason** defines why the bill segment is being canceled.

- **Cutoff Date** is the last day of the new bill segment. The cutoff date on the bill segment defaults when the window opens.

- **Accounting Date** is used to define the financial period to which the canceled and new bill segments' financial transactions will be booked. The current date defaults when the window opens.

- Turn on **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- Use the **Billing Option** to define how the system looks for meter reads. Select *Use Schedule* if the system should select reads based on the SA's SP's service cycle schedule. Select *Use Cut off Date* if the system should only select reads from the end date of the existing bill segment.

- Turn on **Use Old Read/Item/SQ for Regen** if you want the system to use the consumption details on the original bill segment when it calculates the new bill segment.

Click the **Calculate** button to cancel the original bill segment and create a new bill segment.

At this point, there are now two bill segments - the original bill segment is in the state of *Pending Cancel*, the new bill segment is in the *Freezable* (or *Error*) state. If you want to back out, click the go to button to return to the original bill segment and then click Undo (this will delete the new bill segment and return the original bill segment to the *Frozen* state). If the new bill segment looks correct, click Freeze to move the original bill segment to the *Canceled* state and the new bill segment to the *Frozen* state.

Init Cancel (Bill Segment)

The **Init Cancel** button causes the first step of the bill segment cancellation process to be executed. You'd click this button if a *frozen* bill segment should never have been created (i.e., you want to remove the financial impact of a bill segment from a customer's balance).

This button is enabled when you display a *Frozen* bill segment AND the bill segment's bill is not written off. Refer to Bill Segment Lifecycle for more information about these status values.

When clicked, the **Cancel** window opens.

You must specify the following parameters to cancel and rebill a new bill segment:

- **Cancel Reason** defines why the bill segment is being canceled.

- **Accounting Date** is used to define the financial period to which the canceled bill segment's financial transactions will be booked. The current date defaults when the window opens.

Click the **Calculate** button to cancel the original bill segment.

At this point, the bill segment is in the state of *Pending Cancel*. If you want to back out, click Undo; the bill segment will be returned to the *Frozen* state. Click Cancel to move the bill segment to the *Canceled* state.

> **Credit Notes**. Using the cancel functionality will cause the cancel details to be swept on to the customer's next bill unless you Reopen the bill. If your organization requires cancellation details to be presented to the customer separately from the new bill, you should not use the cancel functionality. Rather, you should issue a Credit Note and then generate a new bill containing the revised charges.

Undo (Bill Segment)

The **Undo** button returns a *Pending Cancel* bill segment to the *Frozen* state. If a *Pending Cancel* bill segment was created during a Cancel / Rebill, the newly created *Freezable* bill segment is also deleted.

This button is enabled when you display a *Pending Cancel* bill segment. Refer to Bill Segment Lifecycle for more information about this status.

Cancel (Bill Segment)

Clicking the **Cancel** button causes a *Pending Cancel* bill segment to become *Canceled*. Refer to Bill Segment Lifecycle for more information about cancellation.

This button is enabled if a *Pending Cancel* bill segment is displayed AND the bill segment's bill is not written off.

When clicked, the **Cancel** window opens.

You must specify the following parameters to cancel the frozen bill segments:

- **Cancel Reason** defines why you are performing the cancellation.

- **Accounting Date** defines the financial period to which the canceled bill segments' financial transactions will be booked. The current date defaults when the window opens.

After specifying the above parameters, click the **Calculate** button to cancel the frozen bill segments.

If the related bill is *pending*, the cancellation will cause the bill segment to be suppressed on the version of the bill sent to the customer (but it remains in the database for audit and financial reporting purposes).

If the related bill is *complete* and you do not Reopen the bill, the financial impact of the canceled bill segment will appear on the next bill created for the account (under Bill Corrections).

If the related bill is *complete* you may be able to Reopen the bill and then Complete it. By doing this, you can suppress a *frozen* bill segment on a previously completed bill. This means that if you catch a problem after completion you don't necessarily have to show the problem to the customer. Rather, cancel the problem, reopen and then recomplete the bill (when you recomplete the bill the system will mark the bill segment to be suppressed on the version sent to the customer because its cancellation appears on the same bill as the original charges).

Credit Note (Bill Segment)

The **Credit Note** button is used to cancel a bill segment and create a new bill that contains the cancellation details. We refer to this "negative bill" as a credit note. Refer to Credit Notes - Presenting Cancellation Details on a Separate Bill for more information.

> **If you want to issue a credit note for an entire bill.** Rather than cancel a specific bill segment, functionality exists that allows you to create a credit note for ALL bill segments on a bill. To use this feature, display the bill in question and then click the **Credit Note** button on the bill page.

This button is enabled if:

- the **Use Credit Notes** option on the Installation record is turned on AND

- the bill segment is *frozen* AND

- the bill segment's bill is not written off.

When clicked, the **Credit Note** window opens.

You must specify the following parameters to cancel the *frozen* bill segment:

- **Cancel Reason** defines why you are performing the cancellation.

- **Accounting Date** defines the financial period to which the canceled bill segment's financial transaction will be booked. The current date defaults when the window opens.

- **Credit Note Date** defines the date of the credit note on which the cancellation details will appear. The current date defaults when the window opens.

After specifying the above parameters, click the **Calculate** button to cancel the frozen bill segment and create a credit note.

It should be noted that if this operation is successful, the new "negative bill" will be *complete* (meaning that it will be ready for transmission to the customer and for interface to the general ledger).

Bill Segment - Read Details

The Read Details page contains information about the meter reads that were used to derive the bill segment's metered consumption. Open **Financial, Bill Segment, Read Details** to view this information.

Note. Refer to How The System Determines How Much Was Consumed for how the system assembles this information.

The **Description of Page** section below describes the fields on this page. Refer to How To for a description of how to perform common bill maintenance functions.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The meter read grid is a snapshot of the meter reads used to calculate the bill segment's consumption. One row exists for every register linked to every meter linked to every service point linked to the service agreement. This information is for audit purposes only and may not be modified. The following information is displayed in the grid:

- **Final Unit of Measure** is the unit of measure of the resultant billing quantity.

- **Final Time of Use** is the time-of-use code of the resultant billing quantity.

- **Final Service Quantity ID** is the service quantity identifier of the resultant billing quantity.

- **Register Quantity** is the resultant billing quantity.

- **Service Point ID** is the unique identifier of the service point at which the meter was located.

- **Meter Configuration ID** is the unique identifier of the meter's configuration.

- **Sequence** is the sequence number of the register on the meter.

- **Unit of Measure** is the register's unit of measure.

- **Time of Use** is the register's time-of-use code.

- **SQI** is reserved for future use.

- **Start Register Reading** is the start register reading. If the register is consumptive, (as opposed to subtractive) the word *N/A – Consumptive* is displayed, as the start read is not relevant. Click the Go to button to drill down into the meter read.

- **End Register Reading** is the end register reading. Click the Go to button to drill down into the meter read.

- **Measured Quantity** is the resulting measured quantity.

> **Measured quantity isn't necessarily the difference between the start and end read.** The measured quantity is equal to the Measured Quantity * Register Constant * Installation Constant * Use Percent.
>
> **Measured quantity isn't necessarily the quantity that's billed.** If the rate used to calculate the bill segment has a register rule, this consumption will be transformed further. For example, a cubic foot of gas can be transformed by a register rule to a therm of gas. When register rules convert measured consumption, they do NOT overwrite the measured quantity. Rather, they populate the Final UOM, Final TOU, Final SQI, and Register Quantity with the final billable quantity. Refer to Setting Up Register Rules for more information.

- **Register Constant** is the constant on the register that is multiplied by the measured quantity to derive the register's billable consumption.

- **How To Use** is the register's how to use code.

- **How To Use (SP)** is the SA/SP's how to use code.

- **Use Percent** is the SA/SP's usage percentage.

- **Measures Peak Qty** indicates if the unit of measure is one that measures peak consumption.

- **Start Read Date/Time** is the date and time of the start meter read. If the register is consumptive, (as opposed to subtractive) nothing will be displayed.

- **End Read Date/Time** is the date and time of the end meter read.

- **Start Reg Read ID** is the unique identifier of the start register read. If the register is consumptive, (as opposed to subtractive) nothing will be displayed.

- **Read Type** is the read type of the start meter read.

- **End Reg Read ID** is the unique identifier of the end register read.

- **Read Type** is the read type of the end meter read.

- **Multiplier** is the composite multiplier that converts the measured quantity to the registered quantity.

> **Note.** The multiplier is calculated by dividing the Register Quantity by the Measured Quantity (if the Measured Quantity is 0, then the result is 0). This is not stored on the database. There is a chance that the value is not precise due to round-off.

Bill Segment - Item Details

> The **Description of Page** section below describes the fields on this page. Refer to How To Override The Items Billed On A Specific Bill Segment for a description of how to override this information.

The Item Details page contains information about the items located at the service agreement's service points. Open **Financial, Bill Segment, Item Details** to view this information.

> **Note.** Refer to How The System Determines How Much Was Consumed for how the system assembles this information.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The item details grid is a snapshot of the items that existed at the service agreement's service points at the time the bill segment was created. One row exists for every type of item linked to every service point linked to the service agreement.

This information may be modified on a bill segment in the *Error* or *Freezable* state. Insert one row in the item grid (click the + button) for each item you need to add. You may also change item amounts that were populated by the system when it initially generated the bill by simply overwriting the information.

> **Warning!** The proper way to fix the number and type of items on a bill segment is to correct the service point / item information and then regenerate the bill segment. Overriding the item details on a bill segment is a last resort that should only be used when you can't fix the service point / item information (for whatever reason).

The following information is displayed in the grid:

- **Seq No** is the system-assigned unique identifier of the item detail row.

- **Item Type** is the type of item.

- **Item ID** is the unique identifier of the item (this is only displayed if a badged item is linked to the service point; non-badged items don't have unique identities).

- **Start Date** is the first day in the bill segment's bill period that the item was linked to the service point.

- **End Date** is the last day in the bill segment's bill period that the item was linked to the service point.

- **Item Count** is the number of items of this type that were linked to the service agreement's service points.

- If the item's item type indicates the system must estimate consumption (e.g., lamps), **UOM** is the unit of measure of the estimated consumption. **Daily Service Quantity** is the item's estimated amount of daily consumption.

Refer to Setting Up Item Types for more information about item types. Refer to Setting Up Estimated Consumption For Items for more information about defining the estimated consumption amount for items.

Bill Segment - SQ Details

The **Description of Page** section below describes the fields on this page. Refer to How To Override Service Quantities On A Specific Bill Segment for instructions describing how to override this information.

The SQ Details page contains information about the service quantities (SQ) that will be priced by the service agreement's rate. In addition to showing SQ details, this page shows any Calculation / Audit Read Details that are linked to the bill segment. Open **Financial, Bill Segment, SQ Details** to view this information.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The **Service Quantity** details grid is a snapshot of the service quantities amassed from:

- The bill segment's meter reads.

- The bill segment's usage request.

- Those items for which the system estimates consumption.

- The SQ rules defined on the service agreement's rate. Refer to Defining Measured Quantity Manipulation Rules for more information about how SQ rules can introduce additional service quantities.

- The register rules defined on the service agreement's rate. Refer to Defining Measured Quantity Manipulation Rules for more information about how register rules can introduce additional service quantities.

- Billable charges that supply service quantities.

One row exists for every unique combination of unit of measure (UOM), time-of-use (TOU) code, and service quantity identifier (SQI) associated with the service agreement. Refer to UOM versus TOU versus SQI for more information.

This information may be overridden on a bill segment in the *Error* or *Freezable* state. Insert one row in the service quantity grid (click the + button) for each UOM/TOU/SQI you need to add. You may also change amounts that were populated by the system when it initially generated the bill by simply overwriting the information.

> **Warning!** The proper way to fix the SQ details on a bill segment is to correct the cause of the error (e.g., correct the meter reading). Overriding the SQ details on a bill segment is a last resort that should only be used when you can't fix the cause of the problem. Refer to How To Cancel / Rebill A Bill Segment for ways to fix common problems.

The following information is displayed in the grid:

- **Unit of Measure** is the unit of measure of the service quantity.

- **Time of Use** is the time-of-use of the service quantity.

- **SQI** is the service quantity identifier of the service quantity.

- **Initial Service Quantity** is the initial quantity amassed by the system before application of the rate's SQ rules.

- **Billable Service Quantity** is the service quantity that will be priced by the service agreement's rate. This amount differs from the initial service quantity when the rate's SQ rules manipulate consumption.

The **Calculation/Audit Read Details** section contains Calculation / Audit Read Details. This section only appears if any of the following conditions are true:

- The service agreement has a special role of ***Billable Charge***, ***Bill Determinants Required*** or ***Interval Billing***.

- The bill segment has one or more reads with a usage flag of ***Calculation/Audit***.

The following information may be defined for each calculation / audit read:

- **Final Unit of Measure** is the final unit of measure of the calculation / audit read.

- **Final Time of Use** is the final time-of-use code of the calculation / audit read.

- **Final SQI** is the final service quantity identifier of the calculation / audit read.

- **Start Date/Time** is the date and time of the calculation / audit read.

- **End Date/Time** is the date and time of the calculation / audit read.

- **Quantity** is the quantity of the calculation / audit read. This would typically contain the amount that was billed during the **Start Date/Time** through the **End Date/Time** for the **Final Unit of Measure**, **Final Time of Use** and **Final SQI**.

- **Unit of Measure** is the initial unit of measure of the calculation / audit read (if any).

- **Time of Use** is the initial time-of-use code of the calculation / audit read.

- **SQI** is the initial service quantity identifier of the calculation / audit read.

- **Start Quantity** is the "start" quantity (if any). This value would typically only be displayed if the calculation / audit read is subtractive (i.e., you must subtract the end quantity from the start quantity to determine billable consumption).

- **End Quantity** is the "end" quantity (if any). This value would typically only be displayed if the calculation / audit read is subtractive (i.e., you must subtract the end quantity from the start quantity to determine billable consumption).

- **Measured Quantity** is the resulting measured quantity (if any). This value would typically only be displayed if the calculation / audit read is subtractive (i.e., you must subtract the end quantity from the start quantity to determine billable consumption). It should contain the difference between the **Start Quantity** and the **End Quantity**.

- **Constant** is the constant of the measuring device that was multiplied by the **Measured Quantity** to derive the calculation / audit read's **Quantity**.

- **How To Use** is a code that indicates if the "calculation / audit" read was is considered to be additive, subtractive, peak or check.

- **Use Percent** is the percentage of the total consumption that was billed.

- **Meas Peak Qty** indicates if the unit of measure is one that measures peak consumption.

- **Multiplier** is the ratio of the **Quantity** and the **Measured Quantity**. This value only appears if a non-zero value exists in both of these fields.

- **Seq No** is the sequence number (if any).

- **Service Point** is the unique identifier of the service point at which the readings were calculated (if applicable).

This information may be overridden on a bill segment in the *Error* or *Freezable* state. Insert one row in the calculation / audit details grid (click the + button) for each entry you need to add. You may also information populated by the system when it initially generated the bill by simply overwriting the information.

> **Warning!** The proper way to fix the calculation/audit details on a bill segment is to correct the cause of the error. Overriding the calculation/audit details on a bill segment is a last resort that should only be used when you can't fix the cause of the problem.

> Refer to Calculation / Audit Read Details for more information about this section.

The **Calculation/Audit Usage Details** grid contains usage service quantities for the bill segment. This section appears when the service agreement has a special role of *Bill Determinants Required*. The following information is displayed in the grid:

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- **Final Unit of Measure** is the final unit of measure of the calculation / audit usage.

- **Final Time of Use** is the final time-of-use code of the calculation / audit usage.

- **Final Service Quantity ID** is the final service quantity identifier of the calculation / audit usage.

- **Start Date/Time** is the date and time of the calculation / audit usage.

- **End Date/Time** is the date and time of the calculation / audit usage.

- **Quantity** is the quantity of the calculation / audit usage. This would typically contain the amount that was billed during the **Start Date/Time** through the **End Date/Time** for the **Final Unit of Measure**, **Final Time of Use** and **Final SQI**.

- **Sequence** is the sequence number.

- **Service Point ID** is the unique identifier of the service point at which the usage was calculated.

Refer to Calculation / Audit Usage Details for more information about this section.

Bill Segment - Calc Lines

The **Description of Page** section below describes the fields on this page. Refer to How To Cancel / Rebill A Bill Segment for instructions describing how to regenerate this information if the bill segment is incorrect.

The Calc Lines page contains information about the bill calculation lines produced when the system generates the bill segment. These lines are the source of the details printed on the customer's bill. Open **Financial, Bill Segment, Calc Lines** to view this information.

Most service agreements use a rate to calculate the information that appears on this page. Refer to How Rates Affect The Information On Bill Segments for more information.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The Bill Segment Header (**Bill Seg Hdr)** scroll contains one entry for every version of the rate that was used to calculate the bill segment's lines. Because most bill segments use a single rate version, you typically only see one entry in the scroll.

The following information is displayed above the bill calculation line grid.

- **Sequence** will be 1 unless multiple versions of the rate were in effect during the bill period. If there was more than one effective rate version, there will be a separate set of calc lines for each version applied. The lines that apply to the first part of the bill period would have a Sequence of 1, the lines for the next part of the bill period would have a Sequence of 2 and so on.

- **Start Date – End Date** is the portion of the bill segment period that the calculation details apply. For metered service, this period is referred to as the consumption period.

- **Amount** is the sum of the bill calculation lines in the grid.

- **Desc on Bill** is summary information about the calculation details that will be printed on the customer's bill.

- **Rate Version** is the ID of the rate version and its effective date. This information only appears if a rate was used to calculate the charges.

The calculation lines grid is a snapshot of how the system calculated the bill segment amount. One row exists for every calculation involved in this process. This information is for audit purposes only and may not be modified. The following information is displayed in the grid:

- An extra column with a drill down button appears if the bill calculation line is the result of an interval pricing rate component or a TOU pricing rate component that contains an audit algorithm. For more information, refer to Interval Billing Calculation Details.

- A drill down button appears in the **Calc Line Char** column if the bill calculation line has characteristics. The **Calc Line Char** column only appears if at least one of the calculation lines has a characteristic.

- **Sequence** is the system-assigned unique identifier of the calculation detail row.

- **Description on Bill** is the information about the bill line that appears on the customer's bill.

- **Calculated Amount** is the calculated amount associated with the bill line.

- The **Print** switch controls whether information about this line will print on the customer's bill.

- The **Appears in Summary** switch defines if this line's amount also appears on a summary line. This switch plays a part at bill print time – those lines that appear in a summary print in the left dollar column, those that don't appear in a summary print in the right dollar column.

  The system automatically populates this switch as follows:

  - Bill segments created by applying a rate have this switch turned on if the corresponding rate component is summarized on a summary rate component

  - Bill segments created from billable charges use the value of this switch as defined on the billable charge. Refer to Maintaining Billable Charges for more information.

- **Unit of Measure** (UOM) is the unit of measure of the service quantity priced on the calculation line.

- **Time of Use** (TOU) is the time-of-use code of the service quantity priced on the calculation line.

- **SQI** is the service quantity identifier of the service quantity priced on the calculation line.

- **Billable Service Quantity** is the service quantity priced on the calculation line. This quantity will be different from the measured consumption is there are SQ rules or register rules in effect.

- **Base Amount** is used by calculation lines (e.g. taxes) that are cross-referenced to other calculation lines and whose value(s), therefore, depend on the amounts calculated by those other lines. The Base Amount shows the total amount derived from the cross-referenced line(s) that the current line then used to calculate its billed amount.

- **Rate Comp**onent **Seq**uence refers to the sequence number of the rate component on the applicable rate version that was used to calculate the line.

- **Measures Peak Qty** is checked if the UOM priced on the calculation line is used to measure a peak quantity.

- **Exempt Amount** is the amount of the calculated charge that the customer doesn't have to pay because they are tax exempt.

- **Distribution Code** is the distribution code associated with the calculation line. This distribution code is used to build the general ledger details on the bill segment's financial transaction.

- **Description** describes the characteristic value that was used when the line's amount was calculated. This information is only displayed if the line was calculated using a bill factor (because only bill factors use characteristic values). Refer to An Illustration Of A Bill Factor And Its Characteristics for more information.

Bill Segment - Financial Details

The **Description of Page** section below describes the fields on this page. Refer to How To Cancel / Rebill A Bill Segment for instructions describing how to regenerate this information if it is incorrect.

The Financial Details page contains information about the financial effects of the bill segment. Open **Financial, Bill Segment, Financial Details** to view this information.

Note. Refer to The Source Of GL Accounts On A Bill Segment's Financial Transaction for how the system compiles this information.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The **Bill Segment FT** scroll contains one entry for every financial transaction (FT) associated with the bill segment. All bill segments have an FT that shows the impact of the bill segment on the general ledger. A bill segment may have an additional FT (for a maximum of two) if it is cancelled. The second FT shows the impact of the cancellation on the general ledger.

The following financial transaction information is displayed above the general ledger distribution grid.

- **FT Type** displays the type of financial transaction (FT).

- **Show on bill** indicates if information about the FT appears on the customer's bill.

- **FT ID** is the system-assigned unique identifier of the FT. Click the go to button to transfer to the Financial Transaction - Main page. On this page you can change certain aspects of the FT in question. Refer to How To Remove Unwanted Adjustments (or Payments) From A Completed Bill for a description of how to perform common maintenance functions.

- The posted by information that appears adjacent to the FT ID shows the date on which the FT was frozen and the user ID of the user who performed the operation.

- The "Linked to bill on" message appears when the financial transaction is linked to a bill. A FT is linked to a bill the next time a bill is completed for the account. Therefore, if a user cancels a bill segment, the FT associated with the cancellation will not be linked to a bill until the next bill is completed (although the financial effect of the cancellation takes place immediately). Click the adjacent go to button to transfer to the bill on which the FT appears.

- **Current Amount** contains the FT's effect on the service agreement's current balance.

- **Payoff Amount** contains the FT's effect on the service agreement's payoff balance. This field is only visible when the payoff amount differs from the current amount.

- **Accounting Date** is the date the system uses to determine the FT's accounting period in your general ledger.

- **Arrears Date** is the date the FT starts aging.

The journal details grid is a snapshot of the distribution codes used to generate the GL accounts that are affected by the FT. This information is for audit purposes only and may not be modified. The following information is displayed in the grid:

- **Seq** is the system-assigned unique identifier of the distribution line.

- **Distribution Code** is the distribution code used to generate the GL account affected by the distribution line. Drill over to the FT if you need to see the actual GL account.

- **Amount** is the amount debited / credited (credits are shown as negative values).

- **Statistics Code** and **Statistics Amount** are only specified when a statistical quantity is associated with the distribution line. For example, if the line is associated with a charge for the total number of kilowatt-hours consumed, the statistics code will be the *KWH* and the statistics amount will be the number of kilowatt hours associated with the charge.

- **Description** describes the characteristic value that was used when the line's amount was calculated. This information is only displayed if the distribution line was derived from bill calculation lines that were calculated using a bill factor (because only bill factor's use characteristic values). Refer to An Illustration Of A Bill Factor And Its Characteristics for more information.

- If you have configured your installation options to indicate that fund accounting is *practiced*, the description of the **Fund** associated with this distribution code is displayed.

Bill Segment - Bill Segment Messages

The Messages page is a grid containing one row for every message that appears on the bill segment. Open **Financial, Bill Segment, Bill Segment Messages** to view this information.

No messages until completion. A bill segment has no messages until it is completed (unless you insert them manually). At completion time, the system assembles messages from the various message sources. Refer to The Source Of Bill Messages for information about these sources.

The bill may also have messages. Be aware that only service agreement-oriented messages are linked to a bill segment. There may also be account-oriented messages linked to the bill. Refer to Bill - Bill Messages for information about the page on which account-oriented messages are displayed. Refer to The Source Of Bill Messages for information about the various message sources and whether each is linked to a bill or a bill segment.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The following columns are displayed in the grid:

- **Msg Code** is the code that identifies the bill message.

- **Message On Bill** is the message associated with the code.

- **Priority** is the bill messages priority (on the printed bill).

- **Insert Code** defines if the bill message causes an insert in the envelope.

Bill Segment - Sub Bill Segments

The Sub Bill Segments page contains the sub bill segments that are associated with the master SA's bill segment. Open this page using **Financial, Bill Segment, Sub Bill Segment**.

> **Note.** Sub bill segments are only linked to the master SA's bill segment when the master SA has an SA relationship with a We Bill For Them – Rate Ready or an It's Us service provider. Refer to The Rate Ready Calculation Method for the details.

Description of Page

Bill Seg Info is a concatenation of the bill segment's division, SA type, status, bill period and amount. **Bill Segment ID** is the system-assigned unique identifier of the bill segment.

The following information is displayed in the grid.

- Click the adjacent **Go To** button to transfer to the bill segment.

- The **Bill Segment** column contains a concatenation of the bill segment's business unit, SA type, status, bill period and amount. The business unit and SA type come from the bill segment's service agreement.

- The **Current Amount** column contains the bill segment's effect on the sub service agreement's current balance.

- The **Status** column contains the bill segment's current status.

Bill Segment - Usage

This Usage portal is available when the bill segment has associated usage requests. It displays all usage requests related to the bill segment. Open this page using **Financial, Bill Segment, Usage**.

General Information

Bill Segment ID is the system-assigned unique identifier of the bill segment.

Bill Segment Information contains a concatenation of important information about the bill segment.

Bill Segmet Usage

The following information is displayed in the Bill Segment Usage zone:

- The **Create Date/Time** of the usage request.

- The **Usage** column contains a concatenation of the bill segment's division, SA type, status, and period of the usage request. The usage information links to the Usage Portal for the usage request.

- The **Usage ID** for the usage request.

Financial - Bill Segment Calculation Line Characteristics

This page displays the characteristics that are linked to a specific bill segment calculation line. The information on this page is for audit purposes only and cannot be changed.

Open this page by clicking the **Go To Calc Line Characteristic** button on the calculation lines grid of the Bill Segment - Calc Lines page.

Description of Page

Account is the account to which the bill segment is linked. The name of the main person on the account appears next to the account ID.

The **SA** is the service agreement to which the bill segment applies. Basic information about the service agreement appears adjacent.

Premise shows the service agreement's characteristic premise (i.e., the primary premise associated with the service agreement).

The **Bill Seg ID** and **Bill Seg Header** displays the identification of the bill segment and header associated with the calculation line characteristic.

Calc Line displays the calculation line number with which the characteristics are associated.

The **Description on Bill** displays the description of the calculation line that appears on the customer's bill.

The characteristics grid displays the **Characteristic Type**s and the **Characteristic Value**s associated with the calculation line.

> For more information about characteristics, refer to Setting Up Characteristic Types and Their Values.

Off Cycle Bill Generator

The Off Cycle Bill Generator portal may be used to create an off cycle bill for an account where you control which financial transactions are linked to the resultant bill. For example, you can create a bill for a specific adjustment or billable charge. Navigate using **Main Menu, Financial, Off Cycle Bill Generator.**

Contents

Off Cycle Bill Generator Query

Use the query portal to search for an existing off cycle bill generator. Once an off cycle bill generator is selected, you are navigated to the maintenance portal to view and maintain the selected record.

Off Cycle Bill Generator Portal

This portal appears when an off cycle bill generator has been selected from the Off Cycle Bill Generator Query portal.

The topics in this section describe the base-package zones that appear on this portal.

Contents

Off Cycle Bill Generator Actions
Off Cycle Bill Generator Zone
Financial Transactions On Bill
Off Cycle Bill Generator Log

Off Cycle Bill Generator Actions

This is a standard actions zone.

If the off cycle bill generator is in a state that has valid next states, buttons to transition to each appropriate next state are displayed.

Refer to How To Create An Off Cycle Bill Generator for more information about how to create an off cycle bill on-line / real time.

Off Cycle Bill Generator Zone

The Off Cycle Bill Generator zone contains display-only information about the off cycle bill generator.

Please see the zone's help text for information about this zone's fields.

Financial Transactions On Bill

The Financial Transactions On Bill zone shows financial transactions linked to the off cycle bill generator's bill. Information displayed on this zone is similar to that displayed on the Financial Transactions On A Bill transaction.

Off Cycle Bill Generator Log

An off cycle bill generator log contains an entry for every recorded event during the lifecycle of the off cycle bill generator. There are two general types of log entries:

- **Automatic entries.** The system automatically creates an entry in the log when an off cycle bill generator is created or there is a status change or when a related entity is created. This also includes any implementation-specific log entries. Users cannot modify or delete these log entries.

- **Manual entries.** Users can add manual entries to record significant events at their discretion.

Multi Cancel/Rebill

The Multi-Cancel/Rebill transaction is used to cancel / rebill (and freeze) one or more bill segments linked to a service agreement.

Note. You would typically use this transaction when something has been wrong for an extended period of time. For example, if the customer was assigned the wrong rate when they first started service, you would correct the customer's rate using Service Agreement – Rate Info and then use this transaction to cancel / rebill the customer's historical bill segments.

The following topics describe how to use this transaction.

Multi Cancel/Rebill - Main

The main page is used to select the bill segments to be cancel/rebilled and to initiate the cancel/rebill request. Open **Financial, Multi-Cancel/Rebill** to use this transaction.

Description of Page

This page contains all non-cancelled bill segments associated with a given **SA ID**. The service agreement's **SA Info**, **Account ID** (and name), characteristic **Premise** (and address), **Current Balance** and **Payoff Balance** are displayed at the top of page.

When the page first opens, the grid is populated with ALL non-cancelled bill segments displayed in reverse chronology order. All *frozen* bill segments are pre-selected for cancel/rebill processing. The following information appears in the grid:

- Selected Switch. If this switch is turned on, the bill segment will be cancel / rebilled when the **Cancel/Rebill/Freeze** button is clicked. You can use the mouse to toggle the value of this switch on a specific bill segment. Alternatively, you can click the **Select All** button or **Clear All** button to toggle the switch for all *frozen* bill segments. The checkbox is disabled if the bill segment's bill is written off. Note: the total number of selected bill segments is shown above the grid for confirmation purposes.

- **Start Date.** This is the first day of the bill segment.

- **End Date.** This is the last day of the bill segment.

- **Create Date/Time.** This is the day/time the bill segment was created.

- **Amount.** This is the payoff amount of the bill segment.

- **Original Amount.** This column only contains a value if the bill segment is a rebill of another bill segment. In this situation, one of the following values will be displayed:

  - If the amount of the new bill segment differs from the amount of the original bill segment, the amount of the original bill segment will be displayed.

  - If the amount of the new bill segment equals the amount of the original bill segment, the word *No change* will be displayed.

- **Bill Segment Information.** This is the standard bill segment summary information.

Sorting By Values In The Grid. Just like all grids in the system, you can click on a column heading to resort the grid by the value of the respective column. This might be useful to sort the bill segments in **Amount** order.

After selecting the bill segments to be cancel/rebilled, click the **Cancel/Rebill/Freeze** button. When this button is clicked, an additional informational page displays. Specify the following information and then click **Calculate** to cancel the selected bill segment and create new bill segments:

- **Cancel Reason** defines why the bill segment(s) are being canceled.

- **Accounting Date** is used to define the financial period to which the canceled and new bill segments' financial transactions will be booked.

- Turn on **Allow Estimates** if the system is allowed to estimate consumption if it can't find a meter read.

- Use the **Billing Option** to define how the system looks for meter reads:

  - Select *Use Schedule* if the system should select reads based on the SA's SP's service cycle schedule.

  - Select *Use Cut off Date* if the system should only select reads from the end date of the existing bill segment.

- If you'd prefer to have the system use the consumption details snapshot on the original bill segments, turn on **Use Old Read/Item/SQ**. If this switch is on then neither **Allow Estimates** nor **Billing Option** is relevant. The **Use Old Read/Item/SQ** switch is not available if the bill's SA references an SA type with a special role flag of *Bill Determinants Required*.

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> Warning! If the cause of the rebill is an incorrect rate and the new rate requires service quantities that were not calculated when the bill was originally calculated, do not turn on **Use Old Read/Item/SQ**. Why? Because you want the system to derive new service quantities during the rebill process.

> **Default note.** The Accounting Date is defaulted to the current date and the Use Old Read/Item/SQ switch is turned on.

After specifying the above information, the system cancel / rebills each segment in chronological order (i.e., earlier segments will be cancel / rebilled before later segments). The new amount of each bill segment is shown in the **Original Amount** column. You can navigate to the Graph page to graphically view the financial ramifications of the cancel/rebills.

> **Errors.** It's possible that bill segment errors will occur when you cancel / rebill the bill segments. For example, if you change the SA's rate to a rate that requires a unit-of-measure that doesn't exist on the SA's meter, a bill segment error will be generated. If this occurs, you must go to Bill Segment – Main for the *pending cancel* bill segment and use the **Undo** action to remove the offending bill segment (and restore the original segment to the *Frozen* state). Alternatively, you can drill down on the *Error* bill segment and use the **Regenerate** action after correcting the cause of the problem.

> **There is no Undo.** Unlike cancel / rebills performed on Bill Segment – Main, there is no Undo action. This is because the multi-cancel/rebill transaction freezes the newly created bill segments after it cancel/rebills; whereas the bill segment transaction lets you examine the new bill segment before you freeze it. If you made a mistake, simply correct the cause of the mistake and then cancel / rebill again. The erroneous financial transactions will be automatically suppressed on the next bill produced for the customer.

Multi Cancel/Rebill - Graph

This page contains a graph that shows the rebilled and original payoff amounts for a service agreement's non-cancelled bill segments. Open **Financial, Multi Cancel/Rebill** and navigate to the **Graph** page to view this information.

Description of Page

This page contains a graph that shows the payoff amounts for a service agreement's non-cancelled bill segments (represented by the blue bars in the graph). If a bill segment is a rebill of another bill segment, the payoff amount of the original bill segment is displayed on a red-colored bar adjacent to the respective blue bar.

Click a bar. You can click on a bar to drill down to a bill segment.

SA Billing History

Open **Financial Query, SA Billing History** to view a history of all bill segments produced for a service agreement.

Description of Page

The **Account ID** is displayed with the account's name adjacent.

The **SA Information** shows a summary of information about the service agreement. The **SA ID** is the unique identifier of this SA.

One row is displayed for every bill segment ever produced for the selected service agreement.

The following information is displayed for each bill segment:

- The **Start Date** and **End Date** of the bill segment.

- The number of **Days** in the bill segment period.

- The **Status** of the bill segment

- The **Current** and **Payoff Amount**s of the bill segment.

- The **UOM** (Unit of Measure) of the service quantity designated as the "graph UOM" for the SA's SA type.

- The total amount of the service **Billable Service Quantity** that was billed.

- The **Avg Daily Qty** is the **Billable Service Quantity** divided by the numbers of days of service.

If you need to see more detailed information about the bill segment, click the go to button to transfer to the bill segment page.

Bill Exception

If errors are detected during the billing process, it may cause a record to be written to the bill exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-BIERR background process. This process generates a To Do entry for every record in the bill exception table.

> Refer to How to Correct a Bill That's In Error for instructions describing how to correct a bill.

Bill Segment Exception

If errors are detected during the billing process, it may cause a record to be written to the bill segment exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-BSERR background process. This process generates a To Do entry for every record in the bill segment exception table.

> Refer to How To Correct A Bill Segment That's In Error for instructions describing how to correct a bill segment.

Maintaining Billable Charges

You create a billable charge whenever a customer should be charged for a service that occurs outside the normal course of business. For example, you would create a billable charge to charge a contractor for the repair of a ruptured gas line.

> **Billable charges can be uploaded from an external system.** Refer to Uploading Billable Charges and Using Billable Charges For Pass Through Billing for more information.

A billable charge must refer to a service agreement. This service agreement behaves just like any other service agreement:

- **Bill segments are created for the service agreement.** Whenever billing is performed for an account with billable charge service agreements, the system creates a bill segment for each billable charge. This means that if a service agreement has many unbilled billable charges, it will have many bill segments.

- **Payments are distributed to the service agreement.** Payments made by an account are distributed to its billable charge service agreements just like any other service agreement.

- **Overdue debt is monitored.** The credit and collections process monitors billable charge service agreements for overdue debt and responds accordingly when overdue debt is detected.

- This service agreement must reference an SA Type that has a Special Role Flag of *Billable Charge*. If such a service agreement does not already exist for the account, one must be created before you can levy a billable charge. See "For more information" at the end of this section for links to other sections that will help you with this process.

Billable charge <u>templates</u> exist to minimize the effort required to create a billable charge for a customer. A billable charge template contains the standard bill lines, amounts and distribution codes used to charge for a one-off charge.

A user may override the information on the template when the billable charge is created. For example, you can create a billable charge template to levy charges when a contractor ruptures a gas main. This template would contain the bill lines, amounts and distribution codes associated with a ruptured pipe repair. Then, when a contractor ruptures a line, a user can create a billable charge using the template and override the amount to reflect the actual repair amount (if it differs from the norm).

> **Templates aren't required**. A billable charge can be created without a template for a truly unexpected charge. If you don't use a template, you'll have to enter the bill information manually.

> Refer to <u>Setting Up Billable Charge Templates</u> for more information.

> **Adding taxes and other calculation lines to a billable charge.** Refer to <u>Billable Charge – SQ Details</u> for information about how to have the system calculate tax lines and append them to the billable charge.

Contents
Billable Charge - Main
Billable Charge - Line Characteristics
Billable Charge - SQ Details
Billable Charge - Read Details

Billable Charge - Main

Open **Financial, Billable Charge** to add or update a billable charge.

Description of Page
The **Billable Charge ID** is system generated. The **Account ID** of the account responsible for the charge is displayed at the top.

Use **SA ID** to define the ID of the billable charge service agreement that will hold the billable charge's debt. The **Account ID** for the service agreement is displayed for information purposes.

Use **Start Date** and **End Date** to define the charge's bill period.

> **Installment billable charges.** You can create many future dated billable charges to implement unusual installment plans. For example, if you want to bill a customer $250 today, $150 next month, and $1000 three months from now; you could create three billable charges with a date that reflects the earliest bill date. When a bill is produced for the account, the system will create a bill segment for every billable charge whose start date is on or before the current date.

If you want to create the billable charges from an existing template, enter the ID of the **Billable Charge Template** from which the billable charge information defaults. If your <u>SA Type</u> indicates a billable charge template, that value will be defaulted.

Use **Description on Bill** to define the verbiage that should print on the customer's bill above the line item details.

Billable Charge Status defines the state of the billable charges. Possible values are *Billable* and *Cancelled*. Click the **Cancel** button to cancel a billable charge.

Bill Segment ID is the ID of the bill segment on which the billable charge's charge details appear. This information is only populated AFTER the billable charge has been swept onto a bill.

The **Total Bill Amount** displays the sum of all billable charge lines except those that are **Memo Only**. The **Total Line Amount** displays the sum of all billable charge lines except those that **Appear In Summary**.

The information in the scroll defines the line item details associated with the billable charge. Click the drill down button to navigate to the line characteristics. The following fields are required for each line:

Sequence	Sequence controls the order in which the line items appear on the bill segment.
Description on Bill	Specify the verbiage to print on the bill for the line item.
Charge Amount	Specify the amount to charge for the line item.
Show on Bill	Turn this switch on if the line item should appear on the customer's printed bill. It would be very unusual for this switch to be off.
Appears in Summary	Turn this switch on when the amount associated with this line also appears in a summary line. This switch plays a part at bill print time - those lines that appear in a summary print in the left dollar column, those that don't appear in a summary print in the right dollar column. Also note, those lines that appear in a summary line are not included in the total amount associated with the billable charge.
Memo Only, No GL	Turn this switch on if the billable charge line does not contribute to the total amount due (e.g., this switch would be on for "information only" lines).
Distribution Code	Specify the distribution code that identifies the GL account associated with this line item. The description of the code appears adjacent.

> For more information about billing billable charges, refer to How To Create A One-Time Invoice. For more information about billable charge templates, refer to Setting Up Billable Charge Templates.

Billable Charge - Line Characteristics

Characteristics may be associated with billable charge lines. Typically, this is done to categorize billable charge lines for reporting purposes.

Open **Financial, Billable Charge, Line Characteristics** to maintain characteristics that are associated with billable charge.

Description of Page
The **Billable Charge Line** scroll defines the billable charge line to which you wish to assign characteristic values. The following fields display:

Characteristic Type   The type of characteristic.

Characteristics Value   The value of the characteristic.

Note. You can only choose characteristic types defined as permissible on a billable charge line. Refer to Setting Up Characteristic Types & Their Values for more information.

Billable Charge - SQ Details

Optionally, you may specify service quantities associated with a billable charge. These are most commonly used when you want the system to calculate charges *in addition to the billable charge lines* (e.g., adding tax to the billable charge lines).

The SA must specify a rate. If you want the system to calculate additional charges based on the service quantities defined on this page, the related billable charge service agreement must reference a rate. This rate must have rate components that calculate charges based on the service quantities specified on this page. When the service agreement is next billed, the system will sweep on the billable charges and then call the rate and pass it the service quantities defined on this page. The rate will calculate the additional charges and these will be appended to the bill segment.

Open **Financial, Billable Charge, SQ Details** to maintain a billable charges service quantities.

Description of Page
The following fields display:

Sequence   Specify the sequence number of the SQ.

UOM   Select the unit of measure of this SQ. One or more of **UOM**, **TOU**, or **SQ Identifier** must be selected.

TOU   Select the time of use period.

SQ Identifier   Select the SQ identifier.

Service Quantity   Specify the number of units of this service quantity.

Billable Charge - Read Details

Optionally, you may specify meter read details associated with a billable charge. These are most commonly used when you need to print the read details that were used to calculate the bill lines that appear on the main tab.

> **Using these reads to derive billable consumption.** The base package bill segment creation algorithm simply sweeps billable charge read details onto the related bill segment as calculation / audit reads. This algorithm does NOT use these reads to derive billable consumption. This is intentional as most implementations that import reads also import billable consumption and therefore deriving billable consumption is unnecessary (and also error prone). If your implementation needs to derive billable consumption from these reads, you can develop your own bill segment creation algorithm to do just this.

Open **Financial, Billable Charge, Read Details** to maintain a billable charges service quantities.

Description of Page

The grid is a snapshot of the meter reads whose consumption was billed using the bill lines shown on the main tab. One row exists for every read that should be swept onto the related bill segment as a calculation / audit read when the system creates a bill segment for this billable charge. The following information is displayed in the grid:

- **Final Unit of Measure** is the unit of measure of the resultant billing quantity.

- **Final Time of Use** is the time-of-use code of the resultant billing quantity.

- **Final Service Quantity Identifier** is the service quantity identifier of the resultant billing quantity.

- **Register Quantity** is the resultant billing quantity.

- **How To Use (SP)** is the SA/SP's how to use code.

- **Service Point ID** is the unique identifier of the service point at which the meter was located.

- **Meter Configuration ID** is the unique identifier of the meter's configuration.

- **Sequence** is the sequence number of the register on the meter.

- **Unit of Measure** is the register's unit of measure.

- **Time of Use** is the register's time-of-use code.

- **SQI** is reserved for future use.

- **Start Register Reading** is the start register reading.

- **End Register Reading** is the end register reading.

- **Measured Quantity** is the resulting measured quantity.

- **Register Constant** is the constant on the register that is multiplied by the measured quantity to derive the register's billable consumption.

- **How To Use** is the register's how to use code.

- **Use Percent** is the SA/SP's usage percentage. A value of 100% is defaulted.

- **Measures Peak Qty** indicates if the unit of measure is one that measures peak consumption.

- **Start Read Date/Time** is the date and time of the start meter read. If the register is consumptive, (as opposed to subtractive) nothing will be displayed.

- **End Read Date/Time** is the date and time of the end meter read.

- **Start Reg Read ID** is the unique identifier of the start register read. If the register is consumptive, (as opposed to subtractive) nothing will be displayed.

- **Read Type** is the read type of the start meter read.

- **End Reg Read ID** is the unique identifier of the end register read.

- **Read Type** is the read type of the end meter read.

- **Multiplier** is the composite multiplier that converts the measured quantity to the registered quantity.

> **Note.** The multiplier is calculated by dividing the Register Quantity by the Measured Quantity (if the Measured Quantity is 0, then the result is 0). This is not stored on the database. There is a chance that the value is not precise due to round-off.
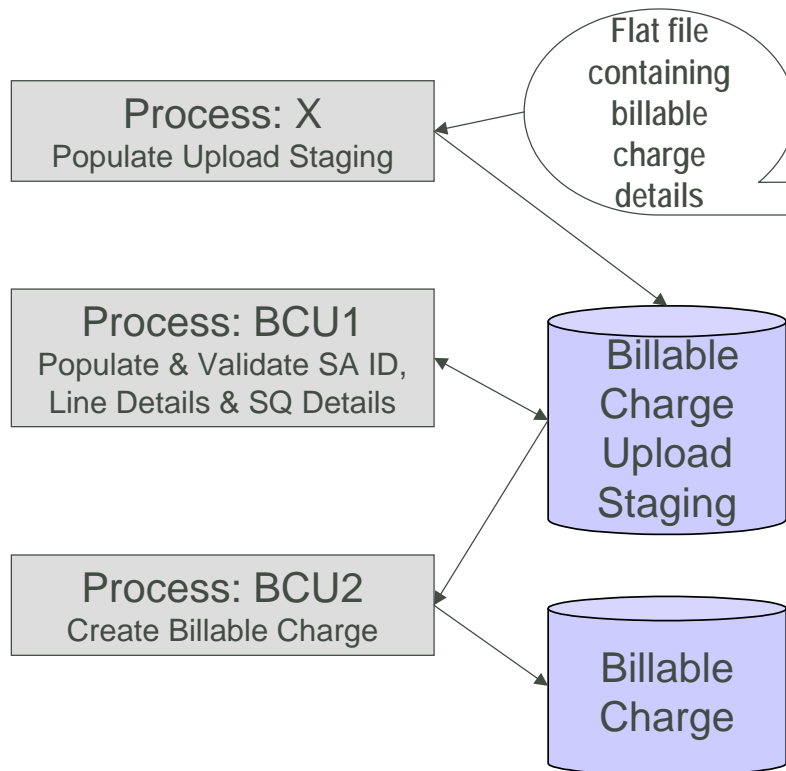
Uploading Billable Charges

This section describes how the system uploads billable charges from an external source. This mechanism is used when you need to "pass through" charges that have been calculated by a third party but appear on your bill.

Contents

Billable Charge Upload Background Processes

The following diagram illustrates the processes involved in the uploading of billable charges into the system.
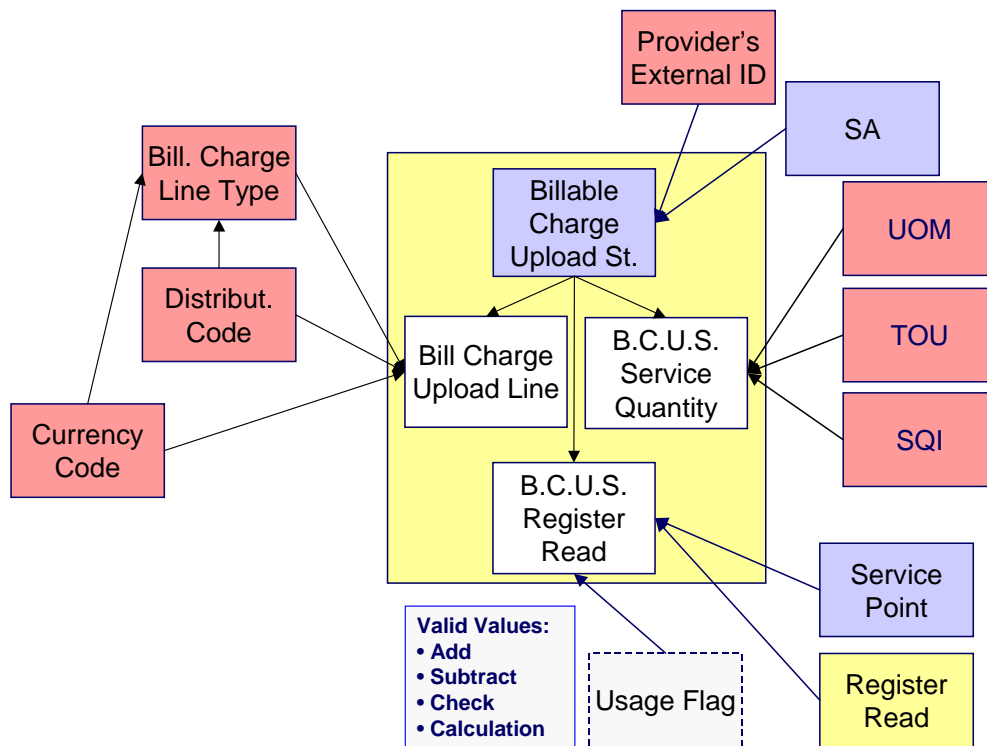
The topics in this section describe how these processes work.

Contents

Process X - Populate BC Upload Staging

Process X refers to the mechanism used by your organization to populate the various staging tables (shown in the yellow section of the following ERD).

The topics in this section describe each of these tables.

Contents

Billable Charge Upload Staging Layout

You must create an upload staging record for each billable charge. The name of this table is
CI_BCHG_UP. The following table describes each column on this table.

Column Name	Length	Req'd	Data Type	Comments
BCHG_UP_ID	30	Y	Char	This is the unique identifier of the record. This value does NOT have to be a random number, but it does need to be unique. If your process that inserts records on this table is capable of calling a COBOL routine, call CIPCKEYG and it will supply a 12 digit random number for you.
BCHG_UP_STAT_FLG	2	Y	Char	This must be set to *P* for *Pending*.

NT_XID_CD	30	N	Char	This is the external system id of the sender of the billable charge. See the description of the SA_EXT_REFT_ID field for how this field is used to determine the billable charge's SA_ID. Refer to Designing External Systems for more information about this field.
SA_EXT_REF_ID	36	N	Varchar2	This field along with NT_XID_CD are used to uniquely identify the service agreement against which the billable charge will be stored. These two fields are used to identify a SA relationship record; the SA relationship record, in turn, has a sub SA and it is this SA that the billable charge will be linked to. Note well: these fields are only necessary if you do not know the billable charge SA ID. Refer to Maintaining SA Relationships for more information.
BCHG_EXT_REF_ID	50	N	Varchar2	This is the identifier of the billable charge in the sender's system.
CRE_DTTM	26	N	Date/Time	The date and time the upload staging row was inserted (this can be used for audit purposes).
START_DT	10	Y	Date	The start date of the period encompassed by the billable charge.
END_DT	10	Y	Date	The end date of the billable charge period.
DESCR_ON_BILL	80	Y	Varchar2	This is the description that should prefix the charges on the printed bill.
SA_ID	10	See note	Char	This must correspond with a SA ID of a billable charge service agreement. You may leave this column blank if NT_XID_CD and SA_EXT_REF_ID are populated.
BILLABLE_CHG_ID	12	N	Char	Leave this column blank. It will be assigned by the system when it creates a billable charge record.

Billable Charge Line Upload Staging Layout

You must create a billable charge line upload record for each line to be uploaded. The name of this table is CI_BCHG_LINE_UP. The following table describes each column on this table.

> **Defaulting from BCHG_UP_XTYPE.** Please pay special attention to the **Comments** column below as many fields, if left blank, will default from each record's BCHG_UP_XTYPE.

Column Name	Length	Req'd	Data Type	Comments
BCHG_UP_ID	30	Y	Char	This is the foreign key to the billable charge upload staging record.
LINE_SEQ	3	Y	N	This is the unique line number of the billable charge line. This value must be unique within the billable charge.
DESCR_ON_BILL	80	Y	Varchar2	This is the description that will be printed on the bill for the line.
CHARGE_AMT	13.2	N	N	This is the amount associated with the billable charge line.
BCHG_LINE_XID	20	N	Varchar2	This is the unique identifier of the billable charge line in the sender's system.
BCHG_UP_XTYPE	30	N	Char	This is the type of billable charge line. This is a foreign key reference to the billable charge line type control table. This control table is used to populate the remaining fields (if they are blank). If this field is blank, the remaining fields must be specified as they cannot be defaulted from the billable charge line type control table. Refer to Billable Charge Line Type for more information.
CURRENCY_CD	3	See note	Char	This is a foreign key reference to the currency code of the billable charge line. This field must be specified if CHARGE_AMT is non-zero.
SHOW_ON_BILL_SW	1	See note	Char	This should be *Y* if the line should appear on the customer's printed bill. This should be *N* if the line should not appear on the customer's printed bill. If left blank, this value will be populated from the line's BCHG_UP_XTYPE.
APP_IN_SUMM_SW	1	See note	Char	This should be *Y* if the line appears in a summary line. This should be *N* if the line does not appear in a summary line. This switch plays a part at bill print time – those lines that appear in a summary print in the left dollar column, those that don't appear in a summary print in

				the right dollar column. If left blank, this value will be populated from the line's BCHG_UP_XTYPE.
MEMO_SW	1	See note	Char	This should be *Y* if the line does NOT affect the general ledger. This should be *N* if the line affects the general ledger. If left blank, this value will be populated from the line's BCHG_UP_XTYPE.
DST_ID	10	See note	Char	If the line affects the general ledger, the set ID (the previous field) and the distribution code of the GL account must be specified. If left blank, this value will be populated from the line's BCHG_UP_XTYPE.

Billable Charge Line Characteristic Upload Staging Layout

If you want to upload characteristics on your billable charge lines, you must create a billable charge line characteristic upload record for each characteristic on each line. The name of this table is CI_B_LN_UP_CHAR. The following table describes each column on this table.

Column Name	Length	Req'd	Data Type	Comments
BCHG_UP_ID	30	Y	Char	This is the foreign key to the billable charge upload staging record.
LINE_SEQ	3	Y	N	This is the foreign key to the billable charge line upload staging record
CHAR_TYPE_CD	8	Y	Char	This is the unique identifier of the billable charge line characteristics. This value must be unique within the billable charge line characteristics.
CHAR_VAL	16	N	Char	A characteristic value must be supplied if the ad hoc switch on characteristic type is *N*. Otherwise, it is not allowed.
ADHOC_CHAR_VAL	30	N	Varchar2	An ad hoc characteristic value must be supplied if the ad hoc switch on characteristic type is *Y*. Otherwise, it is not allowed.

Billable Charge Service Quantity Upload Staging Layout

You must create a billable charge service quantity upload record for each service quantity to be uploaded. The name of this table is CI_BCHG_UP_SQ. The following table describes each column on this table. Refer to "pass through" charges for more information about how this type of information is used.

Column Name	Length	Req'd	Data Type	Comments
BCHG_UP_ID	30	Y	Char	This is the foreign key to the billable charge upload staging record.

SEQ_NUM	3	Y	N	Sequence of the service quantity within the Billable Charge Upload
UOM_CD	4	N	Char	The unit of measure of the Billable Charge Upload SQ row. If specified, it must reference a valid value on CI_UOM. Note, at least one of the following fields should be specified: SQI_CD, TOU_CD, UOM_CD.
TOU_CD	8	N	Char	The time of use of the Billable Charge Upload SQ row. If specified, it must reference a valid value on CI_TOU. Note, at least one of the following fields should be specified: SQI_CD, TOU_CD, UOM_CD.
SQI_CD	8	N	Char	The service quantity identifier of the Billable Charge Upload SQ row. If specified, it must reference a valid value on CI_SQI. Note, at least one of the following fields should be specified: SQI_CD, TOU_CD, UOM_CD.
SVC_QTY	12.6	N	N	Quantity of the service used for the UOM / TOU / SQI combination

Billable Charge Read Details Upload Staging Layout

You must create a billable charge read details upload record for each read detail to be uploaded. The name of this table is CI_BCHG_UP_READ. The following table describes each column on this table. Refer to "pass through" charges for more information about how this type of information is used.

Column Name	Length	Req'd	Data Type	Comments
BCHG_UP_ID	30	Y	Char	This is the foreign key to the billable charge upload staging record.
SP_ID	10	Y	Char	Note, if USAGE_FLG is calculation, you can set this field to 0 if you do not know the SP ID. The only thing that's important is that the combination of BCHG_UP_ID, SP_ID and SEQNO are unique.
SEQNO	5	Y	Number	This should be a value greater than zero. See SP_ID comment for more information. This is typically the sequence number of the register on the meter.
END_READ_DTTM	26	Y	DateTime	This is the date and time of the end read

END_REG_READ_ID	12	N	Char	This field must reference an existing register read ID if USAGE_FLG is anything other than a calculation.
END_REG_READING	9.6	Y	Number	This is the reading of the end read.
FINAL_REG_QTY	12.6	Y	Number	This is the final amount of the reading (this is the amount of billable consumption the read detail contributed to the entire billed consumption).
FINAL_SQI	8	N	Char	The service quantity identifier of the FINAL_REG_QTY. If specified, it must reference a valid value on CI_SQI. Note, at least one of the following fields should be specified: FINAL_SQI, FINAL_UOM_CD.
FINAL_TOU_CD	8	N	Char	The time-of-use code of the FINAL_REG_QTY. If specified, it must reference a valid value on CI_TOU.
FINAL_UOM_CD	4	N	Char	The unit of measure of the FINAL_REG_QTY. If specified, it must reference a valid value on CI_UOM. Note, at least one of the following fields should be specified: FINAL_SQI, FINAL_UOM_CD.
HOW_TO_USE_FLG	2	Y	Char	See the field description in the data dictionary for the valid values (CI_BCHG_UP_READ).
MSR_PEAK_QTY_SW	1	Y	Char	Y or N
MSR_QTY	12.6	Y	Number	This is the difference between END_REG_READING and START_REG_READING for subtractive registers.
REG_CONST	6.6	Y	Number	This is the register's constant (the value used to adjust the measured quantity due to something associated with the physical meter). Set this to a value of 1 if it is not known.
SQI_CD	8	N		The service quantity identifier of END_REG_READING and START_REG_READING. If specified, it must reference a valid value on CI_SQI. Note, at least one of the following fields should be specified: SQI_CD, TOU_CD, UOM_CD.

START_READ_DTTM	26	Y	DateTime	This is the date and time of the start reading.
START_REG_READ_ID	12	Y	Char	This field must reference an existing register read ID if USAGE_FLG is anything other than a calculation.
START_REG_READING	9.6	Y	Number	This is the reading of the start read.
TOU_CD	8	N	Char	The time-of-use code of END_REG_READING and START_REG_READING. If specified, it must reference a valid value on CI_TOU.
UOM_CD	4	Y	Char	The unit of measure of END_REG_READING and START_REG_READING.
USAGE_FLG	2	Y	Char	See the field description in the data dictionary for the valid values (CI_BCHG_UP_READ).
USE_PCT	3	Y	Number	This is the percentage of the consumption that was billed (this will typically be 100).

BCU1 - Validate & Populate Billable Charge Upload Staging

This process has several functions:

- It populates the SA ID on all BC upload staging records where SA ID is left blank. This means that you don't have to know the SA ID in order to interface a billable charge into the system. The program populates SA ID with the service agreement related to the SA relationship with the most recent effective date for a given combination of service provider's external system ID and customer's ID in the sender's system. The system can only do this if the following points are true:

  - You use the system's SA relationship functionality to define that you provide bill ready billing services for a service provider. On the customer's SA relationship record you must define the customer's ID in the service provider's system. Refer to Maintaining SA Relationships for more information.

  - You identify the service provider's external system ID on the billable charge upload staging record.

 - You identify the customer's ID in the sender's system.

> **Note.** You can still interface billable charges if you don't use the system's SA relationship functionality. How? You simply need to derive the SA ID associated with the uploaded billable charge.

- It populates various fields (e.g., the GL distribution code, memo only switch) on the billable charge upload line records from the billable charge line type specified on each respective record.

Any validation / population errors detected during this process are written to the BC Upload Exception table. You can fix errors using BC Upload Staging page (don't forget to change the record's status back to *Pending*).
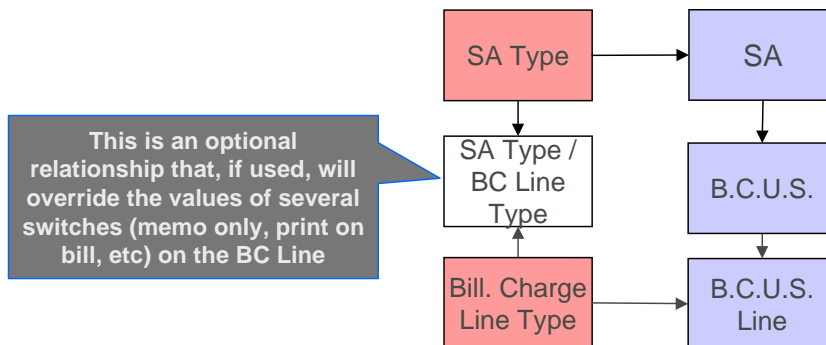
BCU2 - Create Billable Charge

This process creates a billable charge and billable charge lines (shown in the yellow section of the following ERD) for all BC upload records in the *Pending* state.
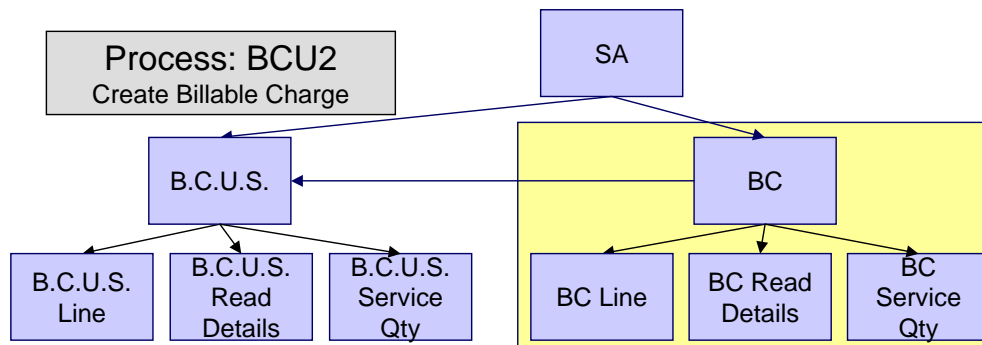
If the billable charge's SA is *Closed*, it will *Reactivate* it so that the billable charges will be swept onto the next bill produced for the account.

Note. This process will override the values of the various switches referenced on bill charge upload staging line if the respective service agreement's SA type has an override value for the line's billable charge line type. Refer to SA Type – Billable Charge Overrides for more information.

This is an optional relationship that, if used, will override the values of several switches (memo only, print on bill, etc) on the BC Line

Any errors detected during this process are written to the Billable Charge Upload Exception table. You can fix errors using BC Upload Staging page (don't forget to change the record's status back to *Pending*).

BCUP-PRG - Purge Billable Charge Upload Objects

Completed billable charge upload staging objects should be periodically purged from the system by executing the BCUP-PRG background process. This background process allows you to purge all *Completed* billable charge upload staging objects older than a given number of days.

We want to stress that there is no system constraint as to the number of *Completed* billable charge upload objects that may exist. You can retain these objects for as long as you desire. However we recommend that you periodically purge *Completed* billable charge upload objects as they exist only to satisfy auditing and reporting needs.

Billable Charge Upload Staging

The Billable charge Upload Staging page has three purposes:

- You can view historical billable charge upload records.

- You can correct billable charge upload records that are in error.

- You can add new billable charge upload records. These will be uploaded by the billable charge upload process (although it's probably easier to just add the billable charges using the Maintaining Billable Charges page).

The topics in the section describe how to maintain this information.

Contents

Billable Charge Upload - Main

Open this page using **Financial, Billable Charge Upload Staging, Main**.

Description of Page

Refer to Billable Charge Upload Staging for more information about these fields.

Correcting Errors. If a Billable Charge Upload record's status is *Error*, you should correct the problem and then change its status back to *Pending*. The next time the billable charge upload process runs, it will revalidate the record and, if valid, it will create a billable charge record.

Billable Charge Upload - Lines

Open this page using **Financial, Billable Charge Upload Staging, Lines**.

Description of Page

Refer to Billable Charge Line Upload Staging for more information about these fields.

Billable Charge Upload - SQ Details

Open this page using **Financial, Billable Charge Upload Staging, SQ Details**.

Description of Page

Refer to Billable Charge Service Quantity Upload Staging for more information about these fields.

Billable Charge Upload - Read Details

Optionally, you may specify meter read details associated with a billable charge. These are most commonly used when you need to print the read details that were used to calculate the bill lines that appear on the main tab.

Using these reads to derive billable consumption. The base package bill segment creation algorithm simply sweeps billable charge read details onto the related bill segment's read detail. This algorithm does NOT use these reads to derive billable consumption. This is intentional as most implementations that import reads also import billable consumption and therefore deriving billable consumption is unnecessary (and also error prone). If your implementation needs to derive billable consumption from these reads, you can develop your own bill segment creation algorithm to do just this.

Open **Financial, Billable Charge, Read Details** to maintain a billable charges service quantities.

Description of Page

Refer to Billable Charge Read Details Upload Staging for more information about these fields.

Billable Charge Upload Exception

If errors are detected during the billable charge upload process, a record is written to the billable charge upload exception table with a message indicating the nature of the severe error.

To view the messages associated with the exception records, schedule the TD-BCUPL background process. This process generates a To Do entry for every record in the billable charge upload exception table.

You can fix this error using the Billable Charge Upload Staging page and change the status of the record from *Error* to *Pending*. When the billable charge upload process next runs, it attempts to upload this record again.

Budget Review

The Budget Review page shows all accounts with an anomalous budget amount.

Note. This information on this page is created by the Budget Monitor background process.

Open this page using **Financial Query, Budget Review**.

Description of Page

One row is displayed for every account whose current budget amount is out-of-sync with the recommended budget amount.

Rows are also displayed for errors. Please be aware that if the Budget Monitor background process encounters an error when it attempts to calculate an account's recommended budget, these errors will also appear as rows in this query.

Clicking the Go To button will cause the Account – Budget page to open. When this page opens you can recalculate the customer's budget amount.