

Oracle® Utilities Work and Asset Management

GIS Integrations Guide

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Oracle® Utilities Work and Asset Management GIS Integrations Guide for Release 1.9.0.3

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Overview of GIS Integration Functionality

The Oracle Utilities Work and Asset Management GIS integrations provide a way to navigate between the Oracle Utilities Work and Asset Management application and external GIS data. This guide provides a general overview of all GIS integrations supported by Oracle Utilities Work and Asset Management.

For detailed information on a specific viewer, please refer to the User Guide for that viewer.

- [AutoDesk MapGuide User Guide](#)
- [Intergraph Geomedia User Guide](#)
- [ESRI ArcIMS User Guide](#)
- [ESRI ArcMap User Guide](#)
- [ESRI ArcGIS Viewer User Guide](#)
- [Oracle GIS Viewer User Guide](#)
- [ESRI ArcGIS Viewer User Guide](#)

GIS Functionality

Use a GIS viewer to view and manipulate asset and maintenance information based on geographic location. Two way communication between the applications allows you to launch a map viewer and “zoom in” on specific Oracle Utilities Work and Asset Management Asset, Work Order, Work Request, PM Master, or Service Request records. You can also launch Oracle Utilities Work and Asset Management from the map viewer. GIS extensions integrate through:

Linked Data - Your system administrator links Oracle Utilities Work and Asset Management Asset and Tax ID records to the appropriate features on the GIS map.

Actions/Menus - The Actions list in Oracle Utilities Work and Asset Management enables you to view and print maps of assets and service request addresses. From the GIS application, a custom Oracle Utilities Work and Asset Management menu enables you to plan work related to assets, create service requests, record assets on service requests, and open Oracle Utilities Work and Asset Management to specific records listed in the map viewer.

Data Sharing - As you work, data is updated in both applications.

Permissions

Settings in the GIS Setup business rule determine which GIS Viewer is used. This setting can be over-ridden in each individual user profile by adding the ACTIVATED GIS OPTION key name. The appropriate additional settings must be defined in the business rule so that users can switch viewers.

Responsibility functions must also be added to the user profile of anyone who will need access to the view and print GIS actions available in modules as well as to have access appropriate viewer:

- ESRI3 VIEWER - Add responsibility function to allow access to the ESRI3 Viewer.
- GIS VIEWER - Add responsibility function to allow access to the Oracle GIS Viewer.
- VIEW GIS - Add responsibility function to allow access to the print and view GIS actions available in modules. (Must be added regardless of which viewer is used.)

Please refer to [GIS Implementation](#) for more information.

Daily Use of a GIS Viewer

Use GIS functionality in daily work to:

- View and print maps of assets or service request addresses.
- Plan work by viewing existing work records associated with assets. You can also create new Work Order or Service Request records as needed.
- Update asset assignments directly on the map to reflect work done. You can also create Asset records.
- Record assets on service requests to apply service request costs to those assets. You can also create service requests from the map viewer.

Map Viewer

Depending on which viewer your organization uses and how it is configured, you can select GIS Viewer from the home page Actions list, select a link from the home page Links component, or you select View GIS from the Actions list in one of the supported modules.

Users can also [add a link to their home page](#) to launch the map viewer.

Regardless of the viewer you are using, you will find a map display, a toolbar with pan and zoom controls, a menu and a theme selections panel that controls which map features display.

Functionality

As you move the mouse pointer over a feature on the map, the feature is highlighted and a pop-up label displays the Asset number for the object if one has been assigned. The viewer has various controls for manipulating the map image and selecting or deselecting assets.

Regardless of which module you were using when you launched the viewer, asset data is required for the viewer to locate a specific location. If no asset data is available on the record when you select View Map from the Actions list, a large-scale map opens in the viewer. You can then use the viewer's pan, zoom and search controls to locate desired features.

Viewing and Printing Maps

As long as an asset has been assigned to one or more map features, you can view and print a map of the asset. This can be done from any one of the supported modules.

Applicable viewers are best used when launched from the module where the assigned assets are referenced. Use similar procedures to view maps from Assets, Work Orders, Work Requests, PM Masters and Service Requests.

If the asset is not assigned to a feature on the map, the map opens displaying a warning that no item is selected.

Note: If you have previously launched the viewer and it is running in the background behind the Oracle Utilities Work and Asset Management application, clicking on the View Map option will not reopen the viewer. To open the viewer when it is running in the background, click on the map viewer icon on the windows toolbar.

View a single asset

Open the appropriate record then select View GIS Map from the Actions list. The system opens the viewer with the asset selected.

[How to View a Map of an Asset Record](#)

View multiple assets

Create a search in the Asset module then select View GIS Map from the Actions list on the results of search screen. The resulting map shows all of the Assets from the results list, as applicable.

View customer addresses

From the Service Request module you can select View Map (Tax ID) to open a map of the customer's address on the service request.

Printing maps

Select Print GIS Map from any of the eligible modules and the system opens the map and provides prompts to walk you through the process of printing the map. This option is available from the header or the results of search screen so that you can print a single asset or multiple assets.

[How to Print a Map of an Asset Record](#)

Creating Records from Map Objects

To create new records you can select one or multiple objects on the map then click the desired menu item and select Create.

When you create new records from GIS, the system uses the Default Name in the user profile of the logged on user to populate the Dispatcher, Requestor, and Initiator fields on the Service Request, Work Order and Work Request, respectively.

Please refer to the [Details on Each Integrated GIS System](#) to confirm whether or not your viewer can perform the create action as described below.

Asset - The system creates an asset record based on the selected feature on the map. Only ArcView and Geomedia users can create new assets.

PM Master - You can not create new pm masters from a viewer. Only view.

Service Request - The system creates one Service Request record with every selected map object. These assets are then listed in the Service Request Asset List view.

Work Order - When you select Create (multi tasks) the system creates one Work Order record with a separate task for each selected map object. Selecting Create (single task) creates one Work Order record with one task listing all selected assets in the Asset List.

Work Request - The system creates one record for the selected map object. You can only create one Work Request at a time.

[How to Create an Asset Record from the GIS Map](#)

[How to Create a Work Order from the Map Viewer](#)

[How to Create a Service Request from the GIS Map](#)

Recording Assets

When you launch a GIS viewer from a Service Request record, you can select one or more Assets on the map then select Record Assets from the Menu under Service Request. The system adds the selected assets to the Service Request that you were viewing when you launched the viewer.

As work progresses on the service request, costs are applied to the assets according to the percentage split entered. Assets can have parent/child relationships with other assets. Costs associated with a child asset roll-up the asset hierarchy to the parent asset, along with other child asset costs.

[How to Record Assets on a Service Request](#)

Assign/Unassign Assets

After you perform work on assets to repair or upgrade equipment, you may need to modify or update asset assignments on the GIS map. For example, after repairing a broken pipe, you may want to unassign and de-activate the previous asset record, create new asset records, and assign the new asset records to each section of the broken pipe.

Oracle Utilities Work and Asset Management GIS enables you to unassign, de-activate, assign, and create Oracle Utilities Work and Asset Management Asset records from the GIS application.

[How to Assign an Asset ID to a Map Feature](#)

[How to Unassign an Asset ID](#)

[How to Assign a Parent Asset](#)

Map Tools

Hover over the icons in the toolbar to discover the function of each tool. Refer to the product guide for your specific GIS viewer for more detailed information on these tools. These tools only manipulate the image without resulting in any geo-spatial or database changes.

Pan and Zoom

All viewers have a drag or pan tool, zoom in and zoom out tools to allow you to manipulate the visual display of the map. Select the tool then click or drag on the map to reposition or zoom to the desired effect. Some viewers also include a zoom slider which can be used to zoom in and out by moving the slider up or down.

Select

Click one of the features tools, (Select Point, Select Rectangle, or Select Circle) then click or draw the shape around a map feature to select that map feature. Select Rectangle or Circle allow you to select more than one map feature. You can also hold down the shift key and use Select Point to select multiple features. When you release the mouse button, the features are selected.

Search

Click on the Search tool to display a dialog where you can enter search criteria to find a map feature. Search by any combination of criteria such as layer, field or theme and enter a value or leave the value blank to search for all.

Selecting Features from the Map

When the GIS viewer is open, you can select one or multiple objects on the map then select View under the applicable menu option to open a results of search screen listing all of the related records referencing the selected objects.

This can help you to rather information relevant to work you need to perform on assets. You can view details about the assets or view a list of work orders. In this way, you can easily find out if there are existing plans to work on the assets or if a new work order needs to be created. If a work order or service request need to be created, you can also do this from within the map viewer, if the viewer supports this functionality.

[How to View Asset Details from the Map Viewer](#)
[How to View Work Records Associated with a Map Feature](#)

Layer Selections

You can turn layers on and off by clicking the check boxes associated with each layer. After adding or removing a layer, you may need to click the refresh icon to see the change.

Searching the Map

In addition to searching for map features from within the Oracle Utilities Work and Asset Management application, the HTML map viewer also allows you to search for specific addresses, intersections, and parcels directly from the map viewer. The search feature is particularly useful if you launch the map viewer from a link on your home page, rather than from a Oracle Utilities Work and Asset Management asset or work record. The Java map viewer does not support these additional search capabilities.

Note: These are not geospatial searches. Your GIS data must be setup for tabular searches in order to support this functionality.

[How to Search for an Address](#)
[How to Search for an Intersection](#)
[How to Search for a Parcel](#)

Intensity Mapping

You can use Intensity Mapping to display selected assets on the map in different colors based on a particular Oracle Utilities Work and Asset Management context, such as number of Work Orders. Intensity Mapping can supply a quick visual indication of which Assets are incurring the highest incidence of repair. You define ranges used for the three available colors. The colors used in by the Intensity Mapping function are defined system-wide by the administrator.

Intensity Mapping is only used in Intergraph Geomedia to view Work Orders and Service Requests. After performing a Oracle Utilities Work and Asset Management search, launch the viewer from the Results of Search screen and click on the Intensity Map icon.

[How to View Work Order using Intensity Mapping \(Intergraph only\)](#)

Details on Each Integrated GIS System

While these applications function in the same way overall, there are slight differences between the different GIS products which are available to be integrated with Oracle Utilities Work and Asset Management.

Please refer to the specific product guide for user interface details or a description of the available tools and functions.

Comparison of Functionality

The supported GIS products offer similar, but not identical feature sets. A consistent effort is made to support the same functionality in all integrations, however due to the unique characteristics of the GIS products, this is not always possible. The following table summaries the functionality available in each of the current integrations.

	AutoDesk (MapGuide)	ESRI1 (ArcMAP)	ESRI2 (ArcIMS / ArcGIS)	Intergraph (GeoMedia)	Oracle Viewer
Asset ID displays on map (always visible)		X	X		X
Asset ID displays on map (on mouse over)	X			X	X
Asset: Assign / Unassign to map feature		X		X	
Asset: Assign parent asset		X			
Asset: Create from map		X		X	
Asset: Open record from map	X	X	X	X	X
Asset: Record on Service Request	X	X	X	X	X
Asset: View by Tax ID	X	X	X	X	X
Asset: View multiple selected on map	X	X	X	X	X
Intensity Mapping				X	
Map Layers	X	X	X	X	X
PM Master: Open record from map	X	X	X	X	X
Search/Query the map		X		X	
Service Request: Create from map		X	X	X	X
Service Request: Open record from map	X	X	X	X	X
Thematic Mapping					X
View / Print map from header	X	X	X	X	X
View / Print map from results of search	X	X	X	X	X
Work Order: Create from map	X	X	X	X	X
Work Order: Open record from map	X	X	X	X	X
Work Request: Create from map			X		X
Work Request: Open record from map			X		X

Tutorials

This section shows steps to complete some of the most common GIS features. This is a general guideline for any GIS viewer.

How to View a Map of an Asset Record

1. Open an appropriate Asset record or Asset Results of Search screen.

From the Service Request header record, select View Map (Tax ID) to view a map of the customer's address on the Service Request.

If you view a map from a module other than the Asset module, it will show the mapped Assets associated with that module. A map opened from the Work Order Module, for example, shows the Asset listed on the selected Work Order.

2. Select View GIS Map from the Actions list.

If the Asset is not assigned to a feature on the map, the GIS map opens and displays a warning that no item is selected.

When you select View Map, the map viewer opens a map showing the feature that the Asset is assigned to. If you select View GIS Map from a Results of Search screen, the map viewer opens showing all the mapped assets retrieved by your search.

The first time you open the map viewer in a work session, you will see the following message while the map is updated. After the map loads, click on the OK button to clear the message.

3. Reposition the map as needed.

Rest the mouse pointer over any tool icon to see a popup description of what the tool does.

Use the Pan or Zoom tools from the control panel to reposition the map.

You can then select Print or Print Preview from the File menu to print the map, or you can print the map from as shown in the following steps.

How to View Asset Details from the Map Viewer

1. Select a feature on the map that has an assigned asset ID.

You can select more than one feature by using the viewer's Select by Rectangle or Select by Circle controls. Click the tool to select it from the control panel and then draw the corresponding shape around the map features you want to select.

You can click the Print button to print a list of the Work records displayed, or click the record number to open that record in Oracle Utilities Work and Asset Management.

Some menu selections may be unavailable depending on which map feature(s) are selected.

2. Select View under Asset on the map viewer's Options menu.

The View Asset window opens with details about the Oracle Utilities Work and Asset Management Asset record(s).

You can click the asset ID number on the View Asset screen to open Oracle Utilities Work and Asset Management to that Asset record.

If you have selected more than one asset in the map feature, the Asset module results of search window opens, where you can select the asset record to view.

Remember that map features must have assigned asset IDs in order for them to display in the Oracle Utilities Work and Asset Management window. If you select nine map features, but only five have asset IDs, only those five will display on the results of search page.

How to Print a Map of an Asset Record

- 1. Open the appropriate Asset record.**
- 2. Select Print GIS Map from the Actions list.**

The GIS application launches and opens a print dialog box for printing a map of the assigned asset.

- 3. Reposition the map if necessary.**

Skip this step if you do not need to reposition the map before printing.

To reposition the map, click the Close button to close the Print dialog box. Select the Pan, Zoom In, and Zoom Out controls as needed to reposition the map. When done, select Print from the map viewer's File menu to reopen the print dialog box.

- 4. Specify a Printer and Print Options and click OK.**

The map prints to the printer specified.

You can use similar steps to print maps from the Work Order, Benchmark Work Order, PM Master, and Service Request modules. From the Service Request module, you can also select Print Map (Tax ID) to print a map of the customer's address on the service request.

How to View Work Records Associated with a Map Feature

- 1. Select one or more features on the GIS map.**

The menu option is only available when at least one feature has an assigned Oracle Utilities Work and Asset Management Asset ID.

- 2. Select PM Master, Service Request, Work Order, or Work Request on the Options menu in the map viewer.**

- 3. Click View.**

The corresponding search dialog box opens.

- 4. Enter search criteria.**

The drop-down list for the Selected Assets field includes all the assets selected from the map.

- 5. Click the Search button.**

The search results display.

If only one work record is found, that record opens in the Oracle Utilities Work and Asset Management window.

If more than one corresponding record is found, a results of search window opens showing the appropriate records. matching your view request, You can then select the record you want to view.

If you want to modify your search, click on Search Options button to open the Oracle Utilities Work and Asset Management search screen, where you can edit or delete the

Custom SQL statement for the current search. You can also modify your search by returning to the map viewer and selecting other map features you want to view.

You can click the Print button to print a list of the work records displayed. Then open the appropriate module to view more information about specific records.

How to View Work Order using Intensity Mapping (Intergraph only)

1. **Select the appropriate Asset(s) on the map display.**
2. **Select View Work Order or View Service Request from the Oracle Utilities Work and Asset Management menus.**

The viewer opens either the View Work Order or the View Service Request selection window.

3. **Check the Show Intensity Map box under Options.**
4. **Define the ranges you want to display.**

As you adjust the values for Range 2, the upper value of Range 1 and the lower value of Range 3 adjust accordingly when you click outside the box. Each range will display in a different color on the map.

5. **Click on the Search button.**

The viewer opens the view results window showing both the standard View Work Order table and the Intensity Map.

If you want to refine the Intensity ranges on this map, click on the Back button to return to the previous screen and make the necessary adjustments in the range definitions. Then click on the Search button to redisplay the map.

How to Create an Asset Record from the GIS Map

1. **Select a feature on the map that has not been assigned an asset ID.**

Click on the Select Features tool and then click on the map feature you want to select.

Make sure that you select only one feature, and that the feature does not already have an assigned asset. Otherwise the Create option will be greyed out.

2. **Select Create Asset from the Oracle Utilities Work and Asset Management Asset menu.**

The Create Asset dialog box opens.

3. **Enter basic information to create the Asset record.**

The system displays a warning if the asset ID that you enter already exists.

The system fills in the Plant field. The Plant, Record Type, Asset ID, and Asset Type fields are required. All information entered here will be included on the Asset record you create.

4. **Click on the Create button.**

The system confirms that the asset has been created successfully and places the Oracle Utilities Work and Asset Management Asset record in Inactive status.

5. **Click OK.**

The system asks whether you want to assign the asset to the selected feature.

6. **Select Yes or No as appropriate, then click OK.**

If you select Yes, the system labels the selected feature with the asset ID.

7. **To view or modify the Asset record, open the Asset ID record in Oracle Utilities Work and Asset Management.**

The Asset module is located in the Resource subsystem.

How to Create a Work Order from the Map Viewer

1. Select one or more assets on the map.

If you select several assets, the work order will be created with one task for each asset.

2. Select Create from the Work Order options menu.

The Create Work Order dialog box opens with information about the Plant, the Selected Asset(s), and the Current User. This information will be used on the Oracle Utilities Work and Asset Management Work Order record that will be created.

3. Enter a description.

This will be the description on the Oracle Utilities Work and Asset Management Work Order record.

4. Select the Create WO button.

The system creates a Oracle Utilities Work and Asset Management Work Order record in Planning status and provides the new work order number. One task is created for each asset that was selected. You can update the record with additional information as necessary

To modify the work order, open the record in Oracle Utilities Work and Asset Management and make any necessary changes.

Follow similar steps to create a work request from the map viewer. However, you can select only one asset when creating a work request.

You can select several assets on the map to create a service request listing each asset.

How to Create a Service Request from the GIS Map

1. Select one or more assets on the map.

2. Select Create Service Request from the Oracle Utilities Work and Asset Management Service Request menu.

The system displays a message confirming the selected asset(s).

3. Click on the Yes button to create the Service Request.

The Service Request module opens showing the Service Request record created.

If you selected more than one asset in Step 1, you can open the Service Request Asset List view to see a listing of the assets included and the percentage split between assets.

4. Review and update the record as necessary.

Once the record is open in Oracle Utilities Work and Asset Management, all Oracle Utilities Work and Asset Management functionality is available. In addition to adding additional data to the record, you can also check for duplicate service requests, adjust the percentage split between assets, and do other work as appropriate.

5. Click on the Save icon.

How to Assign an Asset ID to a Map Feature

You can assign an asset to one or more features on the map, but you must assign the asset to one feature at a time.

1. Select a feature on the map that has not been assigned an asset ID.

Make sure that you select only one feature, and that the feature does not already have an assigned asset. Otherwise the Assign option will be greyed out.

2. Select Assign Asset from the Oracle Utilities Work and Asset Management Asset menu.

The Assign Asset dialog box opens.

3. Enter criteria to search for the Oracle Utilities Work and Asset Management Asset record.

You can enter search criteria in the fields in the upper portion of the window. List of Values are available.

4. Click the Search button.

If you need to modify the search criteria, select the Clear button to clear the fields in the upper portion of the window, enter new search criteria, and click the Search button again.

Search results display in the lower portion of the window.

5. Highlight the Asset record you want to assign.

6. Click the Assign button.

The system displays a message requesting confirmation.

7. Click on the Yes button to confirm.

8. Click on the OK button.

The system closes the dialog box and labels the map feature with the Asset record ID as shown below.

How to Unassign an Asset ID

1. Select a feature on the map that has been assigned an Asset record.

2. Select Unassign Asset from the Oracle Utilities Work and Asset Management Asset menu.

If an Asset record has not already been assigned to the selected feature, the Unassign option on the menu is greyed out.

The system displays a message asking you to confirm removal of the asset ID.

3. Select Yes to confirm.

The system asks if you want to change the status of the asset record to Inactive.

4. Select Yes or No as appropriate.

The system confirms that the removal is complete and removes the asset ID label from the selected feature on the map. The feature remains selected.

How to Assign a Parent Asset

1. Select a feature on the map that has been assigned an Asset record.

Select the asset that you want to be the child asset.

2. Select Assign Parent from the Oracle Utilities Work and Asset Management Asset menu.

The Assign Parent window opens.

3. Enter the Record Type and Asset ID for the Parent Asset.

4. Click on the Assign button.

The system confirms the assignment of the parent asset.

Click on the OK button.

How to Record Assets on a Service Request

1. Open the appropriate Service Request record in Oracle Utilities Work and Asset Management.

To use GIS functionality for service requests, you must launch the GIS map from the service request module.

2. Select View Map from the Actions list.

You must launch the GIS application from the Service Request record to record assets in this way.

The GIS application launches, opens the map in Data View, zooms in and selects all features with assigned assets associated to the service request. There can be zero, one or more features selected.

3. Select additional features on the GIS map with assigned asset IDs.

Make sure to hold down the Shift key as you select additional features if you want the current features to remain selected. Otherwise, the currently associated assets will be replaced with the new assets you are selecting.

4. Select Record Assets under Service Request on the Options menu.

The Record Assets screen displays showing the service request number and the selected assets.

If you did not open GIS from the Service Request record, the Record Assets options is not available.

5. Click to confirm that you want to record the asset(s).

The system records the assets on the Service Request Asset List view, dividing the percentage split equally between the assets. Any previous assets that were on this list are replaced.

You may need to click the Refresh icon to update the record with the new asset information.

Open the Service Request record Asset List view in Oracle Utilities Work and Asset Management to make any changes to the percentage split between assets.

How to Search for an Address

1. Select Find Address from the Oracle Utilities Work and Asset Management toolbar.

The system opens the Find dialog box below the map.

2. Enter an exact or a partial address in the Address field.

You can use the “%” wildcard character to substitute for street numbers. For example, you could enter “% Taylor” (or just “% tay”) to search for all addresses on Taylor Street, or “24% Taylor” to find 242 Taylor, 246 Taylor, 248 Taylor, etc.

3. Click Search.

The viewer displays a list of the addresses found below the map.

4. Click on a record number to see that address on the map.

Or click the “Zoom to these records” link to open a map showing all of the found addresses.

How to Search for an Intersection

1. Select the Intersection Wizard from the Oracle Utilities Work and Asset Management toolbar.

The viewer opens the Find dialog box below the map.

2. Enter the first street name and click Search.

You don't need to use the “%” wildcard character as the system will find the string you enter anywhere in the street name. You can enter “bay” to find Bayou, Bayside, Coquina Bay, etc.

The viewer opens a list of the street segments matching your search. The exact information shown varies depending on how your map data is set up.

This search for “bay” returned Bay Street, Bayshore Drive, East Bay Isle Drive, and others.

3. Click on a record number for the correct street.

In the example above, records 3-6 are for Coquina Bay Drive. Clicking on any of those record numbers opens the complete listing of all intersections where Coquina Bay Drive is either the named street or a crossing street.

4. **Click on a record number to display the map of the intersection.**

How to Search for a Parcel

1. **Select Find Parcel from the Oracle Utilities Work and Asset Management toolbar.**

The system opens the Find dialog box below the map.

2. **Enter the ID for the parcel you want to find in the Parcel field.**

You must enter the entire Parcel ID and cannot use the wildcard. Since Parcel ID numbers are usually very similar, wildcard searches would typically result in too many records.

3. **Click Find String.**

The viewer displays the parcel on the map.

4. **Verify the Parcel ID.**

You can verify that the correct parcel was found by checking the Parcel ID number.

Click the Identify tool and then click on the map to display parcel information below the map.

Scroll to the right and confirm the Parcel ID number.

GIS Implementation

Regardless of which GIS viewer you use, implementation of the Oracle Utilities Work and Asset Management interface to GIS requires that you map GIS features to the Oracle Utilities Work and Asset Management sa_asset table then complete additional configuration steps. This document provides sample generic implementation information to use as a guideline.

Overview

The primary configuration goals are to:

1. [Set up System Generated Sequence Numbering](#)
2. [Synchronize the GIS Schema with SA_ASSET](#)
3. [Configure the GIS Business Rules](#)
4. [Set up the Job Manager](#)
5. Complete the [Optional Configuration Steps](#)

Standard GIS Interfaces

WIFP_GIS_ASSET

This standard GIS Asset interface takes outside system GIS related data and creates assets in the Oracle Utilities Work & Asset Management system to match GIS mapped features.

WIFP_GIS_ASSET_SPECIFICATION

This standard GIS Specification interface takes outside system GIS related data and creates specifications in the Oracle Utilities Work & Asset Management system to match GIS mapped features associated with asset data.

Please refer to the section at the end of this chapter titled [Incorporate SA_SPECIFICATION_DATA \(optional\)](#) for more information on using specification data with the GIS interface.

Configuring the GIS Interface

To configure the GIS Interface you must set up system generated sequence numbering, synchronize the GIS schema to system data, configure business rules, set up the job manager and complete optional steps as needed.

1. [Set up System Generated Sequence Numbering](#)
2. [Synchronize the GIS Schema with SA_ASSET](#)
3. [Configure the GIS Business Rules](#)
4. [Set up the Job Manager](#)

5. Complete [Optional Configuration Steps](#)
6. [Incorporate SA_SPECIFICATION_DATA \(optional\)](#)

Set up System Generated Sequence Numbering

In order for processing to complete correctly, sequence numbering for the Asset module and the Specification module must be set as system generated. The interfaces will not use any record IDs populated in the views (i.e. if there are asset IDs entered in the view that you want interfaced into the system, the batch process would ignore those IDs and create system generated IDs).

To Set System Generated Sequence Numbering

If this is not configured correctly, batch processing will trigger an error when it attempts to create record IDs.

1. Open the Sequence Numbers module.
2. Search for ASSET as the Table Name.
3. Select "System."

This sets system_generate_ind to Y.

You should also set it to start at "1".

You can also create this through sql:

```
create sequence sseq_gis_interface start with 1
```

Synchronize the GIS Schema with SA_ASSET

When new GIS feature data is added to a GIS schema, the Asset ID cross-reference field (SynergenID) is left blank. The interface must find all of these new records and create corresponding Oracle Utilities Work and Asset Management asset records.

To synchronize the tables you must complete the following:

1. Create database table views for the Oracle Utilities Work and Asset Management asset data.
2. Create database views for the GIS feature data.

Once the setup is completed, the interface reads all records from the GIS views, creates a new sa_asset record based on the GIS view, and updates the SynergenID back in the GIS schema with the new Oracle Utilities Work and Asset Management Asset ID.

About WIFP_GIS_ASSET

This interface looks at the external source table via the user created view to populate assets in SA_ASSET.

Asset IDs are generated using Oracle Utilities Work and Asset Management sequence numbers. The interface will not use any asset_id populated in the views (i.e. if there are asset IDs entered in the view that you want interfaced into the system, the batch process would ignore those IDs and create system generated IDs).

GIS Asset Interface Batch Job Procedure

The batch job moves GIS records from views of GIS tables listed in the GIS Asset Interface business rule.

The stored procedure is scheduled and run in the Job Manager according to your business requirements.

Updates will always set the last update date and the job sequence number.

```

WIFP_GIS_ASSET
IS
PROCEDURE gis_asset (job_in IN NUMBER, - Job number
                    plant_in IN VARCHAR2, - Plant
                    gis_field_in IN VARCHAR2)
                    -- GIS Field to update with asset

```

The "gis_field_in" is usually called "SYNERGENID".

GIS Asset Interface Processing

Interface processing is as follows:

1. The system reads the GIS Asset Interface business rule for the view name and associated external table name.
2. The system opens a cursor to the view.
3. The system generates a new asset_id (overriding anything asset_id from the view).
4. The system uses the view data and new asset_id to insert into sv_gis_asset_layout.
5. The system updates the external table's gis_field_in column using rowid stored in asset_key_segments.

Create the SA_ASSET Layout View

When you create the SA_ASSET layout view you are defining which columns from SA_ASSET you want to use in the GIS interface. Do this by creating a new view which has the exact name:

```
SV_GIS_ASSET_LAYOUT
```

The view can only contain columns from sa_asset, but should contain a superset of asset information containing all asset columns from the sa_asset table that meet the following characteristics.

- Any columns that will be mapped to any of the GIS feature data
- Columns that are represented as pop-lists on the Asset window in Oracle Utilities Work and Asset Management
- Columns that are Yes/No indicators in the sa_asset table
- Columns that are required for the interface

Note: This view is used to allow a copy of applicable columns from sa_asset and to allow the table to be modified without affecting the actual sa_asset table. If the full sa_asset table were mapped, the views created to map to the GIS feature data would need to change each time a new column is added to the sa_asset table. Having a separate view which is not delivered as part of the base application also ensures that clients can configure it to their requirements without concern over having it overwritten or altered by upgrades.

Required Columns

SV_GIS_ASSET_LAYOUT must include the following columns which are required by Oracle Utilities Work and Asset Management to properly display the asset screen: .

SA_ASSET Column	Description of Data that will be Required from GIS Views
All required fields	Please review additional system and user required fields on SA_ASSET as defined by your organization. All required fields must be included in SV_GIS_ASSET_LAYOUT
asset_id	This should always be NULL because it will be populated by the interface.

SA_ASSET Column	Description of Data that will be Required from GIS Views
asset_key_segments	This column must be populated with the ROWID of the external GIS table to be updated. It will be cleared before inserting into sa_asset. This data will be used to update the GIS feature with the new Asset ID cross-reference.
asset_status	ACTIVE, INACTIVE, PLANNED, or RETIRED. Must be uppercase.
created_by	Will either be set to the keyword USER or a constant such as GIS INTERFACE. A constant will allow you to easily identify those records created by the GIS interface.
creation_date	SYSDATE.
last_run_date	SYSDATE -
last_update_date	SYSDATE
last_update_user	Will either be set to the keyword USER or a constant such as GIS INTERFACE. A constant will allow you to easily identify those records created by the GIS interface.
location_basis	FACILITY, ADDRESS, or ADDRESS WITH NODES. Must be uppercase.
plant	Will be used to default the plant.
safety_critical_ind safety_notes_ind notes_ind future_retirement_ind radio_ind air_condition_ind cruise_control_ind car_phone_ind stereo_ind environmental_ind health_ind sent_to_interface_ind	Any single character indicator in the table will be defaulted to Y or N. These columns are typically presented in the User Interface as check boxes and usually require a value to display correctly.

Also, include any other columns that are deemed necessary for your business practices. For example, you may want to include addresses or nodes.

Views can also use LAST_RUN_DATE from the business rule to only pull records that have changed since the last run. In this case a timestamp would have to be added to the GIS source table.

Populating SV_GIS_ASSET_LAYOUT

Insert fields using sql using a Create View statement. The external table is updated with "asset_record_type-asset_id" into SYNERGEN_ID.

Simple Example

```
CREATE SV_GIS_ASSET_LAYOUT AS
SELECT subset_of_fields
FROM SA_ASSET
```

Advanced Example

```
Create or replace view sa_gis_asset_layout
as
select
plant,asset_record_type,asset_id,asset_status, location_basis,
asset_key_segments,last_update_date, last_update_user,
creation_date, created_by,safety_critical_ind, safety_notes_
ind, notes_ind,future_retirement_ind, radio_ind, air_
condition_ind,cruise_control_ind, car_phone_ind, stereo_
ind,environmental_ind, health_ind, sent_to_interface_ind,
```

```
asset_type, asset_desc, street_number,street_name,
manufacturer_code, manufacturer_model_no
from sa_asset
```

Note: This view is only used for column mapping.

Create the GIS Feature Views

After creating SV_GIS_ASSET_Layout, you must create one new view for each GIS feature that should be mapped to sa_asset and that will appear on your maps. For example, if your GIS maps will need to represent pipes, parcels, and manholes, you will need to create a view to represent each of these features.

Each of these views must exactly match SV_GIS_ASSET_Layout. The interface simply matches column for column between the two views to synchronize the information.

Sample Information

If you are setting up the interface to synchronize GIS Street and GIS Pipe information, you might want to copy the following fields into the sa_asset table:

Streets	Pipes Information
Asset Record Type	Record Type
Asset Description	Asset Description
Street Number	Manufacturer
Street Name	Manufacturer Model Number
City	

If you have “n” GIS feature tables to map into the sa_asset table, you must perform the mapping for each table and then define the superset of information related to all of the features.

Example

The example below presents sample street information.

```
GIS_STREETS
Name                               Type
-----
FNODE_                            NUMBER ( 38 )
TNODE_                            NUMBER ( 38 )
LENGTH                            NUMBER
OBJECTID                          NUMBER
GID                               NUMBER
STR_CODE                          VARCHAR2 ( 10 )
STR_NAME                          VARCHAR2 ( 40 )
SEG_OWNER                         VARCHAR2 ( 20 )
SEG_CLASS                         VARCHAR2 ( 20 )
SEG_TYPE                          VARCHAR2 ( 20 )
ADDR_LEFT_                        NUMBER
EVAC_ROUTE                        VARCHAR2 ( 1 )
SYNERGENID                        VARCHAR2 ( 20 )
GEOMETRY                          MDSYS.SDO_GEOMETRY
```

The columns defined above may not all need to be mapped to the sa_asset table. The view below represents a possible mapping to the SV_GIS_ASSET_LAYOUT view.

```
Create view sv_gis_feature_streets
(
plant, asset_record_type, asset_id, asset_status, location_
basis, asset_key_segments, last_update_date, last_update_user,
```

```

creation_date, created_by, safety_critical_ind, safety_notes_
ind, notes_ind, future_retirement_ind, radio_ind, air_
condition_ind, cruise_control_ind, car_phone_ind, stereo_ind,
environmental_ind, health_ind, sent_to_interface_ind, asset_
type, asset_desc, street_number, street_name, manufacturer_
code, manufacturer_model_no, parent_asset_record_type, parent_
asset_id, department, area, account_no
)
as
SELECT
'01', 'S', null,
'ACTIVE', 'ADDRESS', rowid,
sysdate, user,
sysdate, 'GIS INTERFACE',
'N','N','N',
'N','N','N',
'N','N','N',
'N','N','N'
'STREET', 'Street Segment from GIS: '||str_code||' '||str_
name, str_code,
str_name, null, null,
'S', '4507', 'PUBLICWORK', 'STREETS', '123-000-456'
from gis_schema.gis_streets
where SynergenID is null

```

Literals	Note that many of the parameters in the views are hard coded to literals. This allows you to apply your local mapping requirements to the fields in question.
Asset_desc	Note that the asset_desc field is passed as a combination of literals and database columns. You may create any combination of information needed to represent the GIS data.
Rowid	Rowid is always passed into the asset_key_segments column. ROWID must be passed in the asset_key_segments column.
Null Columns	Some fields are passed as null values. These are often the columns in the view that relate to data for a different GIS feature table. In this example, manufacturer_code and manufacturer_model_no do not apply to streets so are passed as nulls in this view.
gis_schema	This contains the name of the schema that owns the GIS feature table. Note that this may have to be shown as a database link if the feature table is in a database instance different than the Oracle Utilities Work and Asset Management schema.
parent_asset, account info	The parent asset information and the accounting information are typically the same for every feature in a GIS layer. This information may be passed in as literal strings based on data from Oracle Utilities Work and Asset Management.
SynergenID	This is the name of the column that is added to the GIS Feature table as a cross-reference to the sa_asset Asset ID.

Note that you only want this view to contain the records in the feature table where the cross-reference is null. If this clause is left out, you will create duplicate assets in Oracle Utilities Work and Asset Management. SynergenID is used as an example here but may be named any name you want. If you change the column from SynergenID, you will also have to configure the GIS integration to look for the new column name.

Configure the GIS Business Rules

GIS Setup Business Rule

The GIS Setup business rule controls the type of GIS viewer used for your organization and defines the additional settings required to enable the GIS viewer and functionality.

Select one type of GIS viewer as the ACTIVATED GIS OPTION then configure settings in the columns next to the indicated rule keys for that viewer. Only the viewer that is selected as the activated option needs to be configured.

Rule Key	Activated GIS	Description
ACTIVATED GIS OPTION	N/A	Specifies the GIS System that requests from Oracle Utilities Work and Asset Management will be sent to.
AUTODESK1 VIEWER value 4	AUTODESK1	Specifies the URL to the SynergenMapView.asp page. This is a Oracle Utilities Work and Asset Management web page that processes the HTTP GIS Integration request
DISPLAY CHILD ASSETS	all	A “YES” or “NO” value indicating if the selected Asset and its Children Assets will be displayed on the map or only the selected Asset will be displayed on the map.
ESRI1 ALT SEARCH FIELD value 1	ESRI1	An optional, client-specific search field
ESRI1 DSN value 1	ESRI1	The Data Source Name that will be used when configuring the ODBC connection on the client's workstation.
ESRI1 GIS SEARCH FIELD value 1	ESRI1	The map search field that will be used to store the Asset ID.
ESRI1 INITGIS value 4	ESRI1	The file path and folder where the Oracle Utilities Work and Asset Management GIS program is installed on the client's workstation. example is c:\program files\SynergenGIS\INITGIS.EXE
ESRI1 MAP value 4	ESRI1	The location and file name of the map (mxd). example C:\GISData\syntropolis\syntropolis.MXD
ESRI1 MIN SCALE FACTOR value 1	ESRI1	Minimum scale factor (number) that the map will be allowed use.
ESRI1 PRINT VIEW value 1	ESRI1	View used when the map is printing (LAYOUT/DATA).
ESRI1 TRACE value 1	ESRI1	Used only for problem tracking (ON/OFF)
ESRI1 VIEWER value 4	ESRI1	The file path and location of the ESRI viewer that is installed on the client's workstation
ESRI3 VIEWER value 4	ESRI3	The path and file name of the map viewing tool. You may have to continue the name across more than one Value column to enter the whole name. Example: http://servername/website/viewername/SynergenMapView.asp?

Rule Key	Activated GIS	Description
INTERGRAPH1 VIEWER value 1 and value 2	INTERGRAPH1	The path and file name of the map viewing tool. Example: http://servername/website/viewername/SynergenMapView.asp ?
ORACLE1 VIEWER value 4	ORACLE1	The configuration file (cfg) containing GIS preferences. Example cfg=honolulu.cfg

GIS Asset Interface Rule

WIFP_GIS_ASSET uses this rule to execute the mapping between GIS data and Oracle Utilities Work and Asset Management assets. This rule shows the list of GIS Views to be processed by the GIS Asset Interface and determines how to process all the defined GIS views to create assets in Oracle Utilities Work and Asset Management..

The GIS table name associated with the views is used to update the SYNERGEN_ID in external (to WAM) tables.

GIS View records are copied directly to SA_ASSET after processing and the GIS table is updated with the newly created Asset ID (ASSET_RECORD_TYPE - ASSET_ID).

Set up the Job Manager

The final configuration step is to add the interface to the job manager for execution.

Open the Job Manager module and create a new batch job with the following parameters:

```
wifp_gis_asset.gis_asset(job_number, plant, gis_xref_column);
```

job_number	This is the Oracle Utilities Work and Asset Management Job Number assigned by the Job Manager when a new job is entered into the scheduler.
plant	This is the plant code that is related to the Asset data being created.
gis_xref_column	This is the name of the column in the GIS Feature tables that is used to store the asset cross-reference. It is typically known as SYNERGENID but may be changed here to be any name.

Note that changing the name from SYNERGENID here and in the GIS feature tables also requires configuration changes to the GIS integration and related map viewer configuration files.

Example: `wifp_gis_asset.gis_asset(85, '01', 'SYNERGENID');`

Optional Configuration Steps

The following steps can be completed to help users access GIS.

1. [Add a GIS Viewer Link to the Home Page](#)
2. [Control GIS Settings through the User Profile](#)

Add a GIS Viewer Link to the Home Page

It may be beneficial to users to have a GIS Viewer link added to their home page so that they have easier access to the functionality. If you use Oracle Viewer as your GIS program, the link is automatically available in the Actions list if the GIS VIEWER function is added to user's responsibilities.

1. In the Links component on the home page, click Options.

If you do not have the Links component, add it using the Personalize Page link.

2. Click Advanced Edit > Add.**3. Enter the title “Open GIS Viewer” or similar.****4. Enter the link**

“[http://\[servername\]:\[port\]/synergen/OpenGISViewer.jsp](http://[servername]:[port]/synergen/OpenGISViewer.jsp)”

where “servername” and “port” are the appropriate values for your server and port.

Example: <http://paris:1710/synergen/OpenGISViewer.jsp>

5. Click Finish > Save > Close.**6. Add the server as a trusted site if necessary.**

You can do this by clicking the Charts icon on the home page and then clicking the “Add Chart Server as a Trusted Site” link.

Control GIS Settings through the User Profile

Users can also set the ACTIVATED GIS OPTION key name in the User Profile to provide access to different GIS viewers. Since there are several configuration and data requirements needed to enable accurate and useful GIS functionality, user specific alteration of this setting is not recommended. However, it can be used if testing or other non-production use needs to be completed.

Incorporate SA_SPECIFICATION_DATA (optional)

Some implementations might also want to include specification functionality with the GIS integration. Complete similar steps with SA_SPECIFICATION_DATA as were completed for SA_ASSET:

1. [Set up System Generated Sequence Numbering](#) for SA_SPECIFICATION_DATA.
2. [Synchronize the GIS Schema with SA_SPECIFICATION_DATA](#).
3. [Configure the GIS Specification Interface Business Rule](#).
4. [Set up the Job Manager](#).

Synchronize the GIS Schema with SA_SPECIFICATION_DATA

Create the SA_SPECIFICATION_DATA Layout View

The view name must be SV_GIS_SPECIFICATION_LAYOUT.

The GIS View must contain SYNERGENID. All other fields should have the following format: "spec_seq_no-" || GIS_FIELD Example: "1-" || pipe_length

Code

```
Select
  substr( column_one, 1, instr(column_one, '-')-1 ) seq_no,
  substr( column_one, instr(column_on, '-')+1, length(column_one)
) data_value
from
  view_name
where
  synergenid = specific_synergenid;
```

Example (column_one = 1-PIPE_LENGTH):

```

Select
        1,
        PIPE_LENGTH
From
        View_one
Where
        Synergenid = E223456;

```

Create the GIS Feature Views for SV_GIS_SPECIFICATION_LAYOUT

Create one new view for each GIS feature that is being mapped sa_specification_data.

About WIFP_GIS_ASSET_SPECIFICATION

This interface looks at an external source table via a user created view. Records are created in sa_asset_attachment, sa_specification_data, and sa_specification_details tables, as applicable using the SAIF_GIS_SPECIFICATION_XREF table.

GIS Specification Interface Batch Job Procedure

The stored procedure is scheduled and run in the Job Manager according to your business requirements.

Updates will always set the last update date and the job sequence number.

```

WIFP_GIS_ASSET_SPECIFICATION(JOB_IN,
PLANT_IN,
DIRECTION_IN,
PURGE_IN,
OPTION_IN
PRE_IN,
POST_IN
)

```

GIS Specification Interface Processing

Interface processing is as follows:

1. The system reads the GIS Specification Interface business rule for the view name.
2. The system opens a cursor to the view outer-joined with saif_gis_specification_xref.
3. If no specification number is associated with the SYNERGEN_ID for a record, then the system tries to create specification for it. Otherwise, it will use the specification number associated to update the spec details.
4. If a specification is created, the system inserts a new row into saif_gis_specification_xref table to create the association. If the specification is created, the system assumes/uses the SYNERGEN_ID as the asset to create an attachment on the asset (insert into sa_asset_attachment) and updates the asset header with the specification number.

The batch job, WIFP_GIS_ASSET_SPECIFICATION, moves GIS Specification records from the views of GIS tables listed in the GIS Specification Interface.

Configure the GIS Specification Interface Business Rule

This rule shows the list of GIS Views to be processed by the GIS specification interface. GIS View records will be copied directly to SA_SPECIFICATION. Then the GIS Table will be updated with the newly created Specification ID (SPECIFICATION_RECORD_TYPE - SPECIFICATION_ID).

SAIF_GIS_SPECIFICATION_XREF uses this rule to execute the mapping between GIS data and Oracle Utilities Work and Asset Management Specifications.

Configure the business rule keys as follows:

```
KEY_NAME      = GIS_SPEC_VIEW_NAME
KEY_VALUE     = SPEC_TYPE
KEY_VALUE2    = SPEC_CAT
KEY_VALUE3    = LAST_RUN_DATE (FORMAT IS 'DD-MON-YYYY HH:MI:SS')
```

Set up the Job Manager

The final configuration step is to add the interface to the job manager for execution.

Open the Job Manager module and create a new batch job with the following parameters:

```
wifp_gis_asset_specification.gis_asset_specification(job_
number, plant, gis_xref_column);
```

job_number	This is the Oracle Utilities Work and Asset Management Job Number assigned by the Job Manager when a new job is entered into the scheduler.
plant	This is the plant code that is related to the specification data being created.
gis_xref_column	This is the name of the column in the GIS Feature tables that is used to store the asset cross-reference. It is typically known as SYNERGENID but may be changed here to be any name.

Note that changing the name from SYNERGENID here and in the GIS feature tables also requires configuration changes to the GIS integration and related map viewer configuration files.

Example: `wifp_gis_asset_specification.gis_asset_specification(85, '01', 'SYNERGENID');`

Uninstalling a GIS Product

1. Start the GIS tool.

This may be ArcMap, ArcIMS, ArcGIS, etc.

2. Open the map used for the integration.

3. Remove the custom menu.

Select Customize from the Tools menu.

Click on and delete the menu and all of its submenus.

4. Delete the GIS Search Field from its data table(s).

5. Remove and delete the ODBC DSN for the Oracle Utilities Work and Asset Management database.

GIS Integration Application Programming Interface (API)

Integrations between Oracle Utilities Work and Asset Management and GIS systems are two-way communications where Oracle Utilities Work and Asset Management sends information to the GIS system and the GIS system sends information back to Oracle Utilities Work and Asset Management. This communication is completed via HTTP URL requests made to the Oracle Utilities Work and Asset Management browser.

This document describes the application programming interface used in these integrations.

Supported Systems

Oracle Utilities Work and Asset Management can currently be integrated with the following GIS products:

- **AutoDesk - MapGuide**

AutoDesk's MapGuide, a web-based system.

- **ESRI - ArcMap**

ESRI's ArcView desktop software suite. In this interface, the Oracle Utilities Work and Asset Management application uses a Oracle Forms webutils programs to execute the GIS software running on the client machine.

Note: ARCView consists of several desktop applications, including ARCMAP. Only ARCMAP is required for the Oracle Utilities Work and Asset Management integration.

- **ESRI - ArcIMS**

ESRI's ArcIMS System. This is a web-based system requiring an ArcIMS map server.

- **ESRI ArcGIS Viewer**

ESRI's ArcGIS system. This is a web-based system requiring an ArcGIS map server.

- **Intergraph - Geomedia**

Intergraph's Geomedia Web Enterprise software suite, a web-based GIS viewer system.

- **Oracle GIS Viewer**

Oracle's Spatial viewer, a web-based viewer. The viewer page is currently embedded into the Oracle Utilities Work and Asset Management application, although an Oracle Spatial MapViewer server is still required.

These integrations use common Oracle Utilities Work and Asset Management components and share the same tables, actions, views, and stored procedures. A single business rule, GIS Setup, is used to specify which GIS product is deployed and to specify additional parameters as needed.

Integration Points

As discussed, GIS integrations involve a two way communication between Oracle Utilities Work and Asset Management and the GIS system. This section provides on communication going each way:

- [Oracle Utilities Work and Asset Management to GIS](#)
- [GIS to Oracle Utilities Work and Asset Management](#)

Oracle Utilities Work and Asset Management to GIS

Users can select View GIS or PPrint GIS Map from the Actions list in one of the following modules to launch the GIS viewer:

- **Asset (ASSET):** The asset currently displayed in the Asset module.
- **PM Master (PMMASTER):** All assets associated with the work orders created from the current pm_master_no record's benchmark_no.
- **Service Request (SERVREQ):** All assets associated with the current service_request_no.
- **Work Order (WORKORD) or Benchmark Work Order (BENCHWO):** All assets associated with the current work_order_no.
- **Work Order Task (WOTASK):** All assets associated with the current work_order_no and work_order_task_no.
- **Work Request (WORKREQ):** All assets associated with the current work_request_no.

Requests

Requests from Oracle Utilities Work and Asset Management to the GIS system depend on the underlying architecture of the GIS System. Browser-based solutions require HTTP URL requests whereas desktop computer software requires specialized arguments passed to the GIS software executable.

GIS to Oracle Utilities Work and Asset Management

The following are supported actions from the GIS system:

- View Asset
- View PM Master
- View Service Request
- Record Assets
- View Work Order
- Create Work Order
- View Work Request
- Create Work Request

Opening Application Windows

In the integration process, the Oracle Utilities Work and Asset Management application may or may not already be open. To complete the integration cycle, the integration code must find any existing Oracle Utilities Work and Asset Management application SIA window so that the

Oracle Utilities Work and Asset Management modules can open the GIS System window, and the GIS System can open the same Oracle Utilities Work and Asset Management module.

This “find” is done using the JavaScript command “window.open()” using the following algorithm for the window name.

```
"synMain" + username + "_" + forms_tnsname + "_" + user_entry_  
number
```

username = the user logged into the Oracle Utilities Work and Asset Management application

forms_tnsname = the config.properties configuration setting associated with the Forms database TNS name. The TNS name corresponds to the database TNS name used by the Oracle Forms portion of Oracle Utilities Work and Asset Management.

user_entry_number = a sequential number that starts at 1 and increments every time the same username logs into the Oracle Utilities Work and Asset Management application. This number is reset to 1 when a maximum threshold is reached. The threshold is set within the config.properties file as "max_user_windows"

Example: synMainLELLISON_PROD1_1

If an existing Oracle Utilities Work and Asset Management application window is not found, the JavaScript window.open() command starts a new window before opening the requested form. The user must logon to the Oracle Utilities Work and Asset Management application unless the "Save My Logon" option is enabled.

Transactions

A number of the supported actions require calls to stored procedures to create objects within the database. This can happen on either the GIS system (as in the case of the ArcIMS integration) or through the Oracle Utilities Work and Asset Management URL (as in Oracle GIS integration). This section includes the following:

- [Add-Ons to GIS Systems](#)
- [Transactions on GIS System](#)
- [Transactions through Oracle Utilities Work and Asset Management](#)

Add-Ons to GIS Systems

Oracle Utilities Work and Asset Management GIS System Integrations include add-on packages to the web-based GIS Systems. These add-ons provide embedded Oracle Utilities Work and Asset Management menu options for querying the Oracle Utilities Work and Asset Management data and sending requests to Oracle Utilities Work and Asset Management. When the user selects one of these menu options, the system displays a dialog box to where the user chooses a single item. Then the request is made to the Oracle Utilities Work and Asset Management application. This request is in the form of an HTTP URL request that targets the main Oracle Utilities Work and Asset Management browser window. In these applications, the transactions for Oracle Utilities Work and Asset Management objects are executed from within the GIS System.

HTTP URL Requests

The following sections detail the URL requests used for the Menu actions accessed from the GIS map. They are separated into two groups – one where the transactions occur on the GIS system and the other where the transactions will occur through the Oracle Utilities Work and Asset Management system. Each of the examples presented include the “sia_url” variable described below.

sia_url = the HTTP path to the Oracle Utilities Work and Asset Management application. This is the same as the "sia_integration_url" property in the Oracle Utilities Work and Asset Management configuration files. In all of the examples, the asset list can include multiple assets. If more than one asset is requested, each asset ID should be enclosed in single quotes (') and these string should be separated by commas (,). For example, 'ML-500','E-ML-230','M-1520' are three assets.

Transactions on GIS System

View Asset

The format of the URL request is as follows:

```
sia_url + "DrillDown?tgt=Drilldown&drilldownItem=asset_
id&primekey_name_1=asset_record_type&asset_record_type=" +
asset_record_type_value + "&primekey_name_2=asset_id&asset_
id=" + asset_id_value + "&sRp=1"
```

asset_record_type_value = the asset_record_type of the asset selected from the integration dialog

asset_id_value = the asset_id of the asset selected from the integration dialog.

View PM Master

The format of the URL request is as follows:

```
sia_url + "DrillDown?tgt=Drilldown&drilldownItem=pm_master_
no&primekey_name_1=pm_master_no&pm_master_no=" + pm_master_no_
value + "&sRp=1";
```

pm_master_no_value = the pm_master_no selected from the integration dialogs.

View Service Request

The format of the URL request is as follows:

```
sia_url + "DrillDown?tgt=Drilldown&drilldownItem=service_
request_no&primekey_name_1=service_request_no&service_request_
no=" + service_request_no_value + "&sRp=1";
```

service_request_no_value = the service_request_no selected from the integration dialogs.

Record Assets

This process starts with a Service Request record in the Oracle Utilities Work and Asset Management application. From the module menu, the user selects "View GIS Map" to display the GIS System map page. After selecting all assets to assign to the service request, the user clicks the "Record" button to and the integration architecture executes the "sdbp_gis_record_assets" stored procedure passing the plant, service_request_no, list of assets, and the username.

After the procedure is called, the service request page is redisplayed using the following URL request to the Oracle Utilities Work and Asset Management application.

```
sia_url +
"DrillDown?tgt=Drilldown&drilldownItem=service_request_
no&primekey_name_1=service_request_no&service_request_no=" +
service_request_no_value + "&sRp=1";
```

service_request_no_value = the service_request_no originally selected in the Oracle Utilities Work and Asset Management application.

View Work Order

The format of the URL request is as follows:

```
sia_url +  
"DrillDown?tgt=Drilldown&drilldownItem=work_order_no&primekey_  
name_1=work_order_no&work_order_no=" + work_order_no_value +  
"&primekey_name_2=work_order_task_no&work_order_task_no=" +  
work_order_task_no_value + "&sRp=1";
```

If the Work Order is in HISTORY status, the following URL is used instead

```
sia_url +  
"DrillDown?tgt=Drilldown&drilldownItem=work_order_no&primekey_  
name_1=work_order_no&work_order_no=" + work_order_no_value +  
"&primekey_name_2=work_order_task_no&work_order_task_no=" +  
work_order_task_no_value + "&work_status=HISTORY&sRp=1";
```

work_order_no_value = the work_order_no selected from the integration dialogs

work_order_task_no_value = the work_order_task_no from the integration dialogs

Create Work Order

Selecting this option will display all the assets selected, and allow the user to enter the Work Description value for the new work order. Clicking the "Create" button will execute the "sdbp_gis_create_wo" stored procedure passing the plant, list of assets (asset_record_type and asset_id), work description, and the current username of the Oracle Utilities Work and Asset Management user.

Once created, the user is navigated to the Work Order module of the Oracle Utilities Work and Asset Management application (WORKORD) using the following request URL.

```
sia_url +  
"DrillDown?tgt=Drilldown&drilldownItem=work_order_  
no&page=WORK_DEMAND&work_demand_type=Z&primekey_name_1=work_  
order_no&work_order_no=" + work_order_no_value + "&sRp=1";
```

work_order_no_value = the work_order_no selected from the integration dialogs.

View Work Request

The format of the URL request is as follows:

```
sia_url +  
"DrillDown?tgt=Drilldown&drilldownItem=work_request_  
no&primekey_name_1=work_request_no&work_request_no=" + work_  
request_no_value + "&sRp=1";
```

work_request_no_value = the work_request_no selected from the integration dialogs.

Create Work Request

Selecting this option will display all the assets selected, and allow the user to enter the Work Request Description value for the new work request. Clicking the "Create" button will connect to the database using the configured ODBC DSN, and execute the "sdbp_gis_create_wr" stored procedure passing the plant, list of assets (asset_record_type and asset_id), work request description, and the current username of the Oracle Utilities Work and Asset Management user.

Once created, the user is navigated to the Work Request module of the Oracle Utilities Work and Asset Management application (WORKREQ) using the following request URL.

```
sia_url +  
"DrillDown?tgt=Drilldown&drilldownItem=work_request_  
no&primekey_name_1=work_request_no&work_request_no=" + work_  
request_no_value + "&sRp=1";
```

work_request_no_value = the work_request_no selected from the integration dialog.

Transactions through Oracle Utilities Work and Asset Management

Depending on your architecture, you may also need to escape or encode the special characters included in the examples -- for space (+), single quote (%27), comma (%2C), pipe (%7C), left parentheses (%5B), and right parentheses (%5D).

View Asset

This example navigates to the Asset module with 2 assets in the search criteria -- E-ML-5003 and E-ML-5007.

```
sia_url + "DrillDown?_type=where_clause&sRp=1&target_
form=asset&where_clause=asset_record_type+||+'-'+||asset_
id+IN+( 'E-ML-5003' , 'E-ML-5007' ) "
```

View PM Master

This example navigates to the PM Master module with 2 assets in the search criteria -- E-ML-5003 and E-ML-5007.

```
sia_url + "DrillDown?_type=where_clause&sRp=1&target_
form=pmmaster&where_clause=asset_record_type+||+'-'+||asset_
id+IN+( 'E-ML-5003' , 'E-ML-5007' ) "
```

View Service Request

This example navigates to the Service Request module with 2 assets in the search criteria -- E-ML-5003 and E-ML-5007.

```
sia_url + "DrillDown?_type=where_clause&sRp=1&target_
form=servreq&where_clause=service_request_
no+IN+(SELECT+service_request_no+FROM+sa_service_request_
asset_list+WHERE+asset_record_type+||+'-'+||+asset_
id+IN+( 'E-ML-5003' , 'E-ML-5007' ) "
```

Create Service Request

This example will create a Service Create record for plant "01", "Type 1" as the type, "Code 1" for the problem code, "New SR created from GIS Viewer." for the description, "E-ML-500" in the asset list, and "SCHENG" as the requestor. After the record is created the user is navigated to the Service Request module.

```
sia_url + "DrillDown?_type=sdbp_gis_create_sr&target_
form=servreq&sRp=1&plant_in=01&type_in=Type+1&problem_code_
in=Code+1&description_
in=New+SR+created+from+GIS+Viewer.&asset_list_
in=E-ML-5004&requestor_in=SCHENG"
```

Record Assets

The process for this action starts with a Service Request record in the Oracle Utilities Work and Asset Management application. From the module's Actions, the user then selects "View GIS Map" to display the GIS map page. After selecting all assets to assign to the service request, the user clicks the "Record Assets" action. The following example illustrates the parameters passed to Oracle Utilities Work and Asset Management to perform the "Record Assets" action.

This example assigns the asset "E-ML-5004" to the asset list of Service Request "0100007". Plant "01" and username "SCHENG" will be used for the assignment.

```
sia_url + "DrillDown?type=sdbp_gis_record_assets&target_
form=servreq&Rp=1&plant_in=01&asset_list_
in=E-ML-5004&username_in=SCHENG&service_request_in=0100007"
```

View Work Order

This example navigates to the Work Order module with the "E-ML-5004" asset in the search criteria. An additional search criteria for the asset is also included against the SA_WORK_ORDER_TASK_ASSET_LIST table.

```
sia_url + "DrillDown?type=where_clause&Rp=1&target_
form=workord&where_clause=asset_record_type+|+ '-' +|+asset_
id+IN+( 'E-ML-5004' )+OR+work_order_no+IN+( SELECT+work_order_
no+FROM+sa_work_order_task_asset_list+WHERE+asset_record_
type+|+ '-' +|+asset_id+IN+( 'E-ML-5004' )"
```

Create Work Order

This action will either create a Work Order Task that applies to all assets or a Work Order Task for each asset.

Work Order Task That Applies to All Selected Assets (single task)

This example creates one Work Order Task for plant "01", description "New WO created from GIS Viewer.", assets "E-ML-5004" and "E-ML-5003" in the asset list, and requestor "SCHENG". The user is navigated to the Work Order Header after the task is created.

```
sia_url + "DrillDown?type=sdbp_gis_create_wo_task_
option&target_form=workord&Rp=1&plant_in=01&description_
in=New+WO+created+from+GIS+Viewer.&asset_list_
in=E-ML-5004,E-ML-5003&multi_task_flag_in=N&requestor_
in=SCHENG"
```

Work Order Task for Each Asset (multi tasks)

This example creates 2 Work Order Tasks against the assets "E-ML-5004" and "E-ML-5003", one task for each asset. For each task, the plant will be "01", description "New WO created from GIS Viewer.", and requestor will be "SCHENG". The user is navigated to the Work Order Header after the tasks are created.

```
sia_url + "DrillDown?type=sdbp_gis_create_wo_task_
option&target_form=workord&Rp=1&plant_in=01&description_
in=New+WO+created+from+GIS+Viewer.&asset_list_
in=E-ML-5004,E-ML-5003&multi_task_flag_in=Y&requestor_
in=SCHENG"
```

View Work Request

This example navigates to the Work Request module with 2 assets in the search criteria -- E-ML-5003 and E-ML-5007.

```
sia_url + "DrillDown?type=where_clause&Rp=1&target_
form=workreq&where_clause=asset_record_type+|+ '-' +|+asset_
id+IN+( 'E-ML-5003' , 'E-ML-5007' )"
```

Create Work Request

This example creates a Work Request for plant "01", description "New WR created from GIS Viewer.", "E-ML-5004" in the asset list, and requestor is "SCHENG". The user is navigated to the Work Request module after the record is created.

```
sia_url + "DrillDown?type=sdbp_gis_create_wr&target_  
form=workreq&srp=1&plant_in=01&description_  
in=New+WR+created+from+GIS+Viewer.&asset_list_  
in=E-ML-5004&requestor_in=SCHENG"
```

Browser Based Systems

All of the integrated GIS systems are browser based except for ESRI ArcMap.

HTTP URL Parameters

Configuration settings in the GIS Settings business rule determine which interface is active, and define the url to open the integrated GIS viewer.

The parameters indicated below are used for the integration when AUTODESK1, ESRI3, or INTERGRAPH1 are activated. ORACLE1 (Oracle Spatial integration) uses the same parameters.

Parameter	Description
aid	Asset key list where the asset key is the asset_record_type and asset_id separated by the "-" character. This list may include child assets if the DISPLAY CHILD ASSETS setting of the GIS SETUP business rule is activated. Separate multiple assets by commas and enclose the list with quotes ("). All characters must be in uppercase. Example "ASSET1","ASSET2","ASSET3"
cnt	Count of assets in the asset list (aid)
plt	Plant of the current logged in Oracle Utilities Work and Asset Management user
prt	Y if the "PRINT GIS MAP" action was selected

Desktop Based System

The only GIS integration that uses a desktop interface is ArcMap.

When the "View GIS Map" or "Print GIS Map" actions are selected from Oracle Utilities Work and Asset Management, the integration architecture launches the desktop GIS software passing the current asset values.

Desktop Software Parameters

As noted in the business rule description, the ESRI INITGIS value indicates the executable program that will be called by the Oracle Utilities Work and Asset Management application.

The following parameters are passed and listed in name/value pairs with the name and value separated by the "=" sign. Individual name/value pair are separated by the space character.

Note: the length of the entire parameter string is limited to 2000 characters

Parameter	Description
usr	from the current Oracle Utilities Work and Asset Management application user's username. This is needed so that the desktop software can make database queries with the appropriate permissions.

Parameter	Description
pwd	from the current Oracle Utilities Work and Asset Management application user's password. This is needed so that the desktop software can make database queries with the appropriate permissions.
dsn	ESRI1 DSN business rule value
dap	ESRI1 MAP business rule value
gsf	GIS Search Field from ESRI1 GIS SEARCH FIELD business rule value
vwr	ESRI1 VIEWER business rule value
pvw	ESRI1 PRINT VIEW business rule value
msf	ESRI1 MIN SCALE FACTOR business rule value
aid	asset key list where the asset key is the asset_record_type and asset_id separated by the "-" character. This list may include child assets if the DISPLAY CHILD ASSETS setting of the GIS SETUP business rule is activated. Individual asset keys are enclosed by starting and ending quote (") characters and separated by the "," character. All characters are in uppercase.
plt	plant of the current logged in Oracle Utilities Work and Asset Management user
prt	Y if the "PRINT GIS MAP" action was selected
ldt	for a request with a single asset, this is the truncated version of the asset description with all spaces replaced by the "~" characters so that individual words are not mistaken for separate parameters.

Example

```
c:\program files\SynergenGIS\INITGIS.EXE aid=M-1520 plt=01
ldt=Main~Water~Pipe
```

Oracle® Utilities Work and Asset Management

Oracle GIS Viewer User Guide

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Oracle GIS Viewer User Guide

The Oracle GIS Viewer provides a means of navigating between the Oracle Utilities Work and Asset Management application and external GIS data. Using the map viewer you can view and manipulate asset and maintenance information based on geographic location.

Note: Before the map viewer can be used, your system administrator must load a GIS map, configure the GIS Setup business rule, and assign user responsibilities. Please refer to the [Oracle GIS Viewer Installation and Configuration Guide](#) for further instructions.

Note: Please refer to the user documentation for MapViewer and MapBuilder for instructions on using advanced functionality. For example, you can use the MapBuilder to link a feature to a url.

Map Viewer

Open the map viewer by selecting ESRI GIS Viewer from your home page Actions list. In addition to the menu options, the map viewer window includes the map display, a toolbar consisting of pan and zoom controls, and a theme selections panel that controls which map features display.

You can also open the viewer by selecting [View GIS Map](#) or [Print GIS Map](#) from one of the module that is integrated with GIS.

Tools

Click on the icons to select the following map image controls from the Tools component. Hover the mouse over the tool icons to reveal their functionality.

Drag Map - Shift the map in the desired direction. Click the tool then click and hold the mouse over the map while moving it in the desired direction.

Zoom Rectangle - Allows you to draw a rectangular area on the map to which the map zooms in after the area is drawn.

Select/Select Rectangle/Select Circle - Use the regular select tool to select one object on the map. You can also use the rectangle or circle to draw an area on the map to select objects within that area. You must have at least one theme checked to select objects on the map. When objects are selected they are highlighted in green.

Zoom In - Produces a larger scale map view.

Zoom Out - Produces a smaller scale map view.

Zoom Selected - Zoom into the selected area on the map.

Clear Selected - Deselect all of the objects on the map.

Refresh Map - Redraw the map.

Print Map - Formats the map for printing and sends directly to your printer.

Search - Selecting the Search icon opens a dialogue box allowing you to enter search criteria. You can search by Theme, Field Name and/or Value. Execute the search and the system finds and selects objects on the map matching your criteria.

View Attributes - Displays a summarized list of the selected objects. Use this tool to see which assets are selected without leaving the GIS screen. Note that you can scroll down to see more items in the list.

Previous Zoom - Returns map to the last zoom area.

Previous Center - Returns map to the last position where it was centered.

Fit Map - Resizes the entire map component to fit your screen.

Smaller Map - Resizes entire map component to a smaller area.

Themes

Select themes to display elements on the map. Each type of theme is represented by a different symbol or color. Click objects on the map to display attributes of the object.

Select and deselect check boxes for themes to display or remove them from the map. The first column is checked to display the object, while the second column is checked to select the objects.

Select or deselect the first box in each column to select or deselect all.

Parcels - Parcel numbers are continuously displayed on the map. In the example above they appear as an 8 digit number starting with a 7.

Mains - Mains are represented by the solid line connecting values in the example.

Laterals - Laterals are represented by the short lines crossing the main lines.

Manholes - Manholes are represented by a solid dot. In the example above C-1501 at the top of the image is a manhole.

Service Points - Service points are represented by a triangle.

Overview

The Overview component shows a thumbnail representation of the overall map. You can move the selected area on the overview to reposition the map.

Accessing Maps from Records

The main link to the GIS Viewer is located on the home page, however, the viewer is best used when it is launched from an Asset, Work Order, Work Order Task, PM Master, or Service Request record. Open the appropriate record then select View GIS Map from the Actions list.

You can also search for multiple Assets then launch the GIS Viewer from the results of search screen. The resulting map will show all of the Assets from the results list.

Search for assets then select View GIS Map from the Actions list on the results of search screen to launch the map showing all of the assets resulting from the search.

From the Service Request record, select View Map (Tax ID) to view a map of the customer's address on the service request.

Use similar steps to view maps from Work Order, PM Master and Service Request. The option to Print from these modules in the same manner is also available from these modules.

Viewing Records for Map Objects

Select from the Menu to see which actions are available for each item. Select one or multiple objects on the map then click View for Asset, PM Master, Service Request, Work Order or Work Request and the system opens a results of search screen in the designated module listing all of the related records referencing the selected objects.

The objects must already be assigned to GIS features through your system configuration before they can be viewed in this way. Please contact your system administrator for more information.

Creating Records from Map Objects

To create new PM Masters, Service Requests, Work Orders or Work Requests you can select one or multiple objects on the map then click the desired menu item and select Create.

When you create new records from GIS the system uses the Default Name in the user profile of the logged on user to populate the Dispatcher, Requestor, and Initiator fields on the Service Request, Work Order and Work Request, respectively.

Work Request - The system creates one record for the selected map object. You can only create one Work Request at a time.

Service Request - The system creates one Service Request record with every selected map object listed in the Assets view.

Work Order - When you select Create (multi tasks) the system creates one Work Order record with a separate task for each selected map object. Selecting Create (single task) creates one Work Order record with one task listing all selected assets in the Asset List.

Recording Assets

When you launch the GIS viewer from a Service Request record, you can select one or more Assets on the map the select Record Assets from the Menu under Service Request. The system adds the selected assets to the Service Request that you were viewing when you launched the viewer.

Thematic Maps

Thematic maps are designed to provide a visual representation of various additional aspects critical to the management of assets such as inspection and warranty information. Select one of the Thematic Map options to display an additional markup on the map view along with a legend to describe the meaning of colors or symbols.

Remove All - Clears your thematic map selections.

Inspection Status - The system color codes assets according to the status of a current inspection. This information is derived from the Asset Inspection module.

Inspection Score - The system color codes assets according to their most recent inspection score. This information is derived from the Asset Class module Condition Assessment view.

Warranty Status - The system indicates the status of warranties for the assets. This information is derived from the Warranty module.

Custom

Customized settings can be added to the GIS Viewer and access through this link on the Actions list.

This feature requires that at least one of theme's base tables have a field containing a valid url (e.g. <http://www.google.com>). Note that the theme does not have to be a Oracle Utilities Work and Asset Management asset theme. In mapbuilder, this field needs to be added to the “Info Columns” section for the theme with a display name of “Link”.

To test, open the viewer from Oracle Utilities Work and Asset Management and then select a single item in the theme that is configured with the “Link” field. Click “Open Link” under the “Custom” menu. If there is a valid url in the link field, a new IE window will be opened to that url. You can see the value in the link field with the “View Attribute” tool.

How to Add the Open Link Feature

1. Alter theme table to add new column
2. Use Mapbuilder to Add field to theme naming as note indicates above
3. Populate new column with URL data

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Guide

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Oracle GIS Viewer Installation and Configuration Guide

The Oracle GIS Viewer is a web application that communicates directly with the Oracle Spatial Map Viewer application to display an interactive map. This communication is performed using JavaScript and XMLHttpRequest (AJAX) communication. The GIS Viewer displays a single page with tools, the map, themes, and a customizable menu. This page is coded in the Viewer.jsp page. Within the Viewer.jsp page are the following sections

- **Tools:** provides operations that can be performed against the map.
- **Map:** the graphical map provided by the Oracle Spatial Map Viewer
- **Themes:** Geometry Themes are the graphical representation of objects on the map.
- **Overview Map:** At the lowest zoom level (smaller objects), displays a smaller, center section of the map. At the highest zoom level (larger objects), displays a larger view of the object currently being displayed on the map. A larger view allows you to select other areas of the map quickly without having to use the navigation and/or zoom tool.
- **Menu:** Customized menu, which in the case of the Oracle Utilities Work and Asset Management integration is used to call operations against work orders and service requests within Oracle Utilities Work and Asset Management. This menu can be customized using a pluggable HTML page.

The scope of this document is the Oracle GIS Viewer and does not discuss the configuration or execution of the Oracle Spatial Map Viewer.

Latest Certified Version

- MapViewer 10.1.3.4 with Oracle Utilities Work and Asset Management Release 1.9.0.3

Customizable Options

All files supporting the GIS Viewer are contained within the "viewer" directory.

These files can be replaced with customized versions to display different content. These are all .jsp files that must be running within a Java Application Server that supports Java Server Pages.

- **config.jsp:** contains the configurable settings used by the wamCustom.jsp program. The wamCustom.jsp program is only used for the Oracle Utilities Work and Asset Management integration. These configuration options include the Oracle Utilities

Work and Asset Management URL, themes and their names included in the integration, request parameter names passed into the Viewer.jsp URL request, and database cross reference keys between the spatial data and Oracle Utilities Work and Asset Management.

- **wamCustom.jsp:** This is a custom page for Oracle Utilities Work and Asset Management that is referenced within the default cfg files shipped with the product. You can use your own customized page to display specific menu options, but must include both a "javascript" and "bottomHTML" reference in the .cfg file being used. Look for the "<include>" tag to add these references.
- **OpenViewer.jsp:** Calling this .jsp file instead of the Viewer.jsp will either force a new browser window to open or an existing "viewer" browser window to open to display the GIS Viewer page.

Page Configuration (*.cfg files)

You must specify a .cfg file as a HTTP parameter to the "viewer.jsp" file. The "viewer.jsp" file loads the customized settings contained within the specified .cfg file, and configures the displayed page according to those settings. With this structure, the layout and options on the GIS Viewer page can change for different requirements or different users. Changing the cfg parameter will change the cfg file loaded.

For example, the URL to the GIS Viewer may look like this:

<http://server:8080/viewer/viewer.jsp?cfg=pleasanton.cfg>

When the GIS Viewer is integrated within Oracle Utilities Work and Asset Management, the url and cfg files are handled by the architecture. The cfg file is based on the Oracle Utilities Work and Asset Management Business Rule settings or User Profile settings.

These settings can be specified in the .cfg file:

- **urlMapView:** the URL to the map viewer server's web application. For example, <http://server:8080/mapviewer>
- **dataSource:** the name of the datasource defined within the map viewer application server. This datasource is how the map viewer application retrieves geometry data to display the map.
- **baseMap:** Base Maps are defined within the map viewer application. This setting specifies which Base Map will be used for the current GIS Viewer configuration.
- **mapCache:** The name of the Map Cache configuration related to the specified baseMap.
- **centerX:** The location of the center of the map, along the latitudinal axis. This value depends heavily on the SRID being used.
- **centerY:** The location of the center of the map, along the longitudinal axis. This value depends heavily on the SRID being used.
- **srid:** The Spatial Reference System Identifier that identifies the type of spatial data being used. The correct spatial data will affect the current location, scale, and drawing of objects.
- **maxWidth:** The maximum width of the map display on the GIS Viewer page in pixels.
- **maxHeight:** The maximum height of the map display on the GIS Viewer page in pixels.
- **toolsOn:** Displays or hides the Tools section of the GIS Viewer page.
- **overviewMap:** Displays or hides the Overview section of the GIS Viewer page.

- **scaleBar:** This tool is used to change the scale of display. Clicking up or down this scale bar will make the display zoom in(+) or zoom out(-), making the images larger or smaller, respectively.
- **navigationBar:** Displays or hides the navigation tool within the map. This tool can be used to shift the visible portion of the map to any of 8 different directions, or to refocus the display to the center of the map.
- **themeGroup:** This is how Geometry Themes are grouped together, and allows multiple themes to be enabled or disabled. Within each themeGroup are one or more themes. The name of the themeGroup is also the Label displayed within the Themes section of the GIS Viewer page. The "expand" attribute sets whether or not the enclosed themes are displayed by default. If not displayed, the user will have to click on the themeGroup label to display the themes.
- **themes:** Geometry Themes to display on the map. Enabling these themes will display graphical images onto the map, based on the styles defined in the Map Viewer (or MapBuilder) application. The "name" attribute is the label used to describe the theme. The "source" is the theme name as defined within MapBuilder. The "enabled" (or displayed) and "selectable" attributes correspond to the default value of the check boxes displayed next to each theme. If "enabled" or displayed, the theme images are displayed. If "selectable", users can drag the GIS Selection tools to select specific items on the map. The "startZoom" and "endZoom" attributes define the range of zoom settings where the theme images will be displayed. When the user has selected a zoom setting outside of this range, the theme will not be displayed.
- **customMenu:** These are the menu options that will be displayed. The JavaScript calls referenced by each menu option must correspond to a JavaScript function within the "include" tag. The "include" tag specifies the jsp/html file to include when drawing the viewer.jsp page. There are 2 parts defined using 2 attributes -- "javascript" and "bottomHTML". The first file is used to define the JavaScript functions and the second is used to contain the integration fields from the asset application; in this case Oracle Utilities Work and Asset Management. The values from these fields are submitted to the integration application for processing.
- **mapLoadEvent:** The "function" setting specifies the JavaScript function to call when the GIS Viewer page is displayed. This is used to process customized queries after loading of the initial map. For the Oracle Utilities Work and Asset Management Integration, the "custom_processRequest()" function is called which attempts to find and select the asset passed to the GIS Viewer page via the request parameters. This function resides within the "wamCustom.jsp" page.
- **include:** Specifies the page(s) to include for customized displays or integration. The "javascript" specifies the page that will contain the customized JavaScript functions. The "bottomHTML" setting specifies the HTML objects to include within the GIS Viewer page. The "wamForms.html" contains the hidden fields needed to perform the various custom menu actions against Oracle Utilities Work and Asset Management (e.g., Create Work Order).

Application Integration Configuration

Application Integration Configuration

config.properties

To integrate with Oracle Utilities Work and Asset Management, the GIS Viewer uses a configuration file named config.properties with the "sia_integration_url" as the URL to Oracle

Utilities Work and Asset Management. This config.properties file must be included within the classpath of the application.

Sample Configuration

Sample Configuration

This section is intended to describe a sample configuration and deployment for the Oracle GIS Viewer application. It is NOT intended to be a comprehensive GIS User's guide or a GIS Training document for implementation teams or users. Clients wanting to upgrade from an existing GIS integration to the Oracle Utilities Work and Asset Management Oracle GIS application integration must configure the Oracle GIS Viewer according to customer requirements and preloaded map symbology standards data. Please use this document as a guideline.

Choosing a DataSet as the Base Map

You may choose any theme to be the base map information for the GIS integration. The base map is the display that is always rendered and in the background on the GIS map. You may have one or more themes displayed as part of the base map. Parcels, roadways, rivers are examples of base map themes.

The first step in the process is to identify the tables to be used as the base themes and to ensure that the geometry is correct in these tables.

Note: These steps may not be needed depending upon your installation.

1. **Update the geometry column in the theme table to reflect the correct SRID. The following SQL statement provides an example, The SRID for your GIS application may differ. The SRID is the value used to determine the coordinate system to be used by the GIS product. Contact the local GIS team for the correct value.**

```
update sp_parcel a set a.geometry.sdo_srid=82469;
```

```
Commit;
```

2. **You must now create an entry into the Oracle Spatial Viewer metadata to enroll the table into the known data sets. This is done with the following update from the GIS schema.**

- Table_name is the name of the table used for the theme information.
- Column_name is the name of the mdsys.sdo_geometry column. This is usually GEOMETRY.
- Diminfo are the dimensions relative to the map segments being displayed. This is with respect to the coordinate system related to the SRID.
- SRID is the coordinate system to be used. Same as the value in step 1.

```
insert into user_sdo_geom_metadata
(table_name, column_name, diminfo, srid)
values
('SP_PARCEL',
'GEOMETRY',
sdo_dim_array (
sdo_dim_element('X', 290000, 320000, .01),
sdo_dim_element('Y', 6240000, 6260000, .01)),
82469)
/
```

3. **Create an index on the spatial column. The following example is shown for a Parcel table and should be adjusted to meet your naming conventions.**

```
create index sp_parcel_sdx on sp_parcel(geometry)
```



```
indextype is mdsys.spatial_index
```

4. This process must be repeated for each table being promoted to a Theme that is displayed , regardless of whether you are using the theme as part of a base map or as a selectable theme in the GIS integration.

Creating Themes and a Base Map

1. **Create a new Geometry Theme by right clicking on the Geometry Themes folder.**
A wizard will be invoked to step you through the process of creating a theme. Most of the information is defaulted but you will have to select the correct table to be used as the base map.
2. **Click Next to continue.**
3. **Click next to scroll through the next 3 screens. You do not have to choose a style, a label style, or add a where clause condition to filter the base information.**
4. **Create base map by right clicking on the base map folder within MapBuilder.**
A new Wizard will be displayed.
5. **Click Next to continue and open the Creating Base Map Definition screen.**
Note: This window may not be displayed if someone has previously checked the “Skip this page next time.” check box.
6. **Enter a Name and Description then click Next.**
7. **Find the geometry theme you created in the previous steps.**
8. **Highlight the theme and click the Add Icon button to add the theme to the base map. Enter scale information then click Next to continue.**
The installer shows a summary screen with the name, description, and map definition that you created. It also shows where the record contents will be stored.
9. **Click Finish to complete the creation of the base map.**
10. **Try and preview the base map from within the MapBuilder tool by clicking the “Preview” tab at the bottom left of the base map window.**
This will change views to the Preview page. Click the green preview button to preview the map.

Note: A large map may take several minutes to render. If the system takes a long time to respond, try closing the MapBuilder application and opening it a second time. Once the application starts, preview the map.

Configuring the Map Viewer to use the Base Map

1. **Start the MapViewer web site. The following URL is typically used.**
<http://localhost:7777/mapviewer>
2. **Log on by clicking the “admin” icon in the top right section of the page.**
This will display a username and password dialog box. The username is typically “oc4jadmin”.

If you are connecting to a new datasource, you must edit the configuration file to enroll the new database connection. Click the “Manage MapViewer” tab then click the Configuration link.
3. **Edit the Config field by scrolling to the end and copying the connection string information.**
4. **Find the Map_Data_SourceName tag and copy the entire tag being sure to include the “/>” end of the tag.**
5. **Change the JDBC connection information.**
Two conventions that are required:

Do not use spaces or underscores in the name of the datasource.

When entering the jdbc_password, enter a ! followed by the password. When you save the connection information the password will be automatically encrypted.

jdbc_password = "password"

6. Click “Save & Restart”. You should get feedback that the save was successful.

7. Click the Manage Map Tile Layers tab on the top left portion of the window.

If you see your base map in this list, skip to the creation of the Configuration File. If your base map is not here, click the "Create" link on the sidebar.

Create a Base Map Reference

8. Click the Create link.

9. Choose Internal.

- Enter a name for the Base Map reference.
- Change the SRID to the appropriate value. This value may be found by consulting the GIS team.
- Change the Min/Max X and Y coordinates. This value may need to be adjusted several times before you get the right settings.

Sample Settings:

SRID: 82469

Min X: 290000.0

Max X: 320000.0

Min Y: 6240000.0

Max Y 6260000.0

10. Click Submit when finished.

11. Return to the Manage Link on the page and check to see if your new Base Map is displayed. If so, you are finished with this phase of the installation.

Edit the Configuration File

In this step you edit the configuration file used by MapViewer to display the Oracle Utilities Work and Asset Management GIS information. This file may be found in SIA application server folders in the following location. The configuration file is deep in the SIA application mid-tier folder structure.

In a typical Work and Asset Management folder structure the correct "config" folder is found in SIA web application folders. You might also find this folder by searching for default.cfg or Honolulu.cfg.

Sample file location: D:\synergen\prod1715x\synergen\config

Note: These files may also appear in the "Viewer" folder. The "Viewer" folder is not the correct location.

If you already have a file in the configuration folder, you may copy one and make edits. If there is no default configuration file, the following text provides a sample.

The Thematic Map section is highlighted but no changes are required. This is sample syntax to be used if you create a Thematic Map. You must change the highlighted sections to represent the naming conventions used for your application.

Modify the following as needed:

- **urlMapView:** This value must be changed to the correct URL related to the mapviewer.
- **Datasource:** This is the name of the datasource you created when configuring the MapViewer.
- **baseMap:** This is the name of the username.basemap defined in the database. It is recommended that the same naming convention be used as the MapCache below.
- **mapCache:** This is the datasource.basemap defined in the Mapviewer. It is recommended that this be the same naming convention as the one used for the baseMap above.
- **centerX, centerY, and SRID:** This value should be the center coordinate for a location in the map and the correct SRID.
- **Theme Name:** One theme name entry should be made for each theme you want to appear in the viewer. You name the theme and then point to the username.theme_name created in the database using MapBuilder.

```
<?xml version="1.0" encoding="UTF-8"?>
<config>
<map urlMapView="http://localhost:7777/mapviewer"
dataSource="gamvdemo"
    baseMap="gamvdemo.fairfield_base_map"
mapCache="gamvdemo.fairfield_base_map" centerX="304297"
centerY="6250931" srid="82469"
    maxWidth="800" maxHeight="600"
toolsOn="on" overviewMap="off" scaleBar="on"
navigationBar="on" legend="themes"/>
<theme name="Parcel" source="gamvdemo.fairfield_base_map"
enabled="N"/>
<customMenu>
<item name="Asset">
<option name="Assign Parent" href="javascript:custom_
doMenuSelection('AssignParent', 'assign')"/>
<option name="View" href="javascript:custom_
doMenuSelection('View', 'asset')"/>
</item>
<item name="PM Master">
<option name="View" href="javascript:custom_
doMenuSelection('View', 'pmmaster')"/>
</item>
<item name="Service Request">
<option name="Create" href="javascript:custom_
doMenuSelection('Create', 'servreq')"/>
<option name="Record Assets" href="javascript:custom_
doMenuSelection('RecordAssets', 'servreq')"/>
<option name="View" href="javascript:custom_
doMenuSelection('View', 'servreq')"/>
</item>
<item name="Work Order">
<option name="Create" href="javascript:custom_
doMenuSelection('Create', 'workord')"/>
<option name="View" href="javascript:custom_
doMenuSelection('View', 'workord')"/>
</item>
<item name="Work Request">
<option name="Create" href="javascript:custom_
doMenuSelection('Create', 'workreq')"/>
<option name="View" href="javascript:custom_
doMenuSelection('View', 'workreq')"/>
</item>
<item name="Help">
<option name="About..." href="javascript:custom_
doMenuSelection('About', 'about')"/>
</item>
```

```

</item>
<item name="Thematic Maps">
<option name="Remove All" href="javascript:custom_
doClearThematic()" />
<option name="Inspection Status" href="javascript:custom_
doDisplayThematic(1, 'qamvdemo.SP_RDCL')"/>
</item>
</customMenu>
<mapLoadEvent function="custom_processRequest()" />
<include javascript="wamCustom.jsp"
bottomHTML="wamForms.html" />
</config>

```

12. **Save this file and test the view configuration file. Use the URL below being careful to note the case of the directory path and the filename. The case must exactly match the path to the configuration file.**

If the viewer does not display, check the configuration file for spelling. You may also check the GIS OC4J monitor window for errors.

Example:

<http://localhost:7777/mapviewer/Viewer/viewer.jsp?cfg=Fairfield.cfg>

Edit the config.jsp File

This file can also be found in the SIA Mid-Tier folders on the application server called CUSTOM. It is important to find the correct configuration file as there are several folders that are similar. The information is found at the bottom of the correct config.jsp file.

Sample file location: D:\synergen\prod1715x\synergen\viewer\custom

Modify the following as needed:

- **configAssetField:** This attribute is used to define the Work and Asset Management column used as the GIS Feature cross-reference. It should always be Asset ID as shown here.
- **configQueryThemes:** This is the list of Themes, identified by display name defined in the configuration file discussed above, that you want to have two way integration back to the Work and Asset Management application. If there are assets created in Work and Asset Management application for the GIS Themes, then you would expect the integration to work and the theme listed here.
- **configQueryParams:** This attribute should not be changed. It is used in conjunction with the next attribute to define the cross reference data between Work and Asset Management and the GIS data.
- **configQueryFields:** This attribute should not be changed. It is used in conjunction with the previous attribute to define the cross reference data between Work and Asset Management and the GIS data.

GIS SETUP Business Rule

The GIS SETUP business rule must be configured to point to the Oracle GIS Viewer. There are several parameters in this rule, but only two apply to the Oracle GIS Viewer.

- **ACTIVATED GIS OPTION** - this parameter must contain ORACLE1 in the first value column (the key_value column in the database).
- **ORACLE1 VIEWER** - this parameter must contain a string pointing to the configuration file created above. No file path is required in this setting. Enter the keyword string "cfg=" followed by the filename of the configuration file.

Configuring these business rule settings define the “default” viewer for the GIS integration. These settings are used unless the User Profile data is configured to override the defaults.

Configuring the User Profile

You may also choose to only make this view available to specific users. You accomplish this by entering the same information in the User Profile module.

The same two parameters discussed in the business rule setup are simply added to the user profile data.

The same feature may also be used to point a specific user to the same GIS Option but to a different configuration file. This allows you to provide different maps to different user communities.

By directing a user to a new configuration file, you may also manage which layers are available to the user. For example, you may have the same map, but one user is only allowed to see Streets and Parcels, while another user might have access to Water and Wastewater infrastructure.

Maps and Theme UI options are all managed using the configuration files.

Add Responsibility Functions

All users who will require access to the ESRI ArcGIS Viewer must have the following responsibility functions added to their user profile:

- **GIS VIEWER** - Added responsibility function to allow access to the Oracle GIS Viewer.
- **VIEW GIS** - Added responsibility function to allow access to the print and view GIS actions available in modules. (Must be added regardless of which viewer is used.)

Set Up a GIS Server in an OC4J Instance

(Sample from Oracle AS Documentation) - Deploying to 10.1.3

To deploy your UIX application to a 10.1.3 application server you must create an ear file using JDeveloper and deploy the file to the OC4J instance using the Application Server Control. To generate the ear file, right-click the **ADFToyStore.deploy** profile in the application navigator of your JDeveloper 10.1.2 install and choose **Deploy to Ear file** from the context menu. An **ADFToyStore.ear** file will be created in the <Project directory>\adftoystore\deploy directory.

Deployment directly from JDeveloper 10.1.2 to the 10.1.3 application server is not supported.

Deploying the Ear File

Deploy the ear file to the 10.1.3 OC4J instance by using the Application Server Control by opening <http://<server name>:<port>/em> in a web browser.

1. **After logging into the administration console, click the Applications tab and click Deploy.**
2. **In Step 1 of 3, choose the Archive is present on local host. Upload the archive to the server where Application Server Control is running radio button.**
3. **Click Browse and use the file system navigator to select the ear file in the <Project directory>\adftoystore\deploy directory.**
4. **Click Next. In Step 2 of 3, set the Application Name to ADFToyStore, accept all defaults, and click Next.**
5. **Accept all of the defaults in Step 3 of 3 and click Deploy.**

After the deployment completes click **Return** and you will be forward back to the main screen of the Application Server Control. The ADFToyStore application should have a green arrow under the status column.

6. Test the application by accessing the following url via a web browser:
`http://<server name>:<port>/ADFToyStore.`

Oracle® Utilities Work and Asset Management

AutoDesk (MapGuide) Installation and Configuration
Guide

Release 1.9.0.3

July 2011

Oracle® Utilities Work and Asset Management AutoDesk (MapGuide) Installation and Configuration Guide, Release 1.9.0.3

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AutoDesk MapGuide Installation and Configuration Guide

Prerequisites

The AutoDesk (MapGuide) integration requires the following components.

- AutoDesk MapGuide CD
- Install codes for MapGuide
- Map Viewer files (\AUTODESK1\SynergenMapView folder)
- Map Viewer database scripts to create Business Rules, Custom
- Menus, Views, and Stored Procedures (\COMMON\SCRIPTS folder)
- Map Viewer custom sapi.pll (\COMMON\PLL folder)
- GIS data

Latest Certified Version

- ESRI AutoDesk 6.5 with Oracle Utilities Work and Asset Management 1.8.1.x

Installation

Please read all the instructions before beginning.

1. **Make sure that IIS is installed and running.**
See the appropriate Microsoft documentation for information about installing IIS.
2. **Install MapGuide.**
Refer to the MapGuide documentation for instructions. You will need to install the following components:

MapGuide Server (requires MDAC2.7)
MapGuide Author
MapGuide Viewer – Active X Control
MapGuide Utilities – SDF Component Toolkit
3. **Create a GIS directory under wwwroot.**
You can also create the GIS directory a different location – requires virtual directory or new web site.
4. **Create cache directory: \MapGuide\cache.**
5. **Create log directory: \MapGuide\log.**
6. **Setup the IIS Default Web Site Properties.**

Under HTTP Headers - MIME Type

ADD

.cgm

image/cgm

Read & Run Script

Create the IIS Default Web Site Cache Directory.

Create cache Virtual Directory

Points to cache directory above

Read

7. Configure MapGuide with the administrator.

Under TOOLS..EDIT SYSTEM SETTINGS

Set cache as above in Step 4.

Set log as above in Step 5.

8. Check Current Time on Database and Web Server.

9. Check USR_ and WAM_ users under Component Services.

10. Copy Map Viewer Files to the GIS directory.

Copy the entire contents of the \INTERGRAPH1\SynergenMapView folder to the GIS directory.

11. Create a system "SYNERGEN" DSN for the desired database. Enter the username and password of the table owner.

12. Create a system "GISWEB" DSN for the desired Map Data Source. Username 'IWCGIS' and password 'IWCGIS'.

13. Update CONFIG.HTM.

MWF_File - Default should be OK

DSN - Set to SYNERGEN

GlobalSearchField - Default should be OK

TaxIDField

TaxIDTable

TaxIDTableKey

TaxID LayerSDF

LayerCount - Default should be OK

Layer1 - Default should be OK

LayerSDF1 – Set to GIS_Data\SDF\pipe.sdf

LayerTable1 - Default should be OK

Layer2 - Default should be OK

LayerSDF2 – Set to GIS_Data\SDF\rob.sdf

LayerTable2 - Default should be OK

14. Restart services (www, IIS, MapGuide).

15. Run scripts to create IWCGIS user.

From SQL*Plus connect as the Table Owner.

To execute the script, select file, open, and navigate to <installed drive>:\synergen\<environment_name>\GIS\Autodesk1\server.

Example: D:\synergen\synprod\GIS\Autodesk1\server

Double click the create_iwcgis.sql file to set initial starting path. From the sql command line, execute the script: @create_iwcgis.sql

16. Set GIS Business Rule.

Set Viewer key in the GIS Setup Business Rule to specify the AUTODESK1 option and viewer.

ACTIVATED GIS OPTION - AUTODESK1

AUTODESK1 VIEWER - the path and file name of the map viewing tool.

Example: <http://10.138.246.124/mapguide/SynergenMapView.asp?>

The business rule settings for the other viewers are not required for this installation.

17. Add the GIS responsibility function.

Add the "View GIS" responsibility function to all responsibilities as applicable.

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AutoDesk MapGuide User Guide

The AutoDesk MapGuide GIS map viewer provides a means of navigating between the Oracle Utilities Work and Asset Management application and external GIS data. Using the map viewer you can view and manipulate asset and maintenance information based on geographic location.

Note: Before the map viewer can be used, your system administrator must load a GIS map, configure the GIS Setup business rule, and assign user responsibilities. Please refer to the [AutoDesk \(MapGuide\) Installation Guide](#) for further instructions.

Viewing and Printing Maps

Once an Asset has been assigned to one or more GIS map features, you can view and print a map of the Asset. You can do this from the Asset, Work Order, Benchmark Work Order, PM Master, or Service Request modules.

How to View a Map of an Asset Record

If the Asset is not assigned to a feature on the map, the GIS map opens and displays a warning that no item is selected.

- 1. Open an appropriate Asset record or Asset Results of Search screen.**

If you view a map from a module other than the Asset module, it will show the mapped Assets associated with that module. A map opened from the Work Order Module, or example, shows the Asset listed on the selected Work Order.

From the Service Request header record, select View Map (Tax ID) to view a map of the customer's address on the Service Request.

- 2. Select View GIS Map from the Actions list.**

When you select View Map, the map viewer opens a map showing the feature that the Asset is assigned to. If you select View GIS Map from a Results of Search screen, the map viewer opens showing all the mapped assets retrieved by your search.

The first time you open the map viewer in a work session, you will see the following message while the map is updated. After the map loads, click on the OK button to clear the message.

- 3. Reposition the map as needed.**

Use the Pan or Zoom tools from the control panel to reposition the map.

You can then select Print or Print Preview from the File menu to print the map, or you can print the map from as shown in the following steps.

Note: Rest the mouse pointer over any tool icon to see a popup description of what the tool does.

How to Print a Map of an Asset Record

You can use similar steps to print maps from the Work Order, Benchmark Work Order, PM Master, and Service Request modules. From the Service Request module, you can also select Print Map (Tax ID) to print a map of the customer's address on the Service Request.

1. **Open the appropriate Asset record.**
2. **Select Print GIS Map from the Actions list.**
The GIS application launches and opens a print dialog box for printing a map of the assigned Asset.
3. **Specify a Printer and Print Options and click on the OK button.**
The map prints to the printer specified.

Planning Work

In the map viewer, you can gather information relevant to work you need to perform on Assets. For example, you can view details about Asset records, and you can view a list of Work Orders, PM Masters, or Service Requests associated with selected Assets on the map. In this way, you will know if there are existing plans to work on the Assets, or if a new Work Order needs to be created. If a Work Order or Service Request needs to be created, you can also do this from within the map viewer.

How to View Asset Details from the Map Viewer

1. **Select a feature on the map that has an assigned Asset ID.**
You can select more than one feature by using the viewer's controls. Click on the arrow tool to select it from the menu and then draw a rectangle around the map features you want to select.
2. **Select View under Asset on the map viewer's Options menu.**
The View Asset window opens with details about the Asset record(s).

You can click on the Asset ID number on the View Asset screen to see additional information about the asset, including Department, Account, Building and Position.

How to View Work Records for a Map Feature

1. **Select one or more features on the GIS map.**
At least one feature must have an assigned Asset record.
2. **Select View under PM Master, Service Request, or Work Order on the Options menu.**
The corresponding search dialog box opens.
3. **Enter search criteria.**
Click on the down arrows to select valid options from drop-down lists. The drop-down list for Selected Assets includes all the Assets selected from the map.
4. **Click on the Search button.**
The search results display.

To research Work Records, click on the Print button to print a list of the Work Records displayed. Then open the appropriate module to view more information about specific records.

How to Create a Work Order from the Map Viewer

You can select several Assets on the map to create a work order with one task for each asset.

1. **Select one or more Assets on the map.**
2. **Select Create from the Work Order options menu.**
The Create Work Order dialog box opens with information about the Plant, the Selected Asset(s), and the Current User. This information will be used on the Work Order record that will be created.
3. **Enter a description.**
This will be the description on the Work Order record.
4. **Select the Create button.**
The system displays a confirmation window asking if you want to create a work order for the selected asset.
5. **Click on the OK button.**
The system creates a Work Order in Planning status and provides the new Work Order number. One Task is created for each Asset that was selected.

To modify the Work Order, open the Work Order record and make any necessary changes.

You can also create a Service Request from the map viewer.

Recording Assets on Service Requests

You can also record Assets on a Service Request from the map viewer. The cost from the Service Request will then roll up to the Assets according the percentage split entered.

How to Record Assets on a Service Request

To record Assets on a Service Request from the GIS application, you must first open GIS from the Service Request record.

1. **Open the appropriate Service Request record.**
The Service Request module is located in the Customer subsystem.
2. **Select View Map from the Actions list.**
The map viewer opens and selects all features with assigned assets associated to the Service Request. There can be zero, one or more features selected.
3. **Select additional features on the GIS map with assigned Asset IDs.**
Make sure to hold down the Shift key as you select additional features if you want the current features to remain selected. Otherwise, the currently associated Assets will be replaced with the new Assets you are selecting.
4. **Select Record Assets under Service Request on the Options menu.**
The Record Assets screen displays showing the Service Request number and the selected assets.
5. **Click on the Record button.**
The system displays a confirmation message asking if you want to record assets on the Service Request. When you click on the OK button to clear the message, the system records the Assets on the Service Request Asset List view, dividing the percentage split equally between the assets. Any previous Assets that were on this list are replaced. The system then displays a message confirming that the Service Request was updated.

Open the Service Request record Asset List view to make any changes to the percentage split between Assets.

Oracle® Utilities Work and Asset Management

ESRI2 (ArcIMS) Installation and Configuration Guide

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ESRI ArcIMS Installation and Configuration Guide

This document describes the installation of the ESRI2 (ArcIMS) integration.

The ESRI2 integration supports all Windows based operating systems including Windows 98, Windows ME, Windows 2000 (SP3+), Windows XP Home, Windows XP Professional (SP1+), and Windows Server Editions.

Prerequisites

- ESRI ArcIMS
- ArcIMS GIS data
- WAM Integration
- Files

The ArcIMS machine must have an Oracle database client installed and the tnsnames.ora file should contain the proper reference to the database.

Verify Installation of ArcIMS

- IIS must be the Web Server and the ASP extensions for IIS must be enabled.
- The GIS Services defined in the ArcIMS Administrator must be image server virtual servers. These are the only servers supported by the HTML viewer.
- An ArcIMS Website should have been created against the GIS Image Service with the viewer type being “HTML”. Make sure the ArcIMS Website is functioning before the integration is installed by running the Website URL in the browser.
- The “ArcIMSParam.js” file within the ArcIMS Website contains two entries that specify the URL for the Map Server and image service – imsURL and imsOVURL. Make sure the server name includes any necessary domain information to reach the URL from a client browser.

Installation

The Oracle WAM ESRI ArcIMS integration is installed over existing ArcIMS HTML Viewer Website files.

1. Expand installation files
2. Create the ODBC WAM DSN

-
3. Modify ArcIMS Website files with integration changes
 4. Edit Configuration Files
 5. Configure the WAM GIS SETUP Business Rule or User Profile keys
 6. Edit Custom Searches

Expand Installation Files

Expand the file ArcIMS_Integration.zip file in a temporary location. This compressed file contains a folder called “Oracle_WAM_ESRI2”. Within this directory, you should see the following.

- SynergenGIS (directory)
- EAM_Searches (directory)
- SynergenGIS (directory)
- SynergenMapView.asp (file)
- viewer.htm (file)

Create ODBC WAM DSN

The ArcIMS WAM Integration creates and displays WAM database information from within the GIS Viewer. This database access is through a Windows ODBC System Datasource Name (DSN).

- You can choose your own name for the DSN, but the name must match the “v_dsn” setting in the “Config.asp” file.
- You must use the driver named “Microsoft ODBC for Oracle” to avoid incompatibility issues.
- The “Microsoft ODBC for Oracle” driver accesses the database through Oracle’s Database Client. This client software must be installed and permissions granted on the associated Oracle Home directory. This allows the website access to the driver.

Modify ArcIMS Website Files with Integration Changes

1. Rename the following file within the existing ArcIMS Website. This will be overwritten by the integration file with the same name found within the “Oracle_WAM_ESRI2” directory.
 - viewer.htm
2. Copy and backup the following files in your ArcIMS Website viewer directory. The directory should be like “\ArcIMS\Website\viewer”, where “viewer” is the website name you gave to the ArcIMS Manager when creating the site. These files will be modified with the WAM integration code.
 - Mapframe.htm
 - Toolbar.htm
 - javascript\aimsCustom.js (this file is in the “\javascript” subdirectory)
 - javascript\aimsResource.js (this file is in the “\javascript” subdirectory)

Edit the Configuration Files

The Config.asp file contains configurable settings specific to your environment.

- **v_dsn** - references the DSN that was created earlier make sure that this value matches your DSN name.

- **v_SIAUrl** – the URL to the WAM application server. This should be the same URL defined in the WAM configuration's `sia_integration_url` (within the `config.properties` file).
- The `SynergenProcedures.js` file contains configurable settings for the WAM Integration map viewer.
- **gsGSF** – The search field name. This is the column name in the GIS data that refers back to WAM assets.
- **gsWebsiteURL** – This is the URL to the ArcIMS GIS Website that you created.

Configure WAM Business Rules or User Profile Keys

The “GIS SETUP” Business Rule or User Profile keys for the GIS integration define the type of GIS as well as specifying the path to the GIS server. While the Business Rule keys define the settings for a WAM plant, the User Profile keys define the settings for a specific user. The following are the keys used for the ArcIMS integration. They can be defined either for Business Rules or User Profile keys.

ACTIVATED GIS OPTION - This defines the type of GIS Integration. For the ArcIMS integration, this should be set to “ESRI2”.

ESRI2 VIEWER - This is the URL to the starting point of the URL. Enter the full value in the “Value 4” field. All value fields are concatenated, but the first 3 Value fields are limited in size. You should include the ending “?” in the URL as well.

DISPLAY CHILD ASSETS (YES or NO) - NO indicates that only the selected Asset will be displayed on the map. (Recommended). YES indicates the selected Asset and its Children Assets will be displayed on the map.

Configure Responsibilities

Add the View GIS and ESRI2 Viewer function to all Responsibilities requiring GIS access.

Edit the file `/viewer/EAM_Searches/EAM_Searches.js`.

You will need to set the configuration values in this file. The `LayerName` for each section (like `theStreetLayerName`) is the name of your Shape file/Layer. The other values are column names in the in the Shape file/Layer.

This section supports Intersections searches

```
var theStreetLayerName="Streets";

var theStreetNameField="STR_NAME";

var theFromStreetFieldName = "FRSTNM";

var theToStreetFieldName = "TOSTNM";

var theStreetFieldsToDisplay = "FRSTNM TOSTNM ADDR_LEFT_ ADDR_LEFT1
ADDR_RIGHT ADDR_RIG_1";
```

Parcel ID searches

```
var theParcelLayerName="Parcels";

var theParcelIDFieldName = "PARCELID";

var theParcelFieldsToDisplay = "NAM1 ADR1 CITY ST ZIP";
```

Address searches

```
var theAddressLayerName="Parcels";
```

```
var theAddressFieldName = "ADR1";  
var theAddressFieldsToDisplay = "NAM1 ADR1 CITY ST ZIP";
```

Troubleshooting

When the GIS Viewer attempts to access the database through the Oracle database client you may see errors and the system may not be able to access the database. This issue is described in Oracle's Metalink document ID 215255.1. You may see the following errors when attempting to access the database.

The Oracle client and networking components were not found.

These components are supplied by Oracle Corporation and are part of the Oracle Version 7.3 (or greater) client software installation. You will be unable to use this driver until these components have been installed.

Error number: -2147467259 - [Microsoft][ODBC Driver Manager] Driver's SQLAllocHandle on SQL_HANDLE_ENV failed

To resolve this error:

1. Launch Windows Explorer and navigate to the Oracle database client's "home" directory.
2. Right-click on the "home" directory and choose the "Properties" menu option to display the properties dialog.
3. Within this dialog, select the "Security" tab and look in the "Group or user names:" section. Look for and select "Authenticated Users". . If you don't, refer to the *Adding Authenticated Users Group* section below.
4. In the Permissions list, *uncheck* the Read and Execute box, which is located under the Allow column, and click "Apply".
5. Re-check the Read and Execute box located under the Allow column and click "Apply".
6. Click the OK button until you close out of all the security properties windows.
7. Reboot the server -- THIS STEP IS VERY IMPORTANT.

If you later find that the Web Service is not able to query the database, complete the following additional steps:

1. Repeat the first 7 steps above.
2. Click the Advanced button.
3. When the Advanced Security Settings window opens, click the check box next to "Replace permission entries on all child objects with entries shown here that apply to child objects". (Note: if you later look at this setting you will NOT see a check here. After permissions are replaced, the check mark will disappear).
4. Click the Apply button
5. Click Yes to respond to the message.
6. The process that will start may take a few minutes to complete.
7. Click the OK button until you close out of all the security properties windows.
8. Reboot the server.

Adding Authenticated Users Group

If the Authenticated Users Group does not exist in the Group or user names list, you will need to do the following to add the Group:

1. On the Security tab of the Properties window, click on the Add... button.
2. In the Select Users, Computers, or Groups window, verify that the name of your server is shown in the From this location field. If not, do the following steps to select your server:
3. Click on the Locations... button.
4. Click on the item at the top of the Locations list, which should be the name of your server and click the OK button.
5. In the Select Users, Computers, or Groups window, click on the Advanced... button.
6. Click the Find Now button.

7. In the list that appears, select Authenticated Users and click the OK button, then click OK again. You should be back to the Security tab of the Properties window.
8. Click the Apply button.
9. You can now continue with setting the permissions for the Authenticated Users group.

ArcIMS HTML Viewer Files

This section describes what needs to be modified in each of the ArcIMS HTML viewer files.

These files are created by the ArcIMS Manager when you create an ArcIMS website. Within each section, we include some parts of the existing ArcIMS code so that you know where to insert the integration code. The integration code is identified by the text “Oracle WAM start” and “Oracle WAM end”. Samples of the modified files are included in the “config_samples” folder of the integration installation files. These samples indicate where the inserted text should go.

MapFrame.htm

```
<!-- Routing params. . . for routing and reverse geocoding
requires RouteServer extension -->
<!-- <SCRIPT TYPE="text/javascript" LANGUAGE="JavaScript"
SRC="aimsRouteParams.js"></SCRIPT> -->
<!-- Oracle WAM start -->
<SCRIPT TYPE="text/javascript" LANGUAGE="JavaScript" SRC="EAM_
Searches/EAM_Searches.js"></SCRIPT>
<!-- Oracle WAM end -->

<SCRIPT TYPE="text/javascript" LANGUAGE="JavaScript">
// variables for spacing
```

toolbar.htm

```
if (parent.MapFrame.allowOptions) {
    // Options. . . requires aimsOptions.js... allowOptions is
    set to true in this file
    document.write('<td align="center" valign="middle">');
    document.write('');
    isSecond = !isSecond
    document.writeln('</td>');
    if (isSecond) document.write('</tr><tr>');
}

//Oracle WAM start
document.write('<td align="center" valign="middle"
colspan="2">&nbsp;  </td></tr><tr>');

//Folio Find
document.write('<td align="center" valign="middle">');
document.write('');
isSecond = !isSecond
document.writeln('</td>');
if (isSecond) document.write('</tr><tr>');

//Address Find
document.write('<td align="center" valign="middle">');
document.write('';
isSecond = !isSecond
document.writeln('</td>');
if (isSecond) document.write('</tr><tr>');

//Address wizard
document.write('<td align="center" valign="middle">');
document.write('');
isSecond = !isSecond
document.writeln('</td>');
if (isSecond) document.write('</tr><tr>');

//Oracle WAM end
if (parent.MapFrame.canLoad) {
// Load MapService. . . requires aimsGeneric.js

```

javascript\aimsCustom.js

```

// send XML response to custom function
//flow redirected here when
//XMLMode >=1000
//Oracle WAM start
function useCustomFunction(theReply) {
if (XMLMode==1001) {

EAM_ShowSearchResult(theReply,0);
} else if (XMLMode==1002) {
// insert code here
EAM_ShowSearchResult_Wizard(theReply);
} else if (XMLMode==1003) {
// insert code here
EAM_ShowSearchResult(theReply,1);
} else {
alert(msgList[55] + XMLMode + msgList[56]);
}
hideLayer("LoadData");
}
//Oracle WAM end

```

javascript\aimsResource.js

```

buttonList[8] = "";
buttonList[9] = "";
buttonList[0] = "";
*/
//Oracle WAM start
buttonList[61] = "Find Parcel";
buttonList[62] = "Find Address";
buttonList[63] = "Intersection Wizard";
//Oracle WAM end

```


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ESRI ArcIMS User Guide

The ESRI ArcIMS GIS map viewer provides a means of navigating between the Oracle Utilities Work and Asset Management application and external GIS data. Using the map viewer you can view and manipulate asset and maintenance information based on geographic location.

Note: Before the map viewer can be used, your system administrator must load a GIS map, configure the GIS Setup business rule, and assign user responsibilities. Please refer to the [ESRI ArcIMS Installation and Configuration Guide](#) for further instructions.

Viewing and Printing Maps

You can navigate from the Oracle Utilities Work and Asset Management application to the map viewer by selecting the View Map or Print Map actions each of the following modules: Asset, Work Order, Work Order Task, Benchmark Work Order, PM Master, and Service Request.

The View Map and Print Map actions are available on the Results of Search and Main Records screens in all modules that support GIS functionality.

View Map

When you select the View Map action from any module supporting GIS, the map viewer opens the correct map and pans/zooms the map to the location/feature(s) identified on the you were viewing in Oracle Utilities Work and Asset Management.

As you move the mouse pointer over a feature on the map, the feature is highlighted and a pop-up label displays the Asset number for the object if one has been assigned. The map viewer includes various controls for manipulating the map image and selecting or deselecting assets.

Regardless of which Oracle Utilities Work and Asset Management module you are using when you launch the viewer, Asset data is required for the viewer to locate a specific location. If no Asset data is available on the Oracle Utilities Work and Asset Management record when the user selects View Map from the GIS menu, a large-scale map opens in the viewer. You can then use the viewer's pan, zoom and search controls to locate desired features.

If you view a map from a module other than the Asset module, it will show the mapped assets associated with that module. A map opened from the Work Order module, for example, shows the asset listed on the selected work order.

From the Service Request record, select View Map (Tax ID) to view a map of the customer's address on the service request.

Note: If you have previously launched the viewer and it is running in the background behind the Oracle Utilities Work and Asset Management application, clicking on the View Map option will not reopen the viewer. To open the viewer when it is running in the background, click on the map viewer icon on the windows toolbar.

Print Map

When you select the Print Map menu option from any module supporting GIS, the map viewer opens the correct map, pans/zooms the map to the location/feature(s) identified on the Oracle Utilities Work and Asset Management record, and prints the resulting map. Depending on your printer configuration, you may be prompted for printer location.

How to View a Map of an Asset Record

1. **Open an appropriate Asset record or Asset Results of Search screen.**
2. **Select View GIS Map from the Actions list or the GIS menu.**

When you select View Map, the map viewer opens a map showing the feature that the asset is assigned to. The feature is labeled with the assigned Asset record ID. If you select View GIS Map from a Results of Search screen, the map viewer opens showing all the mapped assets retrieved by your search.

If the asset is not assigned to a feature on the map, the GIS map opens and displays a warning that no item is selected.

3. **Reposition the map as needed.**

Use the Pan or Zoom tools from the control panel to reposition the map.

You can then select the Print icon from the map viewer's toolbar to print the map or you can print the map from Oracle Utilities Work and Asset Management as shown in the following steps.

How to Print a Map of an Asset Record

1. **Open the appropriate Asset record.**
2. **Select Print GIS Map from the Actions list.**

The GIS application launches and opens a print dialog box for printing a map of the assigned asset.

3. **Reposition the map if necessary.**

Skip this step if you do not need to reposition the map before printing.

To reposition the map, click the Close button to close the Print dialog box. Select the Pan, Zoom In, and Zoom Out controls as needed to reposition the map. When done, select Print from the map viewer's File menu to reopen the print dialog box.

4. **Specify a Printer and Print Options and click OK.**

The map prints to the printer specified.

You can use similar steps to print maps from the Work Order, Benchmark Work Order, PM Master, and Service Request modules. From the Service Request module, you can also select Print Map (Tax ID) to print a map of the customer's address on the service request.

Multiple Map Layers

You can view map features on multiple map layers when the map viewer is called from Oracle Utilities Work and Asset Management. For example, the following work order has three tasks, each referencing an asset on a different layer.

When you select the View map or Print Map actions from the work order, a map opens showing all three assets.

The visible layers are listed on the right side of the viewer window, below the smaller map. The rectangle surrounding Laterals in this example indicates the active layer. Only items on the active layer can be selected with the mouse.

Planning Work

In the map viewer, you can gather information relevant to work you need to perform on assets. For example, you can view details about Oracle Utilities Work and Asset Management Asset records, and you can view a list of Oracle Utilities Work and Asset Management Work Order, Work Request, PM Master, or Service Request records associated with selected assets on the map. In this way, you will know if there are existing plans to work on the assets, or if a new Work Order record needs to be created. If a Work Request, Work Order or Service Request record needs to be created, you can also do this from within the map viewer.

How to View Asset Details from the Map Viewer

1. **Select a feature on the map that has an assigned asset ID.**

You can select more than one feature by using the viewer's Select by Rectangle or Select by Circle controls. Click the tool to select it from the control panel and then draw the corresponding shape around the map features you want to select.

2. **Select View under Asset on the map viewer's Options menu.**

The View Asset window opens with details about the Oracle Utilities Work and Asset Management Asset record(s).

You can click the asset ID number on the View Asset screen to open Oracle Utilities Work and Asset Management to that Asset record.

How to View Oracle Utilities Work and Asset Management Work Records Associated with a Map Feature

1. **Select one or more features on the GIS map.**

At least one feature must have an assigned Oracle Utilities Work and Asset Management Asset record.

2. **Click PM Master, Service Request, Work Order, or Work Request on the Options menu in the map viewer.**

3. **Click View.**

The corresponding search dialog box opens.

4. **Enter search criteria in the fields in the upper portion of the window.**

Click the down arrows to select valid options from drop-down lists. The drop-down list for the Selected Assets field includes all the assets selected from the map.

5. **Click the Search button.**

The search results display.

You can click the Print button to print a list of the work records displayed, or click the record number to open that record in Oracle Utilities Work and Asset Management.

How to Create a Work Order from the Map Viewer

If you select several assets, the work order will be created with one task for each asset.

Follow similar steps to create a work request from the map viewer. However, you can select only one asset when creating a work request.

1. **Select Create from the Work Order options menu.**

The Create Work Order dialog box opens with information about the Plant, the Selected Asset(s), and the Current User. This information will be used on the Oracle Utilities Work and Asset Management Work Order record that will be created.

2. **Enter a description.**

This will be the description on the Oracle Utilities Work and Asset Management Work Order record.

3. **Select the Create WO button.**

The system creates a Oracle Utilities Work and Asset Management Work Order record in Planning status and provides the new work order number. One task is created for each asset that was selected.

To modify the work order, open the record in Oracle Utilities Work and Asset Management and make any necessary changes.

Recording Assets on Service Requests

You can also record assets on a service request from the map viewer. Costs from the service request will roll it up to the asset(s) according to the percentage split entered.

You can also create a service request from the map viewer.

How to Record Assets on a Service Request

The Service Request record may or may not already have assets associated to it. Select Asset List from the Views list to display currently associated assets. The GIS menu only appears when you are on the Service Request record.

1. **Open the appropriate Service Request record in Oracle Utilities Work and Asset Management.**

The Service Request module is located in the Customer subsystem.

2. **Select View Map from the Actions list.**

You must launch the GIS application from the Service Request record to record assets in this way.

The GIS application launches, opens the map in Data View, zooms in and selects all features with assigned assets associated to the service request. There can be zero, one or more features selected.

3. **Select additional features on the GIS map with assigned asset IDs.**

Make sure to hold down the Shift key as you select additional features if you want the current features to remain selected. Otherwise, the currently associated assets will be replaced with the new assets you are selecting.

4. **Select Record Assets under Service Request on the Options menu.**

The Record Assets screen displays showing the service request number and the selected assets.

5. **Click the Record button.**

The system records the assets on the Service Request Asset List view, dividing the percentage split equally between the assets. Any previous assets that were on this list are replaced.

Open the Service Request record Asset List view in Oracle Utilities Work and Asset Management to make any changes to the percentage split between assets.

Note: You may need to click the Refresh icon to update the record with the new asset information.

Searching the Map

In addition to searching for map features from within the Oracle Utilities Work and Asset Management application, the HTML map viewer also allows you to search for specific addresses, intersections, and parcels directly from the map viewer. The search feature is particularly useful if you launch the map viewer from a link on your home page, rather than from a Oracle Utilities Work and Asset Management asset or work record. The Java map viewer does not support these additional search capabilities.

Note: These are not geospatial searches. Your GIS data must be setup for tabular searches in order to support this functionality.

How to Search for an Address

1. **Select Find Address from the Oracle Utilities Work and Asset Management toolbar.**
The system opens the Find dialog box below the map.
2. **Enter an exact or a partial address in the Address field.**
You can use the “%” wildcard character to substitute for street numbers. For example, you could enter “% Taylor” (or just “% tay”) to search for all addresses on Taylor Street, or “24% Taylor” to find 242 Taylor, 246 Taylor, 248 Taylor, etc.
3. **Click Search.**
The viewer displays a list of the addresses found below the map.
4. **Click on a record number to see that address on the map.**
Or click the “Zoom to these records” link to open a map showing all of the found addresses.

How to Search for an Intersection

1. **Select the Intersection Wizard from the Oracle Utilities Work and Asset Management toolbar.**
The viewer opens the Find dialog box below the map.
2. **Enter the first street name and click Search.**
You don’t need to use the “%” wildcard character as the system will find the string you enter anywhere in the street name. You can enter “bay” to find Bayou, Bayside, Coquina Bay, etc.

The viewer opens a list of the street segments matching your search. The exact information shown varies depending on how your map data is set up.
3. **Click on a record number for the correct street.**
In the example above, records 3-6 are for Coquina Bay Drive. Clicking on any of those record numbers opens the complete listing of all intersections where Coquina Bay Drive is either the named street or a crossing street.
4. **Click on a record number to display the map of the intersection.**

How to Search for a Parcel

1. **Select Find Parcel from the Oracle Utilities Work and Asset Management toolbar.**
The system opens the Find dialog box below the map.
2. **Enter the ID for the parcel you want to find in the Parcel field.**

You must enter the entire Parcel ID and cannot use the wildcard. Since Parcel ID numbers are usually very similar, wildcard searches would typically result in too many records.

3. Click Find String.

The viewer displays the parcel on the map.

4. Verify the Parcel ID.

You can verify that the correct parcel was found by checking the Parcel ID number.

Click the Identify tool and then click on the map to display parcel information below the map.

Scroll to the right and confirm the Parcel ID number.

Oracle® Utilities Work and Asset Management

ESRI (ArcMap) Installation and Configuration Guide

Release 1.9.0.3

July 2011

Oracle® Utilities Work and Asset Management ESRI (ArcMap) Installation and Configuration Guide, Release 1.9.0.3

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ESRI ArcMap Installation and Configuration Guide

Prerequisites

Oracle Utilities Work and Asset Management must be installed before attempting to install GIS. The following software versions are required:

- **Oracle Utilities Work and Asset Management:** 1.7.10 or greater
- **ArcMap:** 9.1 or greater (Note: ARCVIEW consists of several desktop applications, including ARCMAP. Only ARCMAP is required for the Oracle Utilities Work and Asset Management integration.)
- **Operating System:** Windows 2000 (SP3+), Windows 2000 Professional, Windows XP Home, Windows XP Professional (SP1+), and Windows Server Editions.

Latest Certified Version

- ESRI ArcMAP 9.3 with Oracle Utilities Work and Asset Management 1.9

Installation

To install ESRI1 (ArcMap) you must complete 3 steps:

- Configure the GIS Setup business rule
- Install the Oracle Utilities Work and Asset Management GIS program
- Install ESRI ArcMap.

Please read the entire installation instructions before you begin.

Configuring Oracle Utilities Work and Asset Management GIS Business Rule

1. **Complete the following settings in the GIS Setup Business Rule.**

ACTIVATED GIS OPTION – Set to ESRI1

DISPLAY CHILD ASSETS – YES or NO

YES – The selected Asset and its Children Assets will be displayed on the map.

NO – Only the selected Asset will be displayed on the map.

ESRI1 ALT SEARCH FIELD – An optional, client-specific search field

ESRI1 DSN – The Data Source Name that will be used when configuring the ODBC connection on the client's workstation

ESRI1 GIS SEARCH FIELD – The map search field that will be used to store the Asset ID

ESRI1 INITGIS – The file path and folder where the Oracle Utilities Work and Asset Management GIS program is installed on the client's workstation

ESRI1 MAP – The location and file name of the map (mxd)

ESRI1 MIN SCALE FACTOR - Minimum scale factor that the map will be allowed use

ESRI1 PRINT VIEW - View used when the map is printing (LAYOUT/DATA)

ESRI1 TRACE - Used only for problem tracking (ON/OFF)

ESRI1 VIEWER – The file path and location of the ESRI viewer that is installed on the client's workstation

Users can enter different settings in their User Profile if they want to use other options.

The business rules settings for the other viewers are not required for this installation.

2. Add the View GIS function to all responsibilities requiring GIS access.

Installing Oracle Utilities Work and Asset Management GIS

If a previous GIS application exists on the client workstation, we recommend that you uninstall that application before executing the next steps. To do this, open Add or Remove Programs in the Windows Control Panel and remove the previously installed program.

1. **Copy the CD contents to a directory on the client's workstation before beginning installation.**
2. **Run setup.exe from the location designated in the previous step.**
This executable will install and register the required VB components.

Installing ESRI ArcMap

1. **Install ESRI ArcMap (single user).**
Refer to the ESRI ArcMap installation documentation for system requirements and registration information.
2. **Start the ArcMap tool.**
3. **Open or build the map that will be used with the integration.**
The map must be located in the same location/filename on each client machine. The GIS Setup business rule must have the MAP Key Values set to the same location/filename as well.
4. **Add the custom menu to the Main menu bar.**
Select Customize from the Tools menu.

Select the Commands tab.

Select New Menu from the list of Categories

The list of Categories is located in the left side of the dialog box.

Drag the New Menu item (located in the right side of the dialog box) to the Menu bar between Selection and Tools.

Right-click on the New Menu item you just placed and rename it '&Oracle GIS'.

The Ampersand '&' in front of the 'O' underlines the hot key character in the new menu item as shown below.

Drag the New Menu item located in the right side of the dialog box five more times, dropping each item below the Oracle Utilities Work and Asset Management menu.

Rename these five items to '&Asset', '&PM Master', '&Service Request', '&Work Order' and '&Search'.

Click on the Add From File button.

Open the SynergenESRIScripts.dll file.

This file is located in the folder where you installed the Oracle Utilities Work and Asset Management GIS program.

Drag 'Integration Properties', 'About Oracle GIS', and the submenu items to the appropriate positions as shown.

Close the Customize window and save the map.

- 5. Make sure at least one layer on the map has the GIS Search Field in its data table.**
This field must be named exactly the same as the GIS Search Field Key Value in the GIS Setup business rule.

- 6. Enter the appropriate layer and field names on the Integration Properties page.**
These attributes are required to support address, intersection and parcel searching. Select Integration Properties from the Oracle Utilities Work and Asset Management menu and enter the information for your GIS data.

- 7. Register the Extension application with the ArcMap tool.**

Run Categories.exe from the Start menu.

Select the ESRI Mx Extensions folder.

Click on the AddObject button.

Open the SynergenESRIScripts.dll file.

This file is located in the folder where you installed the Oracle Utilities Work and Asset Management GIS program.

Check all objects and click on the OK button.

Close out all dialog boxes.

- 8. Verify settings in the GIS Setup business rule.**
Make sure that the Data Source Name is the same as the DSN Key Value in the GIS Setup business rule.

- 9. Install/Create an ODBC System Data Source Name (DSN) for the Oracle Utilities Work and Asset Management database.**

Recommended: **Microsoft ODBC for Oracle** Version 2.573.4403.00 or greater.

The User Name for the ODBC login is "Synergen".

Make sure to complete any settings that you did not enter in Step 9 of Installing GIS.

- 10. Test the installation.**

Adding the GIS Viewer Link to the Oracle Utilities Work and Asset Management Home Page (Optional)

- 1. In the Links component on the home page, click Options.**

If you do not have the Links component, add it using the Personalize Page link.

- 2. Click Advanced Edit > Add.**

- 3. Enter the title "Open GIS Viewer" or similar.**

- 4. Enter the link "http://servername:port/synergen/OpenGISViewer.jsp"**
where "servername" and "port" are the appropriate values for your server and port.

Example: <http://paris:1710/synergen/OpenGISViewer.jsp>

5. **Click Finish > Save >Close.**

6. **Add the server as a trusted site if necessary.**

You can do this by clicking the Charts icon on the home page and then clicking the “Add Chart Server as a Trusted Site” link.

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ESRI ArcMap User Guide

The ESRI ArcMap GIS map viewer provides a means of navigating between the Oracle Utilities Work and Asset Management application and external GIS data. Using the map viewer you can view and manipulate asset and maintenance information based on geographic location.

Note: Before the map viewer can be used, your system administrator must load a GIS map, configure the GIS Setup business rule, and assign user responsibilities. Please refer to the [ESRI ArcMap Installation and Configuration Guide](#) for further instructions.

Map Viewer

The map viewer provides basic GIS map viewing functionality. In addition to the menu options the map viewer window includes the map display panel, a toolbar consisting of pan and zoom controls, and a layer selections panel that controls what map features display.

Toolbar

Hover the cursor over the icons to reveal their functionality. Click on the icons to select the following map image controls from the Control Panel.

Zoom In - Modifies map coordinates to produce a zoomed in (larger scale) map about the mouse cursor point.

Zoom Out - Modifies map coordinates to produce a zoomed out (smaller scale) map about the mouse cursor point.

Fixed Zoom In - Modifies map coordinates to produce a map zoomed in about the current center point.

Fixed Zoom Out - Modifies map coordinates to produce a map zoomed out about the current center point.

Pan - Use this tool to shift the map in the desired direction. Click on the Pan tool and then click on the map and move the mouse pointer to move the map.

Full Extent - Shows the entire map with maximum zoom.

Go Back - Returns to the previous map view.

Go Forward - Opens the next available map view.

Select Features - Click on the Select Features tool Box and then click on a map feature to select one that map feature. To select more than one map feature, click on the Select Features icon and either hold down the shift key while you click on each map feature you want to select, or draw a

rectangle around the features you want to select. When you release the mouse button, the features are selected.

Find - Click on the Find icon to display a window where you can search for any map feature. You can choose to search by layer and field or search all layers and all fields. When you are finished building your query, click on the Find button to execute your search.

The results of your search display in the lower section of the window. Right click on an item in the results list and select Zoom to feature(s) to navigate to the feature on the GIS map.

Layer Selections

The left panel of the map viewer controls which predefined map layers are displayed in the viewer. You can turn layers on and off by clicking the check boxes associated with each layer. After adding or removing a layer, you may need to click the refresh icon to see the change.

Viewing and Printing Maps

You can navigate from the Oracle Utilities Work and Asset Management application to the map viewer by selecting the View Map or Print Map actions each of the following modules: Asset, Work Order, Work Order Task, Benchmark Work Order, PM Master, and Service Request.

The View Map and Print Map actions are available on the Results of Search and Main Records screens in all modules that support GIS functionality.

View Map

You can navigate from the Oracle Utilities Work and Asset Management application to the map viewer by selecting the View Map or Print Map actions from the Actions list in each of the modules that support GIS: Asset, Work Order, Work Order Task, Benchmark Work Order, PM Master, and Service Request. When you have the View GIS responsibility in your User Profile, the GIS actions are available in these modules when you are viewing the main record or the results of search screen.

As long as assets are correctly assigned to map features, the map viewer opens the correct map and pans/zooms the map to the location/feature(s) identified on the record you were viewing in Oracle Utilities Work and Asset Management.

Regardless of which Oracle Utilities Work and Asset Management module you are using when you launch the viewer, Asset data is required for the viewer to locate a specific location. If no Asset data is available on the Oracle Utilities Work and Asset Management record when the user selects View Map from the GIS menu, a large-scale map opens in the viewer. You can then use the viewer's pan, zoom and search controls to locate desired features.

If you view a map from a module other than the Asset module, it will show the mapped assets associated with that module. A map opened from the Work Order module, for example, shows the asset listed on the selected work order.

Note: If you have previously launched the viewer and it is running in the background behind the Oracle Utilities Work and Asset Management application, clicking on the View Map option will not reopen the viewer. To open the viewer when it is running in the background, click on the map viewer icon on the windows toolbar.

Print Map

When you select the Print Map menu option from any module supporting GIS, the map viewer opens the correct map, pans/zooms the map to the location/feature(s) identified on the Oracle

Utilities Work and Asset Management record, and prints the resulting map. Depending on your printer configuration, you may be prompted for printer location.

From the Service Request module, you can also select Print Map (Tax ID) to print a map of the customer's address on the service request.

Menu Options

The functional requirements of the map viewer are accessed through Oracle Utilities Work and Asset Management menu options, which display near the top of the map viewer window. Each menu has a sub-menu that lists additional options when the main menu item is selected. The following sections detail the functionality available on the sub-menus.

Planning Work

Within the GIS application, you can gather information relevant to work you need to perform on assets. For example, you can view details about Oracle Utilities Work and Asset Management Asset records, and you can view a list of Work Order, PM Master, or Service Request records associated with selected assets on the map. In this way, you will know if there are existing plans to work on the assets, or if a new Work Order record needs to be created. If a Work Order or Service Request record needs to be created, you can also do this from within the GIS application. You must already be signed on to the Oracle Utilities Work and Asset Management application in order to view Oracle Utilities Work and Asset Management records from the map viewer.

Asset

You can select from the Asset menu to create a new asset, view assets, assign and unassign an Asset ID to a map feature, and assign a parent asset.

Some menu selections may be unavailable depending on which map feature(s) are selected.

Managing Asset Assignments

After you perform work on assets to repair or upgrade equipment, you may need to modify or update asset assignments on the GIS map. For example, after repairing a broken pipe, you may want to unassign and de-activate the previous asset record, create new asset records, and assign the new asset records to each section of the broken pipe. Oracle Utilities Work and Asset Management GIS enables you to unassign, de-activate, assign, and create Oracle Utilities Work and Asset Management Asset records from the GIS application.

How to Create an Asset Record from the GIS Map

- Select a feature on the map that has not been assigned an asset ID.**

Make sure that you select only one feature, and that the feature does not already have an assigned asset. Otherwise the Create option will be greyed out.

Click on the Select Features tool and then click on the map feature you want to select.
- Select Create Asset from the Oracle Utilities Work and Asset Management Asset menu.**

The Create Asset dialog box opens.
- Enter basic information to create the Asset record.**

The system fills in the Plant field. The Plant, Record Type, Asset ID, and Asset Type fields are required. All information entered here will be included on the Asset record you create.
- Click on the Create button.**

The system confirms that the asset has been created successfully and places the Oracle Utilities Work and Asset Management Asset record in Inactive status.

The system displays a warning if the asset ID that you enter already exists.

5. Click OK.

The system asks whether you want to assign the asset to the selected feature.

6. Select Yes or No as appropriate, then click OK.

If you select Yes, the system labels the selected feature with the asset ID.

7. To view or modify the Asset record, open the Asset ID record in Oracle Utilities Work and Asset Management.

The Asset module is located in the Resource subsystem.

How to View an Asset

1. Select features on the map that have an assigned asset ID.

You can select one asset or several assets+. To select more than one asset, click on the Select Features tool icon and hold down the shift key while you click on each map feature you want to select.

2. Select View Asset from the from the Oracle Utilities Work and Asset Management Asset menu.

If you have selected only one asset in the map viewer, the Asset record. opens in the Oracle Utilities Work and Asset Management application window.

If you have selected more than one asset in the map feature, the Asset module results of search window opens, where you can select the asset record to view.

Remember that map features must have assigned asset IDs in order for them to display in the Oracle Utilities Work and Asset Management window. If you select nine map features, but only five have asset IDs, only those five will display on the results of search page.

How to Assign an Asset ID to a Map Feature

You can assign an asset to one or more features on the map, but you must assign the asset to one feature at a time.

1. Select a feature on the map that has not been assigned an asset ID.

Make sure that you select only one feature, and that the feature does not already have an assigned asset. Otherwise the Assign option will be greyed out.

2. Select Assign Asset from the Oracle Utilities Work and Asset Management Asset menu.

The Assign Asset dialog box opens.

3. Enter criteria to search for the Oracle Utilities Work and Asset Management Asset record.

You can enter search criteria in the fields in the upper portion of the window. List of Values are available.

4. Click the Search button.

Search results display in the lower portion of the window.

If you need to modify the search criteria, select the Clear button to clear the fields in the upper portion of the window, enter new search criteria, and click the Search button again.

5. Highlight the Asset record you want to assign.

6. Click the Assign button.

The system displays a message requesting confirmation.

7. Click on the Yes button to confirm.

8. Click on the OK button.

The system closes the dialog box and labels the map feature with the Asset record ID.

How to Unassign an Asset ID

1. **Select a feature on the map that has been assigned an Asset record.**
2. **Select Unassign Asset from the Oracle Utilities Work and Asset Management Asset menu.**

If an Asset record has not already been assigned to the selected feature, the Unassign option on the menu is greyed out.

The system displays a message asking you to confirm removal of the asset ID.

3. Select Yes to confirm.

The system asks if you want to change the status of the asset record to Inactive.

4. Select Yes or No as appropriate.

The system confirms that the removal is complete and removes the asset ID label from the selected feature on the map. The feature remains selected.

How to Assign a Parent Asset

Assets can have parent/child relationships with other assets. Costs associated with a child asset roll-up the asset hierarchy to the parent asset, along with other child asset costs.

1. **Select a feature on the map that has been assigned an Asset record.**
2. **Select Assign Parent from the Oracle Utilities Work and Asset Management Asset menu.**

The Assign Parent window opens.

3. **Enter the Record Type and Asset ID for the Parent Asset.**
4. **Click on the Assign button.**

The system confirms the assignment of the parent asset.

5. Click on the OK button.**Work Order**

At a minimum, Work Orders describe the work to be performed and the Asset to be worked on. You can select from the Work Order menu to create or to view existing Work Orders. Both menu options are available when at least one selected map feature has an assigned Asset ID.

How to Create a Work Order from the GIS Map

1. **Select one or more assets on the map.**
2. **Select Create Work Order from the Oracle Utilities Work and Asset Management Work Order menu.**

The system displays a message confirming the selected asset(s).

3. Click on the Yes button to create the Work Order.

The Work Order module opens showing the Work Order record created. If you selected more than one asset in Step 1, the work order will include a separate task for each asset selected.

4. **Review and update the record as necessary.**
5. **Click on the Save icon.**

6. **The work order is created with basic information, but you can update the record with additional information as necessary.**

How to View a Work Order Task for a Feature on the GIS Map

1. **Select one or more features on the GIS map.**

At least one feature must have an assigned Oracle Utilities Work and Asset Management Asset record.

2. **Select View Work Order Task from the Oracle Utilities Work and Asset Management Work Order menu.**

If only one work record is found, that record opens in the Oracle Utilities Work and Asset Management window.

If more than one corresponding record is found, a results of search window opens showing the appropriate records. matching your view request, You can then select the record you want to view.

If you want to modify your search, click on Search Options button to open the Oracle Utilities Work and Asset Management search screen, where you can edit or delete the Custom SQL statement for the current search. You can also modify your search by returning to the map viewer and selecting other map features you want to view.

You use similar steps to view Work Order Tasks, PM Masters and Service Requests from the map reader.

PM Master

PM Master records contain the cycling information used by batch processing to generate Preventive Maintenance Work Orders.

Depending on how your system is configured, you may see either one, or both, of the following options on the PM Master menu:

- View PM Master (in Oracle Utilities Work and Asset Management)
Select this option to view the full PM Master records in the Oracle Utilities Work and Asset Management application.
- View PM Master

Select this option to open an search window where you can choose to view PM Master details for the selected assets only, both selected and parent assets, or parent assets only.

How to View a PM Master

1. **Select one or more features on the GIS map.**

At least one feature must have an assigned Oracle Utilities Work and Asset Management Asset record.

2. **Select View PM Master from the PM Master menu.**

If only one PM Master is found, that record opens in the Oracle Utilities Work and Asset Management window.

If more than one corresponding record is found, a results of search window opens showing the records matching your view request, You can then select the record you want to view.

3. **Enter a search criteria.**

Use the drop down list to indicate if you want to see PM Masters for the selected assets only, selected and parent assets, or the parent assets only. You can also choose the status of the PM Masters and select an order by criteria.

4. Click on the Search button.

Details for PM Masters found display in the grid below your selection criteria.

5. Click on the Close button to return to the GIS map.

You can also click on the Print button to print the PM Master details, or the Clear button to clear the search criteria.

Service Request

Service Request records identify the problem reported, the location, and customer / caller information. Select from the Service Request menu to create a Service Request, record (add) other assets to a existing Service Request, and view a Service Request from the GIS map. From within the Oracle Utilities Work and Asset Management application, two additional actions are available from the Service Request module: View Map Tax ID and Print Map Tax ID, which show the map location of the principle property unit associated with the customer. To use the CGIS functionality for Service Requests you must launch the GIS map from the Service Request module.

How to Record Assets on a Service Request

1. Open the appropriate Service Request record in Oracle Utilities Work and Asset Management.

The Service Request module is located in the Customer subsystem.

2. Select View Map from the GIS menu.

The GIS application launches, opens the map in Data View, zooms in and selects all features with assigned assets associated to the service request. There can be zero, one or more features selected.

3. Select additional features on the GIS map with assigned asset IDs.

Make sure to hold down the Shift key as you select additional features if you want the current features to remain selected. Otherwise, the currently associated assets will be replaced with the new assets you are selecting.

4. Select Record Assets from the Oracle Utilities Work and Asset Management Service Request menu.

The system displays a message requesting confirmation.

5. Click on the Yes button.

The system records the assets on the Service Request Asset List view, dividing the percentage split equally between the assets. Any previous assets that were on this list are replaced.

How to Create a Service Request from the GIS Map

1. Select one or more assets on the map.

2. Select Create Service Request from the Oracle Utilities Work and Asset Management Service Request menu.

The system displays a message confirming the selected asset(s).

3. Click on the Yes button to create the Service Request.

The Service Request module opens showing the Service Request record created.

If you selected more than one asset in Step 1, you can open the Service Request Asset List view to see a listing of the assets included and the percentage split between assets.

4. Review and update the record as necessary.

Once the record is open in Oracle Utilities Work and Asset Management, all Oracle Utilities Work and Asset Management functionality is available. In addition to adding additional data

to the record, you can also check for duplicate service requests, adjust the percentage split between assets, and do other work as appropriate.

5. **Click on the Save icon.**

How to View a Service Request from the GIS Map

1. **Select one or more features on the GIS map.**

At least one feature must have an assigned Oracle Utilities Work and Asset Management Asset record.

2. **Select View Service Request from the Oracle Utilities Work and Asset Management menu.**

If only one service request is found, that record opens in the Oracle Utilities Work and Asset Management window.

If more than one corresponding record is found, a results of search window opens showing the records matching your view request. You can then select the record you want to view.

Searching the Map

In addition to searching for map features from within the Oracle Utilities Work and Asset Management application, you can also search for specific addresses, intersections, and parcels on the map directly from the map viewer. The search feature is particularly useful if you launch the map viewer from a link on your homepage, rather than from a Oracle Utilities Work and Asset Management asset or work record.

How to Search for an Address

1. **Select Search Address from the Oracle Utilities Work and Asset Management Search menu.**

The system opens the Search Address dialog box.

2. **Enter an exact or a partial address in the fields provided.**

You can enter a street number, street name and street suffix.

The search button remains disabled until you have entered enough information to execute the search. At a minimum, you must enter at least 3 letters of the street name. Numbers you enter in the Street number field will be found anywhere in the number string. For example, a search for “42” “tay” street will return results for “242 Taylor Street”.

3. **Click Search.**
4. **Select the address you are searching for in the Search Results box.**
5. **Click Zoom To Address to locate the address on the map.**

How to Search for an Intersection

1. **Select Search Intersection from the Oracle Utilities Work and Asset Management Search menu.**

The system opens the Search Intersection dialog box.

2. **Enter the first street name and click Search.**

The Search button remains disabled until you have entered at least 3 letters of the street name. When you click Search, the system displays search results for the street you entered.

3. **Select the street from the results list and click Locate Intersections.**

A list of intersections with crossing streets displays.

4. **Select the appropriate cross street from the intersection list.**

5. Click **Zoom To Intersection** to locate the intersection on the map.

How to Search for a Parcel

1. Select **Search Parcel** from the **Oracle Utilities Work and Asset Management Search menu**.

The system opens the Search Parcel dialog box.

2. Enter a **parcel ID** or **owners name** in the fields provided.

The search button remains disabled until you have entered enough information to execute the search.

3. Click **Search**.
4. Select the appropriate parcel or owner in the **Search Results** box.
5. Click **Zoom To Parcel** to locate the parcel on the map.

Oracle® Utilities Work and Asset Management

ESRI ArcGIS Viewer Installation and Configuration
Guide

Release 1.9.0.3

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Oracle® Utilities Work and Asset Management ESRI ArcGIS Viewer Installation and Configuration Guide, Release 1.9.0.3

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ESRI ArcGIS Viewer Installation and Configuration Guide

The ESRI ArcGIS Viewer is a web application that communicates directly with the ESRI ArcGIS Server to display an interactive map. This communication is performed using JavaScript (ArcGIS API for JavaScript) hosted by ESRI on ArcGIS Online. The GIS Viewer displays a single page with tools, the map, themes, and a menu of WAM actions. This page is coded in the ESRI3Viewer.jsp page. Within the ESRI3Viewer.jsp page are the following sections:

- **Tools:** provides operations that can be performed against the map.
- **Map:** the graphical map provided by the ESRI ArcGIS Server.
- **Themes:** Geometry Themes are the graphical representation of objects on the map.
- **Overview Map:** At the lowest zoom level (smaller objects), displays a smaller, center section of the map. At the highest zoom level (larger objects), displays a larger view of the object currently being displayed on the map. A larger view allows you to select other areas of the map quickly without having to use the navigation and/or zoom tool.
- **Menu:** : A menu, which in the case of the WAM integration is used to call operations against modules within the WAM application.

The scope of this document is the ESRI ArcGIS Viewer and does not discuss the configuration or execution of the ESRI ArcGIS Server.

Latest Certified Version

- ESRI ArcGIS 10 with Oracle Utilities Work and Asset Management Release 1.9.0.3

Customizable Options

These files can be replaced with customized versions to display different content. These are all .jsp files that must be running within a Java Application Server that supports Java Server Pages.

- **config.jsp:** contains the configurable settings used by the wamCustom.jsp program. The wamCustom.jsp program is only used for the WAM integration. These configuration options include the WAM URL, and request parameter names passed into the ESRI3Viewer.jsp URL request.

Page Configuration (*.cfg files)

You must specify a .cfg file as a HTTP parameter to the "ESRI3Viewer.jsp" file. The "ESRI3Viewer.jsp" file loads the customized settings contained within the specified .cfg file, and

configures the displayed page according to those settings. With this structure, the layout and options on the GIS Viewer page can change for different requirements or different users. Changing the cfg parameter will change the cfg file loaded.

For example, the URL to the GIS Viewer may look like this:

`http://server:8080/viewer/esri3viewer?tgt=Main&cfg=esri3_default.cfg`

When the GIS Viewer is integrated within the WAM application, the url and cfg files are handled by the architecture. The cfg file is based on the WAM Business Rule settings or User Profile settings.

These settings can be specified in the .cfg file:

- **mapService:** the URL to the ArcGIS Server's mapservice. For example, `http://server:8080/arcgis/rest/services/StPeteMapService/MapServer`
- **centerX:** The location of the center of the map, along the latitudinal axis.
- **centerY:** The location of the center of the map, along the longitudinal axis.
- **maxWidth:** The maximum width of the map display on the GIS Viewer page in pixels.
- **maxHeight:** The maximum height of the map display on the GIS Viewer page in pixels.
- **synergenIDLabel:** The label to be used for the SYNERGENID column added to each associated spatial database table.
- **themeGroup:** This is how Geometry Themes are grouped together, and allows multiple themes to be enabled or disabled. Within each themeGroup are one or more themes. The name of the themeGroup is also the Label displayed within the Themes section of the GIS Viewer page. The "expand" attribute sets whether or not the enclosed themes are displayed by default. If not displayed, the user will have to click on the themeGroup label to display the themes.
- **themes:** Geometry Themes to display on the map. Enabling these themes will display graphical images onto the map, based on the styles defined in the map document. The "name" attribute is the label used to describe the theme. The "lay_id" is the layer id defined by the mapservice. The "enabled" (or displayed) and "selectable" attributes correspond to the default value of the check boxes displayed next to each theme. If "enabled" or displayed, the theme images are displayed. If "selectable", users can drag the GIS Selection tools to select specific items on the map. The "attributeFields" is a comma separated list of column fields of the theme. This list controls the displayed information for each theme in Results of Search and View Attributes dialog window.
- **mapLOD:** Specifies the Level of Details available in the map. This limits the zoom levels of the map image.

Application Integration Configuration

config.properties

To integrate with the WAM application, the GIS Viewer uses a configuration file named config.properties with the "sia_integration_url" as the URL to the WAM application. This config.properties file must be included within the classpath of the application.

Sample Configuration

This document is intended to describe a sample configuration and deployment for the ESRI ArcGIS Viewer application. It is NOT intended to be a comprehensive GIS User's guide or a GIS Training document for implementation teams or users. Clients wanting to upgrade from an existing GIS integration to the ESRI ArcGIS application integration must configure the ESRI

ArcGIS Viewer according to customer requirements and preloaded map symbology standards data. Please use this document as a guideline.

Edit the Configuration File

In this step you edit the configuration file used by the map viewer to display the Oracle Utilities Work and Asset Management GIS information.

Note the location of the config file depends on whether you are on the Oracle Application Server (OAS) or a WebLogic server:

- **On OAS:** the cfg file needs to be stored in the config directory. In a typical Oracle Utilities Work and Asset Management folder structure the correct "config" folder is found in SIA web application folders. You might also find this folder by searching for "default.cfg".
- **On WebLogic:** the cfg file needs to be stored in the WEB-INF\classes directory.

If you already have a file in the configuration folder, you should copy it and make edits. If there is no default configuration file, the following text provides a sample.

Note: This is sample syntax to be used if you create a Thematic Map. Make the appropriate changes to represent the naming conventions used for you application:

- **mapServiceurlMapView:** This value must be changed to the correct URL related to the ArcGIS Server's map servicemapviewer.
- **Datasource:** This is the name of the datasource you created when configuring the MapViewer.
- **baseMap:** This is the name of the username.basemap defined in the database. It is recommended that the same naming convention be used as the MapCache below.
- **mapCache:** This is the datasource.basemap defined in the Mapviewer. It is recommended that this be the same naming convention as the one used for the baseMap above.
- **centerX, centerY, and SRID:** This value should be the center coordinate for a location in the map and the correct SRID.
- **Theme Name, lay_id, and attributeFields:** One theme name entry should be made for each theme you want to appear in the viewer. You name the theme and then point to the username.theme_name created in the database using MapBuilderinput the layer id for the theme as defined in the map service. The value for attributeFields should be a list of selected column fields in the theme's table, separated by a comma.
- **mapLOD:** One detail level entry should be made for each Level of Detail you want to be available in the zoom levels of the map in the viewer. (You can get the available Levels of Detail by opening the mapservice URL in a browser and it's under the Tile Info section of the page.)

```
<?xml version="1.0" encoding="UTF-8"?>
<config>
  <map
    mapService="http://localhost:7777/arcgis/rest/services/StPeteM
    apService/MapServer"
    centerX="291278.12000005" centerY="1236022.03000005"
    maxWidth="800" maxHeight="600" synergenIDLabel="WAM
    Feature"/>
    <themeGroup name="Base" expand="Y">
      <theme name="Streets" lay_id="10" enabled="Y"
        selectable="N" attributeFields="FID,GID"/>
    </themeGroup>
  </map>
</config>
```

```

        <theme name="Parcels" lay_id="11" enabled="Y"
selectable="N" attributeFields="FID,GID,SDF_NAME"/>
        <theme name="Gravity" lay_id="8" enabled="Y" selectable="N"
attributeFields="FID,GID"/>
        <theme name="Defects" lay_id="1" enabled="Y" selectable="N"
attributeFields="FID,GID"/>
    </themeGroup>
    <themeGroup name="Water" expand="Y">
        <theme name="Mains" lay_id="7" enabled="Y" selectable="N"
attributeFields="FID,GID,COMMENTS"/>
        <theme name="Watsym" lay_id="3" enabled="Y" selectable="N"
attributeFields="FID,GID"/>
        <theme name="Potable" lay_id="5" enabled="Y" selectable="N"
attributeFields="FID,GID"/>
        <theme name="Valves" lay_id="2" enabled="Y" selectable="Y"
attributeFields="FID,GID"/>
    </themeGroup>
    <themeGroup name="Sewer" expand="Y">
        <theme name="Pipes" lay_id="9" enabled="Y" selectable="N"
attributeFields="FID,GID,PIPE_ID"/>
        <theme name="Manholes" lay_id="4" enabled="Y"
selectable="Y" attributeFields="FID,GID,NODE_ID,SYNERGENID"/>
        <theme name="Sewserv" lay_id="6" enabled="Y" selectable="N"
attributeFields="FID,GID,COMMENTS"/>
        <theme name="Service Point" lay_id="0" enabled="Y"
selectable="N" attributeFields="FID,GID"/>
    </themeGroup>
    <mapLOD>
        <detail level="0" resolution="264.583862501058"
scale="1000000.0"/>
        <detail level="1" resolution="132.291931250529"
scale="500000.0"/>
        <detail level="2" resolution="66.1459656252646"
scale="250000.0"/>
        <detail level="3" resolution="33.0729828126323"
scale="125000"/>
        <detail level="4" resolution="16.9333672000677"
scale="64000"/>
        <detail level="5" resolution="8.46668360003387"
scale="32000"/>
        <detail level="6" resolution="4.23334180001693"
scale="16000"/>
        <detail level="7" resolution="2.11667090000847"
scale="8000"/>
        <detail level="8" resolution="1.05833545000423"
scale="4000"/>
        <detail level="9" resolution="0.529167725002117"
scale="2000"/>
        <detail level="10" resolution="0.264583862501058"
scale="1000"/>
    </mapLOD>
</config>

```

Save this file and test the viewer configuration file.

Edit the config.jsp File

This file can also be found in the SIA Mid-Tier folders on the application server called CUSTOM. It is important to find the correct configuration file as there are several folders that are similar. The information is found at the bottom of the correct config.jsp file.

Sample file location: D:\synergen\prod1715x\synergen\ESRI3Viewer\custom

Modify the following as needed:

-
- **configAssetField:** This attribute is used to define the Work and Asset Management column used as the GIS Feature cross-reference. It should always be Asset ID as shown here.
 - **configWODesc, configWRDesc, configSRDesc, configSRType, and configSRProblemCode:** These attributes are the default values used when creating records in WAM.

GIS SETUP Business Rule

The GIS SETUP business rule must be configured to point to the ESRI ArcGIS Viewer. There are several parameters in this rule, but only two apply to the ESRI ArcGIS Viewer.

- **ACTIVATED GIS OPTION** - this parameter must contain ESRI3 in the first value column (the key_value column in the database).
- **ESRI3** - this parameter must contain a string pointing to the configuration file created above. No file path is required in this setting. Enter the keyword string “cfg=” followed by the filename of the configuration file.

Configuring these business rule settings define the “default” viewer for the GIS integration. These settings are used unless the User Profile data is configured to override the defaults.

Configuring the User Profile

You may also choose to only make this view available to specific users. You accomplish this by entering the same information in the User Profile module.

The same two parameters discussed in the Business Rule setup are simply added to the user profile data.

The same feature may also be used to point a specific user to the same GIS Option but to a different configuration file. This allows you to provide different maps to different user communities.

By directing a user to a new configuration file, you may also manage which layers are available to the user. For example, you may have the same map, but one user is only allowed to see Streets and Parcels, while another user might have access to Water and Wastewater infrastructure.

Maps and Theme UI options are all managed using the configuration files.

Add Responsibility Functions

All users who will require access to the ESRI ArcGIS Viewer must have the following responsibility functions added to their user profile:

- **ESRI3 VIEWER** - Added responsibility function to allow access to the ESRI3 Viewer.
- **VIEW GIS** - Added responsibility function to allow access to the print and view GIS actions available in modules. (Must be added regardless of which viewer is used.)

Set Up a GIS Server in an OC4J Instance

(Sample from Oracle AS Documentation) - Deploying to 10.1.3

To deploy your UIX application to a 10.1.3 application server you must create an ear file using JDeveloper and deploy the file to the OC4J instance using the Application Server Control. To generate the ear file, right-click the ADFToyStore.deploy profile in the application navigator of

your JDeveloper 10.1.2 install and choose Deploy to Ear file from the context menu. An ADFToyStore.ear file will be created in the <Project directory>\adftoystore\deploy directory. Deployment directly from JDeveloper 10.1.2 to the 10.1.3 application server is not supported.

Deploying the Ear File

Deploy the ear file to the 10.1.3 OC4J instance by using the Application Server Control by opening <http://<server name>:<port>/em> in a web browser.

1. **After logging into the administration console, click the Applications tab and click Deploy.**
2. **In Step 1 of 3, choose the Archive is present on local host. Upload the archive to the server where Application Server Control is running radio button.**
3. **Click Browse and use the file system navigator to select the ear file in the <Project directory>\adftoystore\deploy directory.**
4. **Click Next. In Step 2 of 3, set the Application Name to ADFToyStore, accept all defaults, and click Next.**
5. **Accept all of the defaults in Step 3 of 3 and click Deploy.**
After the deployment completes click **Return** and you will be forward back to the main screen of the Application Server Control. The ADFToyStore application should have a green arrow under the status column.
6. **Test the application by accessing the following url via a web browser:**
<http://<server name>:<port>/ADFToyStore>.

Oracle® Utilities Work and Asset Management

ESRI ArcGIS Viewer User Guide

Release 1.9.0.3

July 2011

Oracle® Utilities Work and Asset Management ESRI ArcGIS Viewer User Guide,
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ESRI ArcGIS Viewer User Guide

The ESRI ArcGIS map viewer provides a means of navigating between the Oracle Utilities Work and Asset Management application and external GIS data. Using the map viewer you can view and manipulate asset and maintenance information based on geographic location.

Note: Before the map viewer can be used, your system administrator must load a GIS map, configure the GIS Setup business rule, and assign user responsibilities. Please refer to the [ESRI ArcGIS Viewer Installation and Configuration Guide](#) for further instructions.

New Features for Release 1.9.0.3

Changes in these releases include the following:

- Modified references to ESRI2Viewer to ESRI3Viewer for the ESRI ArcGIS Viewer to avoid confusion with ESRI ArcIMS map viewer. This affects the setting in the GIS Setup business rule and the responsibility function for ESRI3.

Map Viewer

Open the map viewer by selecting ESRI GIS Viewer from your home page Actions list. In addition to the menu options, the map viewer window includes the map display, a toolbar consisting of pan and zoom controls, and a theme selections panel that controls which map features display.

You can also open the viewer by selecting [View GIS Map](#) or [Print GIS Map](#) from one of the module that is integrated with GIS.

Tools

Click on the icons to select the following map image controls from the Tools component. Hover over each icon to see the description of the tool.

Drag Map - Shift the map in the desired direction. Click the tool then click and hold the mouse over the map while moving it in the desired direction.

Zoom In/Zoom Out - Select the tool then click the map to zoom in or out. You can also use the slider on top of the map to zoom in and out.

Select/Select Rectangle/Select Circle/Clear Selection - Use the regular select tool to select one object on the map. You can also use the rectangle or circle to draw an area on the map to select objects within that area. You must have at least one theme checked to select objects on the map. Clear selection simply deselects all of the objects on the map.

Refresh Map - Redraw the map. Note that using this refresh tool or the browser refresh will reset the map with all themes selected again.

Print Map - Formats the map for printing and sends directly to your printer.

Search - Selecting the Search icon opens a dialogue box allowing you to enter search criteria. You can search by Theme, Field Name and/or Value. Execute the search and the system finds and selects objects on the map matching your criteria.

View Attributes - Displays a summarized list of the selected objects. Use this tool to see which assets are selected without leaving the GIS screen. The list of selected objects is separated by tabs based on layer. Note that you can scroll down to see more items in the list.

Previous Zoom - Returns map to the last zoom area.

Previous Center - Returns map to the last position where it was centered.

Fit Map - Resizes the entire map component to fit your screen.

Smaller Map - Resizes entire map component to a smaller area.

Themes

Select themes to display elements on the map. Each type of theme is represented by a different symbol or color. Click objects on the map to display attributes of the object.

Select and deselect check boxes for themes to display or remove them from the map. The first column is checked to display the object, while the second column is checked to select the objects.

Select or deselect the first box in each column to select or deselect all.

Overview

The Overview component shows a thumbnail representation of the overall map. You can move the selected area on the overview to reposition the map.

Accessing Maps from Records

The main link to the ArcGIS Viewer is located on the home page, however, the viewer is best used when it is launched from an Asset, Work Order, Work Order Task, PM Master, or Service Request record. Open the appropriate record then select View GIS Map from the Actions list.

You can also search for multiple Assets then launch the ArcGIS Viewer from the results of search screen. The resulting map will show all of the Assets from the results list.

Search for assets then select View GIS Map from the Actions list on the results of search screen to launch the map showing all of the assets resulting from the search.

From the Service Request record, select View Map (Tax ID) to view a map of the customer's address on the service request.

Use similar steps to view maps from Work Order, PM Master and Service Request. The option to Print from these modules in the same manner is available from the Actions list as well.

Viewing Records from Map Objects

If you are looking at the map viewer you can select from the Menu to see which actions are available for each item. Select one or multiple objects on the map then click View for Asset, PM Master, Service Request, Work Order or Work Request and the system opens a results of search screen in the designated module listing all of the related records referencing the selected objects.

The objects must already be assigned to GIS features through your system configuration before they can be viewed in this way. Please contact your system administrator for more information.

Creating Records from Map Objects

To create new PM Masters, Service Requests, Work Orders or Work Requests you can select one or multiple objects on the map then click the desired menu item and select Create.

When you create new records from GIS the system uses the Default Name in the user profile of the logged on user to populate the Dispatcher, Requestor, and Initiator fields on the Service Request, Work Order and Work Request, respectively.

Work Request - The system creates one record for the selected map object. You can only create one Work Request at a time.

Service Request - The system creates one Service Request record with every selected map object listed in the Assets view.

Work Order - When you select Create (multi tasks) the system creates one Work Order record with a separate task for each selected map object. Selecting Create (single task) creates one Work Order record with one task listing all selected assets in the Asset List.

Recording Assets

When you launch the ArcGIS Viewer from a Service Request record, you can select one or more Assets on the map the select Record Assets from the Menu under Service Request. The system adds the selected assets to the Service Request that you were viewing when you launched the viewer.

Oracle® Utilities Work and Asset Management

Intergraph 1 (Geomedia) Installation and Configuration Guide

Release 1.9.0.3

July 2011

Oracle® Utilities Work and Asset Management Intergraph 1 (Geomedia) Installation and Configuration Guide, Release 1.9.0.3

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Intergraph GeoMedia Installation and Configuration Guide

This application supports all Windows based operating systems including Windows 98, Windows ME, Windows 2000 (SP3+), Windows XP Home, Windows XP Professional (SP1+), and Windows Server Editions.

Prerequisites

The Intergraph GeoMedia Web Enterprise integration requires the following components.

- Oracle Utilities Work and Asset Management V1.7.10 or greater
- Intergraph GeoMedia Web Enterprise 4.0 CD
- Install codes for Intergraph GeoMedia Web Enterprise 4.0
- Map Viewer files
- Map Viewer database scripts to create Business Rules, Custom
- Menus, Views, and Stored Procedures (\COMMON\SCRIPTS folder)
- Intergraph GeoMedia GIS data

Installation

Please read all the instructions before beginning.

1. IIS Must be installed and running.

See the SPL Web Installation Guide or the appropriate Microsoft documentation for information about installing IIS.

2. Install Intergraph GeoMedia Web Enterprise 4.0.

Refer to the GeoMedia Web Enterprise 4.0 documentation for instructions.

3. Create the GIS directory under wwwroot.

You can also create the GIS directory in a different location – requires virtual directory or new web site.

4. Create cache directory ..\GeoMedia Web Enterprise\cache.

5. Create log directory ..\GeoMedia Web Enterprise\log.

6. Setup the IIS Default Web Site Properties.

Under HTTP Headers - MIME Type

ADD

.cgm
image/cgm
Read & Run Script

7. Create the IIS Default Web Site Cache Directory.

Create cache Virtual Directory
Points to cache directory above
Read

8. Configure GeoMedia Web Enterprise with the Administrator.

Under TOOLS..EDIT SYSTEM SETTINGS
Set cache as above 3
Set log as above 4

9. Check Current Time on Database and Web Server.

10. Check for the newest GeoMedia Hot Fix.

11. Check USR_ and WAM_ users under Component Services.

12. Copy the Map Viewer Files to the GIS directory.

13. Create a "WAM" DSN for the desired WAM database.

14. Establish GIS Data Sources and Format.

If you are configuring for a client:

GeoMedia compatible GIS data sources and format must be established.

If you are configuring for demo:

Create a directory c:\GISData

Copy demo data to c:\GISData

Open map definition file (.mdf) with the Administrator tool and correct directory changes

Save the map definition file.

15. Update CONFIG.HTM.

MAP SIZE - Default is OK

INITIAL MAP POSITION - Set specific to GIS data

COMPILED MAP DEFINITION FILE - Set specific to GIS data

SERVER CACHE DIRECTORY - Set same as above cache directory

SYNERGEN DATABASE DSN - Set to same as above

FIELD NAME FOR ASSET LINK - Set specific to GIS data

NUMBER AND NAMES OF SELECTABLE LAYERS - Set specific to GIS data

INTENSITY COLORS - Default is OK

INTENSITY RANGE - Default is OK

16. Run oopcomp.asp on local machine (WEB SERVER).

This will allow IIS to run out of process components.

17. Restart services (www, IIS, GeoMedia Web Enterprise).

18. Set GIS Business Rule.

Set Viewer key in the GIS Setup Business Rule to specify the INTERGRAPH1 option and viewer.

ACTIVATED GIS OPTION – INTERGRAPH1

INTERGRAPH1 VIEWER – the path and file name of the map viewing tool.

Example: <http://servername/website/viewername/SynergenMapView.asp?>

If necessary, users can override the business rule settings in their user profile.

19. Add the View GIS function to all responsibilities requiring GIS access.

Oracle® Utilities Work and Asset Management

Intergraph (Geomedia) User Guide

Release 1.9.0.3

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Intergraph Geomedia User Guide

The Intergraph Geomedia GIS map viewer provides a means of navigating between the Oracle Utilities Work and Asset Management application and external GIS data. Using the map viewer you can view and manipulate asset and maintenance information based on geographic location.

Note: Before the map viewer can be used, your system administrator must load a GIS map, configure the GIS Setup business rule, and assign user responsibilities. Please refer to the [Intergraph GeoMedia Installation and Configuration Guide](#) for further instructions.

Viewing and Printing Maps

You can navigate from the Oracle Utilities Work and Asset Management application to the map viewer by selecting the View Map or Print Map actions each of the following modules: Asset, Work Order, Work Order Task, Benchmark Work Order, PM Master, and Service Request.

The View Map and Print Map actions are available on the Results of Search and Main Records screens in all modules that support GIS functionality.

View Map

When you select the View Map action from any module supporting GIS, the map viewer opens the correct map and pans/zooms the map to the location/feature(s) identified on the you were viewing in Oracle Utilities Work and Asset Management.

As you move the mouse pointer over a feature on the map, the feature is highlighted and a pop-up label displays the Asset number for the object if one has been assigned. The map viewer includes various controls for manipulating the map image and selecting or deselecting assets.

Regardless of which Oracle Utilities Work and Asset Management module you are using when you launch the viewer, Asset data is required for the viewer to locate a specific location. If no Asset data is available on the Oracle Utilities Work and Asset Management record when the user selects View Map from the GIS menu, a large-scale map opens in the viewer. You can then use the viewer's pan, zoom and search controls to locate desired features.

If you view a map from a module other than the Asset module, it will show the mapped assets associated with that module. A map opened from the Work Order module, for example, shows the asset listed on the selected work order.

If you have previously launched the viewer and it is running in the background behind the Oracle Utilities Work and Asset Management application, clicking on the View Map option will not reopen the viewer. To open the viewer when it is running in the background, click on the map viewer icon on the windows toolbar.

Print Map

When you select the Print Map menu option from any module supporting GIS, the map viewer opens the correct map, pans/zooms the map to the location/feature(s) identified on the Oracle Utilities Work and Asset Management record, and prints the resulting map. Depending on your printer configuration, you may be prompted for printer location.

Menu Options

Menu options display on the left side of the map panel below the controls. Each menu has a sub-menu that lists additional options when the main menu item is selected.

Asset

You can select from the Asset menu to assign an Asset ID to a map feature, unassign an Asset ID, create a new Asset record, and view Assets from within the map viewer.

How to Assign an Asset ID to a map feature

- Select the map feature you want to assign an Asset ID to.**
You can do this by double clicking on the feature on the map, or by using the select controls described later in this document. You can skip this step if the appropriate feature has already been selected.
- Select Asset from the Options menu.**
The viewer opens the Asset Submenu.
- Select Assign from the Asset menu.**
The map viewer displays the Assign Asset Search window.
- Enter your search criteria and click on the Search button.**
The viewer opens the Assign Asset Results of Search window listing the Assets matching your search. If necessary, you can click on the Back button to return to the Assign Asset Search window, the Print button to print the list of Assets, or the Close button to return to the map view.
- Click the radio button in the ASSIGN column for the Asset ID you want to assign.**
You may need to scroll down the list to locate the Asset ID you want to assign. When you click on a radio button, the viewer opens a confirmation message asking if you want to assign the Asset.
- Click on the Yes button to Assign the Asset.**

How to Unassign an Asset ID

- If necessary, select the map feature you want to remove the Asset ID from.**
- Select Unassign from the Asset menu.**
The viewer opens the Unassign Asset window.
- Click on the Unassign button.**
- In the confirmation box, click on the Yes button to unassign the Asset ID.**

How to Create an Asset

- Select Create from the Asset menu.**
The viewer opens the Create Asset window.
- Complete the appropriate fields on the Create Asset window.**

3. **Click on the Create button.**
4. **In the confirmation box, click the OK button.**
The system creates a basic Asset record for the item selected. The record can later be updated within the Oracle Utilities Work and Asset Management application to add account, criticality, and other Asset information.

How to View an Asset

1. **If necessary, select the appropriate Asset(s) on the map.**
You can skip this step if the Asset is already selected.
2. **Select View from the Asset menu.**
The viewer opens a window showing basic information about the selected Asset.
3. **Click on the Asset ID to open a window showing Additional Data for the Asset.**
4. **Click the Close button to return to the map display.**

Work Order

At a minimum, Work Orders describe the work to be performed and the Asset to be worked on. You can select from the Work Order menu to create or to view existing Work Orders.

How to Create a Work Order

1. **Select the Asset(s) from the map you want to include on the Work Order.**
You can use the Select Box tool to quickly select all assets in a map area.
2. **Select Create from the Work Order menu.**
The viewer opens the Create Work Order window.
3. **Enter a description of the work to be done and click on the Create button.**
4. **In the confirmation box, click on the Yes button to create the Work Order.**
The viewer opens a new window verifying the number of the new Work Order. This Work Order can now be viewed in the map viewer or within the Oracle Utilities Work and Asset Management application.

How to View a Work Order

1. **With the appropriate Asset(s) selected, select View from the Work Order menu.**
The viewer opens the View Work Order selection window.
2. **Enter search criteria for the Work Order you want to view.**
Click on the down arrows to select valid options from drop-down lists. The drop-down list for Selected Assets includes all the Assets selected from the map. You can search for Work Orders for this entire group of Assets or select an individual Asset from the list. Mark the Options check boxes if you want to include Work History or a map showing Intensity Ranges in your search.
3. **Click on the Search button.**
The Viewer opens the View Work Order results window. You can click on the Task number to display More Information about the Work Order, including Account information and whether the Task has Safety, ISO, Health or Environmental implications.
4. **Click the Close button to return to the map display.**

How to View Work Order using Intensity Mapping

1. **Select the appropriate Asset(s) on the map display.**

2. **Select View Work Order or View Service Request from the Oracle Utilities Work and Asset Management menus.**

The viewer opens either the View Work Order or the View Service Request selection window.

3. **Check the Show Intensity Map box under Options.**

4. **Define the ranges you want to display.**

As you adjust the values for Range 2, the upper value of Range 1 and the lower value of Range 3 adjust accordingly when you click outside the box. Each range will display in a different color on the map.

5. **Click on the Search button.**

The viewer opens the view results window showing both the standard View Work Order table and the Intensity Map.

If you want to refine the Intensity ranges on this map, click on the Back button to return to the previous screen and make the necessary adjustments in the range definitions. Then click on the Search button to redisplay the map.

PM Master

PM Master records contain the cycling information used by batch processing to generate Preventive Maintenance Work Orders. Select from the PM Master menu to view PM Masters for the selected Asset(s).

How to View a PM Master

1. **If necessary, select the appropriate Asset(s).**

2. **Select View from the PM Master menu.**

The Viewer opens the View PM Master selection window.

3. **Enter any appropriate search criteria and click on the Search button.**

From the Selected Assets drop-down list, you can select all of the Assets selected from the map or an individual Asset. You can also enter PM Master Status and Order By selections.

When you click on Search, the viewer opens the View PM Master results of search window containing information about the PM Masters matching your search criteria.

4. **Click on the Close button to return to the Map view**

Service Request

Service Request records identify the problem reported, the location, and customer / caller information. Select from the Service Request menu to create a Service Request, record (add) other assets to a existing Service Request, and view a Service Request.

How to Create a Service Request

1. **If necessary, select the appropriate Asset(s).**

2. **Select Create from the Service Request menu.**

The viewer opens the Create Service Request window.

3. **Enter information necessary to describe the Service Request.**

In addition to a description of the problem, you can select a Service Request type and Problem Code from the drop-down lists.

4. **Click on the Create button.**

5. **In the confirmation box, click on OK to create the Service Request record.**

The Viewer opens a new window showing the number of the Service Request created. The Service Request can now be viewed in the Oracle Utilities Work and Asset Management Map viewer or in the Oracle Utilities Work and Asset Management application.

How to View a Service Request

1. **If necessary, select the appropriate Asset(s).**
2. **Select View from the Service Request menu.**
The viewer opens the View Service Request selection window.
3. **Enter information required to describe the Service Requests you want to view.**
You can select Request type, Assets and Status from the drop-down lists. Check the Show Intensity box and define the ranges if you want to use intensity codes in your search. See the discussion on using Intensity Mapping with Work Orders and follow similar steps for viewing and Intensity Map for Service Requests.
4. **Click on the Search button**
The viewer opens the View Service Request results window showing information about the Service Requests matching your search.

How to Record Assets on a Service Request

1. **Launch the viewer from the appropriate Oracle Utilities Work and Asset Management Service Request record.**
This establishes which Service Request you want to record assets for.
2. **In the map display, select the Asset(s) to add to the Service Request.**
3. **Select Record Assets from the Service Request menu.**
The viewer opens a window showing the Service Request number and selected Asset(s).
4. **Click on the Record button if the displayed information is correct.**
The viewer opens a new window confirming that the Assets have been recorded.

Map Viewer Controls

The map viewer provides basic GIS map viewing functionality but does not attempt to replicate the full map viewing capabilities of the GeoMedia or GeoMedia Professional desktop application.

In addition to the menu options, the map viewer includes the map display panel, a control panel consisting of pan and zoom controls and a toolbar, a pop-up menu, and layer selections that control which map features display.

Hover the cursor over each tool to reveal its functionality.

Control Panel

Click on the icons to select the following map image controls from the Control Panel.

Pan (Up, Up-Right, Right, Down-Right, Down, Down-Left, Left, Up-Left) - Use this function to modify map coordinates to shift the map in the desired direction. When you click on one of the arrow icons, the map moves in the direction selected.

Fit - Redisplays the map with its original coordinate values, fitting the entire map into the display.

Zoom In - Modifies map coordinates to produce a zoomed in (larger scale) map about the current center point.

Zoom Out - Modifies map coordinates to produce a zoomed out (smaller scale) map about the current center point.

Select Box - When you click the Select Box and move the mouse pointer to the map, the mouse pointer changes to a pencil. Click and drag the pencil to draw a box around the map items/assets you want to select. (Server performance may affect the ability of this feature.)

Clear Selected - Clears the selected items/assets.

Zoom - Modifies map coordinates to produce a zoomed in map about the current center point.

Zoom Selected - Modifies map coordinates to produce a map zoomed in to the selected items.

Attributes - Click on the Attributes icon to view attribute data for all selected map features. Use the scroll bars to view all the data contained in the display

Intensity - Click to use Intensity Mapping to display assets based on the current Oracle Utilities Work and Asset Management Results of Search context. This enables the more powerful search capabilities of the Oracle Utilities Work and Asset Management application to be used to identify features for Intensity Mapping. After performing a Oracle Utilities Work and Asset Management search, launch the viewer from the Results of Search screen and click on the Intensity Map icon. The viewer opens a window where you define the ranges used for the three available colors. The Intensity Map colors are defined system-wide by the administrator.

Print - Prints the map.

Refresh - Refreshes the map display.

Query - You can use the Query function to search for GIS data. Click on the Query icon to display the Search Map window where you can build a search query by entering search criteria and clicking on the Add to Query button. You can build a complex query by clicking on a Boolean operator (and, or, not) or parenthesis button to add those features between each part of the query.

When you are finished building your query, click on the Execute button to execute your search. The viewer opens a results window showing the number of features found matching your search and highlights them on the map.

Pop-Up Image Controls

Right click anywhere on the map to display the menu, then click on the menu item to select the desired functionality. Many of the selections on the pop-up menu duplicate functions also available on the Control Panel. The Image Controls only manipulate the image. No geo-spatial or database changes result from the following functions.

Refresh - Reload the image file.

Fit All - Redisplay the image at its original size.

Zoom Box - Use a drag box to zoom the image to an area on the map.

Zoom In - Zoom image in keeping current center point.

Zoom Out - Zoom image out keeping current center point.

Magnify - A magnified view window displays an enlarged view of the current cursor position. You can adjust the magnification ratio and use pan controls.

Text Magnification - See Redline tools.

Pan - Grab and move the image.

Redline - Opens a panel of basic drawing tools that can be used to annotate the map. Annotations you add can be printed with the map.

Copy to Clipboard - Copies the entire window or a specified region to the Windows Clipboard.

Print - Print the image. You are prompted for printer location.

Save - Saves the map image as a .CGM file.

About - Help About

Layer Selections

The Layer Selection radio buttons control which predefined map layers are displayed in the viewer. The user can turn layers on and off by clicking the radio buttons associated with each layer. After adding or removing a layer from the display, click the refresh icon to see the change.