

Retek® 10 Integration Bus



Integration Guide

**Retek Distribution Management 10.0
Message Family Manager Designs**



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Customer Support

Customer Support hours:

8AM to 5PM Central Standard Time (GMT-6), Monday through Friday, excluding Retek company holidays (in 2002: Jan. 1, May 27, July 4, July 5, Sept. 2, Nov. 28, Nov. 29, and Dec. 25).

Customer Support emergency hours:

24 hours a day, 7 days a week.

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E-mail	support@retек.com
Internet	www.retek.com/support Retek's secure client Web site to update and view issues
Mail	Retek Customer Support Retek on the Mall 950 Nicollet Mall Minneapolis, MN 55403

When contacting Customer Support:

- Always fill out an Issue Report Form before submitting issues to Retek (request forms from Customer Support if necessary).
- Provide a completely updated Customer Profile.
- Have a single resource per product responsible for coordination and screening of Retek issues.
- Respond to our requests for additional information in a timely manner.
- Use Retek Online Customer Support (ROCS) to submit and update your issues.
- Have a test system in place running base Retek code.

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Chapter 1 – Customer returns

Functional Area

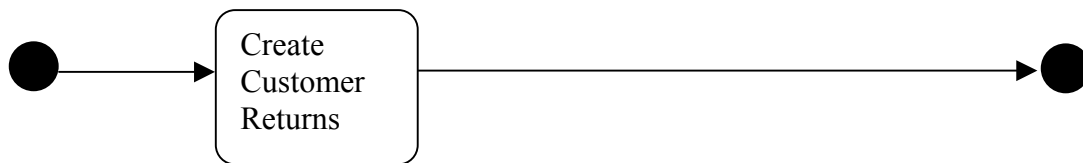
Customer Returns Publication

Design Overview

RDM is responsible for communicating Customer Returns Information to the Host System.

RDM provides the capability to process item level return information. Information to the host upon completion of the process will include: item information, unit quantity information, the RMA number, zero or more reason codes, zero or more action codes, and possibly replacement items and replacement quantities.

State Diagram



Description of Activities

Create Customer Returns

- 1 **Prerequisites:** There are no prerequisites for Customer Returns.
- 2 **Activity Detail:** There are no activity details, once the message has been processed there are no modifications.
- 3 **Messages:** When a Customer Return is created, the “Customer Returns Create” data is inserted into the Returns_Upload table. The Customer Returns Create message is a flat message containing a full snapshot of the Customer Returns at the time the Customer Returns is created.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application's sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures:

CUSTOMER_RETURN_BUILD_XML (I_FACILITY_TYPE) – This procedure is responsible for retrieving the Customer Returns Information from the Returns_Upload table, creating the appropriate XML, inserting the XML into the Customer_Returns_Queue table, and marking the Returns_Upload->Pub_Status to 'S' and the Returns_Upload->Transaction_TS to the SYSDATE.

Seebeyond can only handle 30 character procedure names. So, the entire name of the call, package.procedure has to be within 30 characters. This only applies to public procedures, not internal, private functions and procedures.

Chapter 2 – Inbound ASN

Functional Area

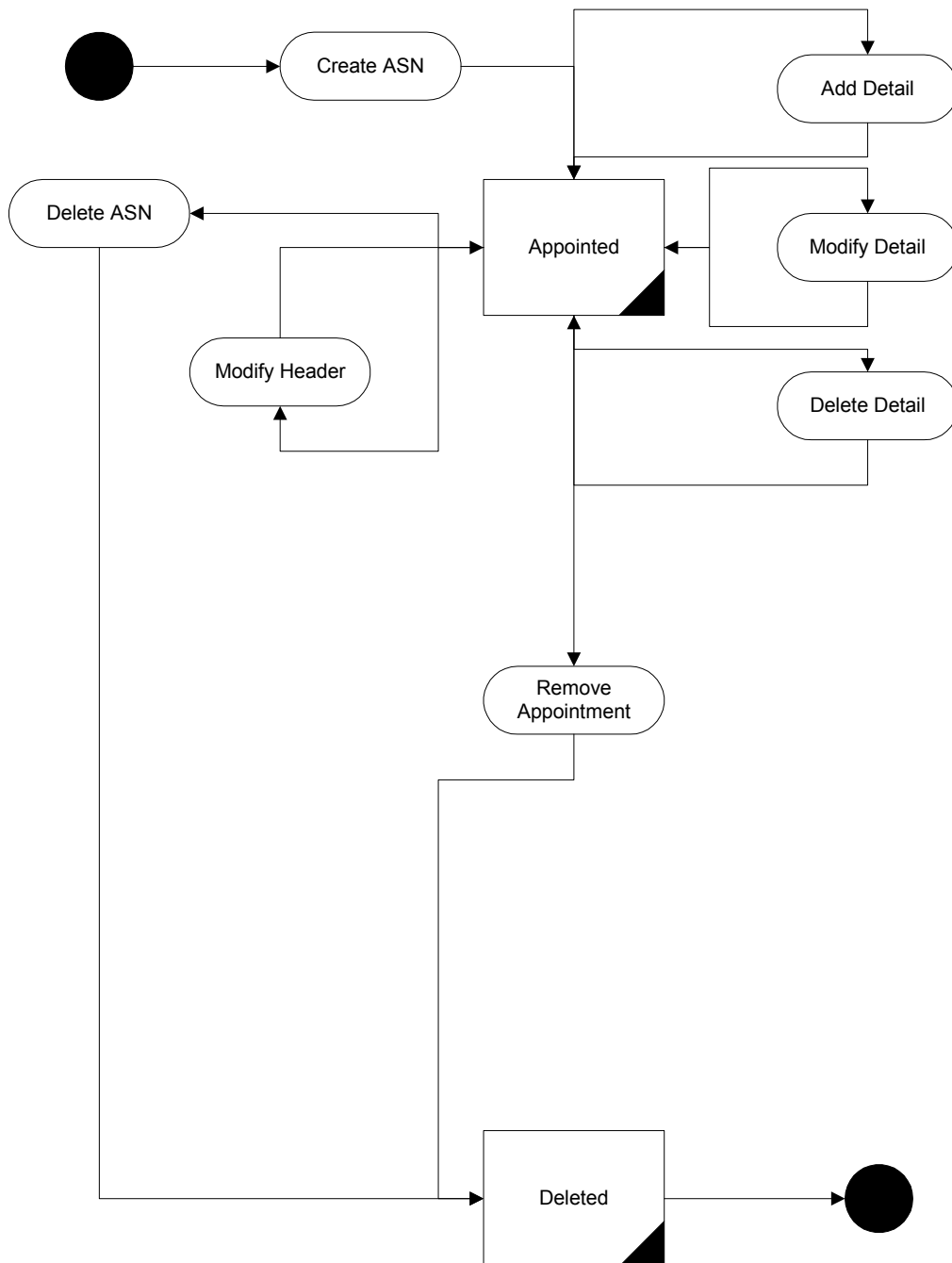
Inbound ASN Publication

Design Overview

RDM is responsible for communicating Inbound ASN Information to the Host System. Inbound ASN is defined as ASN Information originating in the RDM System. Inbound ASNs can be Container or PO Type ASNs. PO Type ASNs detail item information to be received at a unit level, not container level information. Container Type Inbound ASNs detail item information to be received at a container level. Container information includes Container ID, Destinations, Distro Number, Unit Quantity, PO and Item.

Inbound ASN messages are communicated to the Host once it has been Appointed. The entire hierarchical message is sent. To modify an ASN, the ASN must not be associated to an Appointment. Once modified, the entire hierarchical message is resent.

State Diagram



Description of Activities

Create Inbound ASN Messages

- 1 **Prerequisites:** Must be ASN appointment and a valid ASN.
- 2 **Activity Detail:** Assign the ASN to an Appointment.
- 3 **Messages:** When Inbound ASN Messages are created, the “Inbound ASN Create” data is inserted into the ASN_Upload table. The Inbound ASN Create message is a hierarchical message containing a full snapshot of the Inbound ASN Message at the time the ASN was appointed.

Delete Inbound ASN Messages

- 1 **Prerequisites:** Must be ASN appointment and a valid ASN.
- 2 **Activity Detail:** Remove the ASN from the Appointment
- 3 **Messages:** When Inbound ASN Delete Messages are created, the “Inbound ASN Delete” data is inserted into the ASN_Upload table. The Inbound ASN Create message is a hierarchical message containing a full snapshot of the Inbound ASN Message at the time the ASN was appointed.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type, O_from_location, O_ASN) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application’s sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures

INBOUND_ASN_BUILD_XML(I_FACILITY_TYPE) – This procedure is responsible for retrieving the Inbound ASN Message Data from the ASN_Upload / ASN_Item_Upload / ASN_Cont_Upload / ASN_Item_Upload tables, creating the appropriate XML, inserting the XML into the Inbound_ASN_Queue table, and marking the ASN_Upload->Pub_Status to 'S' and the ASN_Upload->Transaction_TS to the SYSDATE..

Chapter 3 – Inventory adjustments

Functional Area

Inventory Adjustments Publication

Design Overview

RDM is responsible for communicating Inventory Adjustments Information to the Host System.

Inventory Adjustments can be categorized as true inventory adjustments or inventory disposition changes.

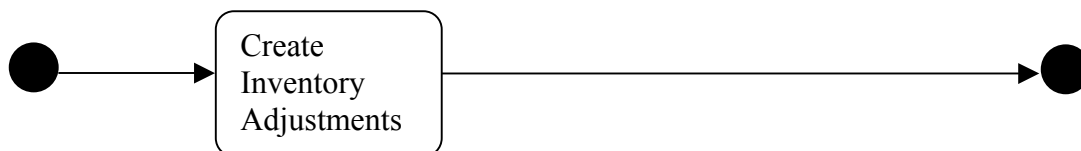
True inventory adjustments are adjusting the actual quantity of the inventory available. Inventory disposition is changing the status of the inventory (i.e. from unavailable to sell to available to sell). True inventory adjustments must always have a disposition change, however, you may have an inventory disposition without a true inventory adjustment.

Inventory Disposition statuses include:

- Receipt in Process
- Available to Sell
- Pending WIP on Inventory (WIP code will be included)
- Trouble (Trouble code will be included)
- Distributed

The user can define alternate statuses to be uploaded to the host through an RDM defined editor.

State Diagram



Description of Activities

Create Inventory Adjustments

- 1 **Prerequisites:** None.
- 2 **Activity Detail:** Inventory adjustments are created throughout the entire system as a result of normal processing.
- 3 **Messages:** When an Inventory Adjustments is created, the “Inventory Adjustments Create” data is inserted into the Inv_Adjustment_To_Upload table. The Inventory Adjustments Create message is a flat message containing a full snapshot of the Inventory Adjustments at the time the Inventory Adjustments is created.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application’s sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures

INVADJ_XML_BUILDER(I_FACILITY_TYPE) – This procedure is responsible for retrieving the Inventory Adjustments Information from the InvAdj_To_Upload table, creating the appropriate XML, inserting the XML into the Inventory_Adj_Info_Queue table, and marking the Inv_Adjustment_To_Upload->Pub_Status to ‘S’ and the Inv_Adjustment_To_Upload->Transaction_TS to the SYSDATE.

Chapter 4 – Outbound ASN

Functional Area

Outbound ASN Publication

Design Overview

RDM is responsible for communicating Outbound ASN Information to the Host System.

Outbound ASN Information consists of ASN Information, BOL Number, Manifest Information including Trailer and Carrier, Container Information including Items, Unit Quantities, Container ID, Destination and Distro Information.

An outbound ASN is generated for a distinct Shipping Trailer/Destination.

State Diagram



Description of Activities

Create RTV Messages

- 1 **Prerequisites:** Trailer must be in a Shipped Status.
- 2 **Activity Detail:** None
- 3 **Messages:** When Outbound ASN Messages are created, the “Outbound ASN Create” data is inserted into the BOL_To_Upload table. The Outbound ASN Create message is a hierarchical message containing a full snapshot of the Outbound ASN Message at the time the shipment was created.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application's sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures

OUTBOUND_ASN_BUILD_XML(I_FACILITY_TYPE) – This procedure is responsible for retrieving the Outbound ASN Message Data from the BOL_To_Upload table and selecting from the Stock_Order, Container, Container_Item, and Manifest tables, creating the appropriate XML, inserting the XML into the Outbound_ASN_Queue table, and marking the BOL_To_Upload->Pub_Status to 'S' and the BOL_To_Upload->Transaction_TS to the SYSDATE.

Chapter 5 – Receiving

Appointment Portion

RDM is responsible for communicating Appointment Information to the Host System. Appointment information consists of the Appointment Number, PO Information, Item Details, Scheduled Units and as well as ASN Information when related to an ASN.

Appointment messages are transmitted to the Host once the Appointment has been scheduled. Once scheduled, Appointment messages will be communicated at the addition, modification, or deletion of a detail, a modification of the header information such as arrival time, or at the Open, Close, and Deletion of the appointment.

Receipt Portion

RDM is responsible for communicating Receipt Information to the Host System.

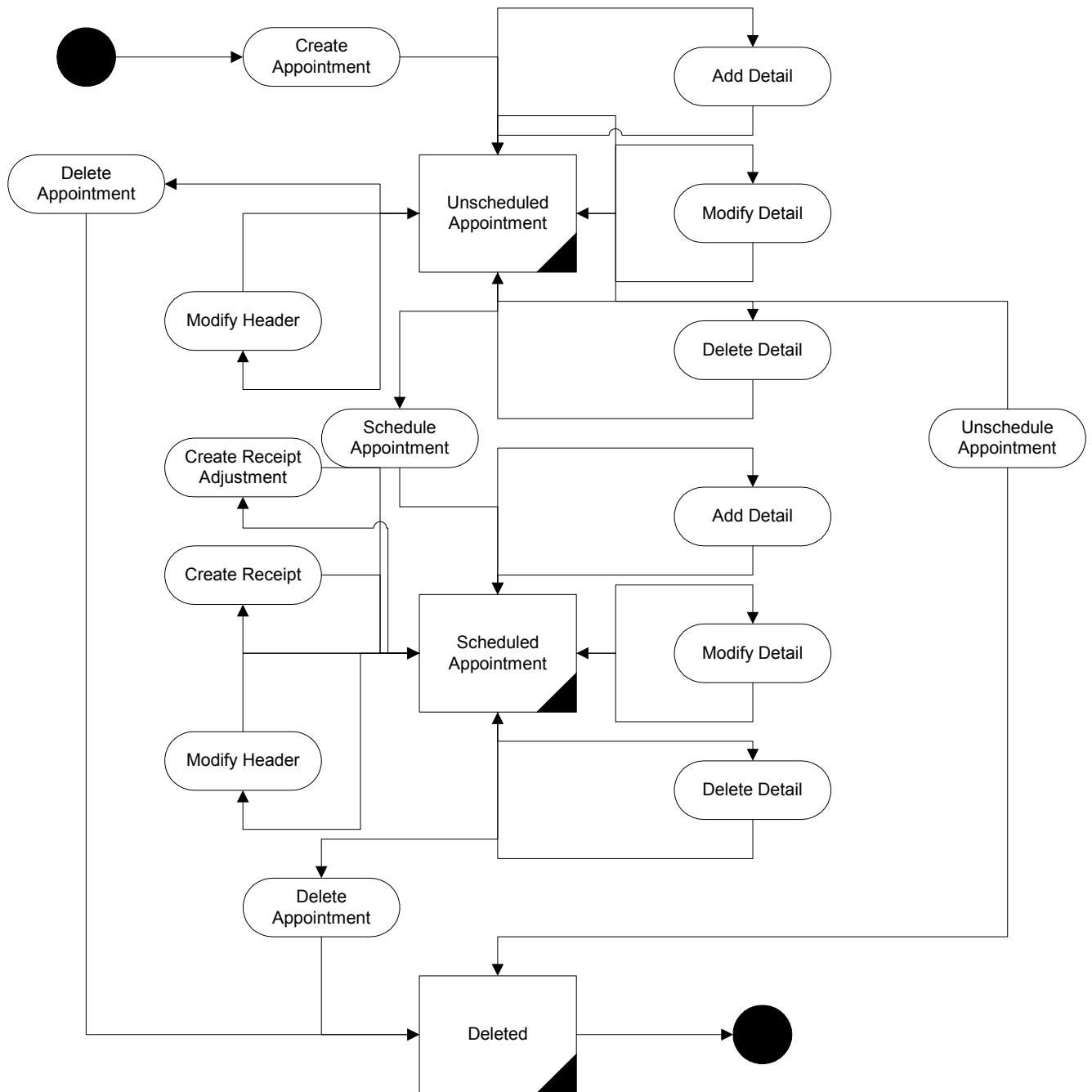
Receipt information is at the container level. It is uploaded to the host from the container level or when an appointment is closed depending on an RDM system parameter. Receipt Info Upload will include appointment information, item number, ASN number if applicable, quantity, purchase order number, disposition changes, and type of receipt.

Receipt types include:

- Initial Receipt
- Adjustment to an already uploaded receipt

Both types of receipts contain the same information listed above.

State Diagram



Description of Activities

Appointment Create

- 1 **Prerequisites:** A valid door and trailer must exist to create an appointment.
- 2 **Activity Detail:** None
- 3 **Messages:** When Appointment Create Messages are created, the “Appointment Create” data is inserted into the Appt_Header_To_Upload / Appt_Detail_To_Upload table. The Appointment Create message is a hierarchical message containing a full snapshot of the Appointment Message at the time the first appointment detail record is added.

Appointment Modify

- 1 **Prerequisites:** Appointment must exist.
- 2 **Activity Detail:** Change the Door, Appointment Time Stamp.
- 3 **Messages:** When Appointment Modify Messages are created, the “Appointment Modify” data is inserted into the Appt_Header_To_Upload table. The Appointment Modify message is a flat message containing a full snapshot of the Appointment Modify Message at the time the appointment status is changed.

Appointment Delete

- 1 **Prerequisites:** Appointment must exist and be in the appropriate status
- 2 **Activity Detail:** Cascade deletes to any associated detail tables.
- 3 **Messages:** When Appointment Delete Messages are created, the “Appointment Delete” data is inserted into the Appt_Header_To_Upload table. The Appointment Delete message is a flat message containing the Appointment Number that was deleted.

Appointment Detail Create

- 1 **Prerequisites:** Valid appointment header and a valid PO and Item. If related to an ASN, the ASN must be valid.
- 2 **Activity Detail:** None
- 3 **Messages:** When Appointment Detail Create Messages are created, the “Appointment Detail Create” data is inserted into the Appt_Header_To_Upload / Appt_Detail_To_Upload table. The Appointment Detail Create message is a flat message containing a full snapshot of the Appointment Detail Create Message at the time the appointment detail is created.

Appointment Detail Modify

- 1 **Prerequisites:** Appointment detail record must exist in the appropriate status.
- 2 **Activity Detail:** Appropriate checks made to maintain data integrity.
- 3 **Messages:** When Appointment Detail Modify Messages are created, the “Appointment Detail Modify” data is inserted into the Appt_Header_To_Upload / Appt_Detail_To_Upload table. The Appointment Detail Modify message is a flat message containing a full snapshot of the Appointment Detail Modify Message at the time the appointment detail was modified changed.

Appointment Detail Delete

- 1 **Prerequisites:** Appointment detail record must exist in the appropriate status.
- 2 **Activity Detail:** None
- 3 **Messages:** When Appointment Detail Delete Messages are created, the “Appointment Detail Delete” data is inserted into the Appt_Header_To_Upload / Appt_Detail_To_Upload table. The Appointment Detail Delete message is a flat message containing a full snapshot of the Appointment Detail Delete Message at the time the appointment detail was created.

Create Receipt

- 1 **Prerequisites:** Valid appointment must exist.
- 2 **Activity Detail:** Receipt of Container creates a Receipt to upload
- 3 **Messages:** When a receipt is created, the “Receipt Create” data is inserted into the Receipt_To_Upload table. The Receipt Create message is a flat message containing a full snapshot of the receipt at the time the receipt is created.

Create Receipt Adjustment

- 1 **Prerequisites:** Container must be received and the initial receipt upload must have been sent.
- 2 **Activity Detail:** Each container is individually checked using RDM functionality.
- 3 **Messages:** When a receipt adjustment is created, the “Receipt Adjustment” data is inserted into the Receipt_To_Upload table. The Receipt Adjustment message is a flat message containing a full snapshot of the receipt adjustment at the time the receipt adjustment is created.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type, O_from_location, O_appt_nbr) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application's sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures

APPOINTMENT_BUILD_XML(I_FACILITY_TYPE) – This procedure is responsible for retrieving the Appointment Family Message Data from the Appt_Header_To_Upload / Appt_Detail_To_Upload tables, creating the appropriate XML, inserting the XML into the Appointment_Queue table, and marking the Appt_Header_To_Upload->Pub_Status to 'S' and the Appt_Header_To_Upload->Transaction_TS to the SYSDATE. This procedure also calls the Receipt_XML_Builder procedure before processing Close messages. This done to process all receipts prior to closing the appointment.

RECEIPT_XML_BUILDER(I_FACILITY_TYPE, I_APPT_NBR DEFAULT NULL) – This procedure is responsible for retrieving the Receipt and Receipt Adjustment Information from the Receipt_To_Upload table, creating the appropriate XML, inserting the XML into the Receipt_Queue table, and marking the Receipt_To_Upload->Pub_Status to 'S' and the Receipt_To_Upload->Transaction_TS to the SYSDATE.

In addition, this procedure determines when the Receipt/Receipt Adjustment records are created. RDM users have the ability to upload Receipt/Receipt Adjustments at a Container Level or at an Appointment Level. For Container Level, Receipt/Receipt Adjustments are sent as they are created. For Appointment Level, Receipt/Receipt Adjustments are sent once the Appointment has been received.

Chapter 6 – Return to vendor

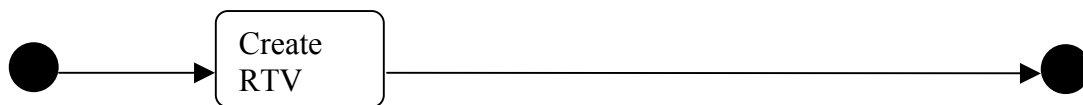
Functional Area

RTV Publication

Design Overview

RDM is responsible for communicating RTV Information to the Host System. RTV information is sent to the Host when the DC chooses to return merchandise to the Vendor. Information includes Return Authorization Numbers, Vendor Information including address, Item and Quantity Information and Inventory Disposition Statuses.

State Diagram



Description of Activities

Create RTV Messages

- 1 **Prerequisites:** Container must be in the appropriate status.
- 2 **Activity Detail:** All pending WIPs and Troubles are cleared prior to RTV.
- 3 **Messages:** When RTV Messages are created, the “RTV Create” data is inserted into the Stock_Order_Info_Upload table. The RTV Create message is a flat message containing a full snapshot of the RTV Messages at the time the inventory was affected.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application's sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures

RTV_BUILD_XML(I_FACILITY_TYPE) – This procedure is responsible for retrieving the RTV Message Data from the Inv_Adjustment_To_Upload table where the adjustment_reason_code = 90, creating the appropriate XML, inserting the XML into the RTV_Queue table, and marking the Inv_Adjustment_To_Upload->Pub_Status to 'S' and the Inv_Adjustment_To_Upload->Transaction_TS to the SYSDATE.

Chapter 7 - Stock order status

Functional Area

Stock Order Info Publication

Design Overview

RDM is responsible for communicating Stock Order status Information to the Host System.

RDM will generate stock order status information upon detection of any changes to a stock order.

These statuses include:

- Successful Insert
- Successful Delete
- Store Reassign
- Detail Selected
- Detail Unselected
- Pick Created
- Pick Deleted
- Return to Stock
- Cartonization Complete
- Cartonization Reversed
- Expired Stock Order
- No Inventory

Information includes distro number, distro type, item information and quantities, and status.

State Diagram



Description of Activities

Create Stock Order Info Messages

- 1 **Prerequisites:** Valid distro number.
- 2 **Activity Detail:** Generate throughout the system per normal use of the system.
- 3 **Messages:** When Stock Order Info Messages are created, the “Stock Order Info Create” data is inserted into the Stock_Order_Info_Upload table. The Stock Order Info Create message is a flat message containing a full snapshot of the Stock Order Info Messages at the time the inventory was affected.

Triggers

None

Message Family Manager Procedures

Public Procedures

GETNXT (O_status_code, O_error_msg, O_message_type, O_message, I_facility_type) – This publicly exposed procedure is typically called by a RIB publication adaptor. Its parameters are well defined and arranged in a specific order. The message type is the RIB defined short message name, the message is the xml message, and the family keys are the key for the message as pertains to the family, not all of which will necessarily be populated for all message types. Status code is one of five values; these codes come from an EAI team defined RIB_CODES package. For more discussion of the status codes, refer to the Error Handling Guidelines document.

The error text parameter contains application-generated information, such as the application’s sequence number of the message that failed, and the Oracle or other error that occurred when the retrieval failed.

Referenced Stored Procedures

SOS_XML_BUILDER(I_FACILITY_TYPE) – This procedure is responsible for retrieving the Stock Order Info Message Data from the Stock_Order_Info_Upload table, creating the appropriate XML, inserting the XML into the Stock_Order_Info_Queue table, and marking the Stock_Order_Info_Upload->Pub_Status to ‘S’ and the Stock_Order_Info_Upload->Transaction_TS to the SYSDATE.