GE VERNOVA

Asset Performance Management

APM Classic

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Maximo Adapters

Contents

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Chapter 1

Overview

Topics:

Overview of the Maximo Adapters

The APM Connect Maximo Adapters allow you to extract, transform, and load data between your Maximo system and your APM system.

Chapter 2

Data Extraction Jobs

Topics:

Data Extraction Jobs

The extraction adapters allow you to extract data from your Maximo system and import it into your APM system. To execute an adapter, you must configure the appropriate parameters in the context file. After the context file is configured, you must run the Adapter job in the APM Connect Administration Center, and then your data is extracted, transformed, and loaded into APM.

There are four jobs that can be used to extract data from Maximo and load data into APM.

- Maximo_Asset: Loads Maximo Asset records to APM as Equipment records.
- Maximo_Location: Loads Maximo Location records to APM as Functional Location records.
- Maximo_WorkHistory: Loads Maximo Work Order records, Service Request records, and failure records as APM Work History and Work History Detail records.
- Maximo_Master_Interface: Can be used as a wrapper job to run all of the extraction jobs simultaneously.

As a APM user, after the adapter job runs, you can use standard APM tools (for example, Search Tool) to access the records that were created automatically.

Details: Extracting Equipment Data

When the Equipment job is run, for each asset in the Maximo system that meets the criteria defined in context file, a corresponding Equipment record will be created in APM database. In addition, if that Maximo asset has a parent asset or location, APM Equipment record will be linked automatically to a parent record belonging to the Equipment family or the Functional Location family, as appropriate.

Note: If an asset is deleted in the Maximo system after an Equipment record has already been created for it in the APM system, rerunning the Equipment Adapter job will not delete the APM Equipment record.

Details: Extracting Functional Location Data

When the Functional Location Adapter job is run, for each location in the Maximo system that meets the criteria defined in the context file, a corresponding Functional Location record will be created in the APM database. In addition, if that Maximo location has a parent asset or location, the APM Functional Location record will be linked automatically to a parent record belonging to the Equipment family or the Functional Location family, as appropriate.

Notes:

- The Functional Location Extraction Interface will not extract locations of the type COURIER or LABOR. Additionally, store room functional locations are not extracted.
- If an asset is deleted in the Maximo system after a Functional Location record has already been created for it in the APM system, rerunning the Functional Location Extraction Interface will not delete the APM Functional Location record.

Details: Extracting Work Orders

When the Work History Job is run, for each Work Order in the Maximo system that meets the criteria defined in the scheduled item, a corresponding Work History record will be created in the APM database. Each Work History record will be linked to one Equipment or Functional Location record identifying the asset or location against which the Maximo Work Order is written.

If the Work Order is written against a location, the Work History record will be linked to a Functional Location record, and the Location ID field in the Work History record will be populated automatically with the Location ID of that Maximo location.

If the Work Order is written against an asset, the Work History record will be linked to an Equipment record, and the Equipment ID field in the Work History record will be populated automatically with the Location ID of that Maximo asset. In addition, if that Maximo asset has a parent location, the Work History record will also be linked to a Functional Location record representing that parent Maximo location. The Location ID field in the Work History record will also be populated automatically with the Location ID of that parent Maximo location.

Details: Extracting Service Requests

When the Work History Job is run, for each Service Request in the Maximo system that meets the criteria defined in the scheduled item, a corresponding Work History record will be created in the APM database. Each Work History record will be linked to one Equipment or Functional Location record identifying the asset or functional location against which the Maximo Service Request is written. Specifically:

If the Service Request is written against a location, the Work History record will be linked to a Functional Location record, and the Location ID field in the Work History record will be populated automatically with the Location ID of that Maximo location.

If the Service Request is written against an asset, the Work History record will be linked to an Equipment record, and the Equipment ID field in the Work History record will be populated automatically with the Location ID of that Maximo asset. In addition, if that Maximo asset has a parent location, the Work History record will also be linked to a Functional Location record representing that parent Maximo location. The Location ID field in the Work History record will also be populated automatically with the Location ID of that parent Maximo location.

Details: Extracting Work History Details

When the Work History Job is run Work Order and Service Request failure information is extracted from your Maximo system into your APM system as Work History Detail records.

Note: If a Work Order does not have any failure information, a Work History Detail record will not be created.

Create Maximo Work Orders or Service Requests

About This Task

Important: You can only create either a Work Order or a Service Request in Maximo from APM. You can not create both at the same time, so you must configure the context file to designate which to create.

Note: The following instructions assume that the **Create Work Request** field exists on the baseline datasheets for the supported Recommendation families. This field exists on the default datasheets in the baseline APM database, so these instructions assume that they have not been removed by an administrative user.

Procedure

1. Create a new or open an existing Recommendation record

2. If the Recommendation records is not already linked to the Equipment or Functional Location record that represents the equipment or location for which you want to create a Maximo Work Order, link the records
3. Select the appropriate datasheet for the Recommendation record.
4. Enter values into the fields as desired to provide information about the recommended action.

   Note: The value in the Target Completion Date field must be a date other than the current date.
5. Select the **Create Work Request?**.
6. Select  .

   The record is saved.

Results

After you save the recommendation record the following occurs:

1. A Work Order or Service Request is created in the Maximo system.
2. The **Work Request Reference** field is populated with the ID of the corresponding Work Order or Service Request.
3. After the **Work Request Reference** field is populated, the **Create Work Request** field becomes disabled.

Note: If a Work Order could not be created for any reason, a message appears, describing the problem. You will be unable to save the Recommendation record until you clear the **Create Work Request?** check box.

Extract Data from Maximo

Use this procedure to extract data from a Maximo system.

Procedure

1. Configure the appropriate parameters in the context file.
2. Run the Adapter job using the NextGen ETL Platform.

Results

The data is extracted, transformed, and then loaded into APM

Chapter 3

Deployment

Topics:

Deploy Maximo Adapters for the First Time

The following are the steps that you must complete to deploy and configure this module for the first time. These instructions assume that you have completed the steps for deploying the basic APM system architecture.

Before You Begin

You must assign security users to one or more of the APM Connect Security Groups.

About This Task

These tasks may be completed by multiple people in your organization. We recommend, however, that the tasks be completed in the order in which they are listed.

Configure the Maximo Context File

Procedure

1. On the APM Connect server, navigate to the following folder: `<root>:/APMConnect/Config`.
2. Rename the folder `RENAME_TO_SYSTEM_NAME` to the name of the Maximo system that you are using.
3. Open the folder that you renamed, and then, using an XML editor or a text editor, open the following file: **ContextFile.xml**.
   The content in the context file appears in the editor, displaying the parameters that you can configure for data extraction.
4. As needed, modify the values for the parameters in the context file, and then save the file.
   Your changes to the context file are saved.

Maximo Context File Parameters

The following table contains a list of parameters that you can configure in the Maximo context file.

Important: Modifying the context file will override the configurations in the **Context Parameters** section of the APM Connect Administration Center.

Note: For parameters in the Functional Location Specific Filters, Equipment Specific Filters, and Work History Specific Filters sections, you can enter multiple values by separating the values using commas.

Parameters	Description	Default or Recommended Value
Interface Mode Selection		
MAXIMO_CLOUD_ENABLED	Determines if the Adapter will be used in a cloud environment.	You must enter one of the following values: • true: Adapter will run in the cloud. • false: Adapter will run on premises.

Parameters	Description	Default or Recommended Value
LOAD_MERIDIUM_APM	Determines if data will be loaded into the Meridium database.	You must enter one of the following values: • true: Data will be loaded into the Meridium database. • false: Data will not be loaded into the Meridium database.
LOAD_DIGITAL_APM	Determines if data will be loaded into the Predix database.	You must enter one of the following values: • true: Data will be loaded into the Predix database. • false: Data will not be loaded into the Predix database.
CMMS_ID	The CMMS ID is used as the identifier for your Maximo system. For example, if your System ID is D03 and your Client ID is 001, then your CMMS ID would be DO3-001.	This value is required. Enter a unique value.
SOURCE_SYSTEM_TYPE	Identifies the type of system connecting with APM.	This value is required. You must enter the value MAXIMO.

Parameters	Description	Default or Recommended Value
Intermediate Repository (IR) Connection		
IR_HOST	The IP address of the IR.	This value is unique for each user.
IR_PORT	The port number of the IR.	The default value is 5432.
IR_DATABASE	The database in which the IR data is stored.	This value is unique for each user.
IR_SCHEMA	The schema associated with the IR.	The default value is Public.
IR_USER_ID	The IR user name.	This value is unique for each user.
IR_PASSWORD	The IR system password.	This value is unique for each user.
IR_TALEND_OUTPUT	The shared folder to which the Maximo Adapter will write files.	This value is unique for each user.

Parameters	Description	Default or Recommended Value
APM Connect Connection		
CUSTOMER_NAME	The coded customer name.	Enter your unique value, which was provided during installation.

Parameters	Description	Default or Recommended Value
APM Connection **Note:** The APM Connection Parameters are not required for a cloud deployment.		
APM_API_APP_SERVER	The name of the APM server.	This value is unique for each user.
APM_API_USE_SSL	Specifies whether the APM API application uses SSL.	The valid values are: • true: The API application uses SSL. • false: The API application does not use SSL. The default value is false.
APM_APP_SERVER	The name of the APM server.	This value is unique for each user.
APM_DATASOURCE	The name of the APM data source to which the data will be exported.	This value is unique for each user.
APM_USERID	Your APM user ID.	This value is unique for each user.
APM_PASSWORD	Your APM password.	This value is unique for each user.

Parameters	Description	Default or Recommended Value
Maximo Connection for Extraction Interfaces		
MAXIMO_USERID	The Maximo system user ID.	This value is unique for each user.
MAXIMO_PASSWORD	The Maximo system password.	This value is unique for each user.
LANGUAGE	The alphabetical code that represents the language used for values in the records that are transferred to APM.	This value is unique for each user.
MAXIMO_REST_URL	The REST URL for the Maximo Interface. This value is used if you want to use the REST web services to communicate with the Maximo system.	You must enter a value in the following format: http://<maximohost>:<port>/maxrest/rest/os This value is not required if the value for the MAXIMO_WEBSERVICE parameter is **false**. **Note:** REST services are not fully supported in Maximo versions 7.1 and 7.5.
MAXIMO_WEBSERVICE_URL	The web service URL for the Maximo Interface. This value is used if you want to use the SOAP web services to communicate with the Maximo system.	You must enter a value in the following format: http://<maximohost>:<port>/meaweb/services This value is not required if the value for the MAXIMO_WEBSERVICE parameter is **true**.
MAXIMO_WEBSERVICE	Determines the type of web service to use.	You must enter one of the following values: • true: Uses the SOAP web services. • false: Uses the REST web services. This is the default value for this parameter.

Parameters	Description	Default or Recommended Value
MAXIMO_SYSTEM	The EAM System name defined in the EAM System record in APM.	This value is unique for each user, and must match the value in the Name field in the EAM System family in APM.
MAXIMO_CONNECTION_TIMEOUT	The duration, measured in seconds, until which the Maximo Adapters will wait for the connection to be established with the Maximo system before timing out.	The recommended value is 30.
MAXIMO_RECEIVE_TIMEOUT	The duration, measured in seconds, until which the Maximo Adapters will wait for the response from the Maximo system before timing out.	The recommended value is 60.
MAXIMO_REST_ASSETNAME	This value is based on the Equipment object structure that you created in the Maximo system.	The default value fis MIASSET.
MAXIMO_REST_FLOCNAME	This value is based on the Functional Location object structure that you created in the Maximo system.	The default value is MIOPERLOC.
MAXIMO_REST_SRNAME	This value is based on the Service Request object structure that you created in the Maximo system.	The default value is MISR.
MAXIMO_REST_WONAME	This value is based on the Work Order object structure that you created in the Maximo system.	The default value is MIWO.
EXTRACT_NUM_PARALLEL_JOBS	Determines the maximum number of Maximo background jobs allowed during extraction.	The recommended value is 10.
IR_LOAD_NUM_PARALLEL_JOBS	Determines the maximum number of Maximo background jobs allowed during loading.	The recommended value is 10.

Parameters	Description	Default or Recommended Value
Common Filter		
CHANGE_DATE_START	The data extracted is restricted to records changed on or after the date specified for this parameter.	A value is optional for this parameter. You must enter a date in the following format: YYYYMMDD

Parameters	Description	Default or Recommended Value
CHANGE_DATE_END	The data extracted is restricted to records changed on or before the date specified for this parameter.	A value is optional for this parameter. You must enter a date in the following format: YYYYMMDD
CHANGE_TIME_START	The data extracted is restricted to records changed on or after the time specified for this parameter.	A value is optional for this parameter. You must enter time in the following format: HHMMSS
CHANGE_TIME_END	The data extracted is restricted to records changed on or before the time specified for this parameter.	A value is optional for this parameter. You must enter time in the following format: HHMMSS
SITE_ID	The site ID as defined in APM.	A value is optional for this parameter. This value is unique for each user.

Parameters	Description	Default or Recommended Value
Functional Location Specific Filter		
LOCATION	A number that identifies the Functional Location whose data you want to extract.	A value is optional for this parameter. This value is unique for each user.
LOCATION_TYPE	The ID of the Functional Location type whose data you want to extract.	A value is optional for this parameter. This value is unique for each user.
LOCATION_STATUS	The status of the Functional Location whose data you want to extract.	A value is optional for this parameter. This value is unique for each user.

Parameters	Description	Default or Recommended Value
Equipment Specific Filter		
ASSETNUM	The asset numbers of the assets that you want to extract.	A value is optional for this parameter. This value is unique for each user.
ASSET_TYPE	The ID of the Asset type that will limit the assets extracted.	A value is optional for this parameter. This value is unique for each user.
ASSET_STATUS	The asset status that will limit the Functional Locations extracted.	A value is optional for this parameter. This value is unique for each user.

Parameters	Description	Default or Recommended Value
Work History Specific Filter		
EXTRACT_PARENT_WO_ONLY	Determines whether to extract only parent work orders.	You must enter one of the following values: • true: Specifies that APM should extract only the parent work orders from the Maximo system. • false: Specifies that the entire work history hierarchy should be extracted from the Maximo system. The default value is false.
SERVICE_REQUEST_NO	The Service Request number that will limit the Service Requests extracted.	A value is optional for this parameter. This value is unique for each user.
SERVICE_REQUEST_STATUS	The Service Request status that will limit the data extracted.	A value is optional for this parameter. This value is unique for each user.
WORK_ORDER_NO	The Work Order number that will limit the Work Orders extracted.	A value is optional for this parameter. This value is unique for each user.
WORK_ORDER_TYPE	The type of Work Order that will limit the Work Orders extracted.	A value is optional for this parameter. This value is unique for each user.
WORK_ORDER_SYSTEM_STATUS	The Work Order system status that will limit the Work Orders extracted.	A value is optional for this parameter. This value is unique for each user.
WORKORDER_OR_SERVICEREQUEST_FILTER	Determines if the Maximo Service Requests or Work Orders will be transferred to and from APM.	For Work Order and Service Request extraction jobs, a value is required for this parameter. You can enter one of the following values: • SERVICEREQUEST: Loads only Service Requests. • WORKORDER: Loads only Work Orders. This is the default value. **Note:** If no value is entered for this parameter, both Service Requests and Work Orders will be extracted.

Parameters	Description	Default or Recommended Value
Miscellaneous		
MANUAL_RUN	Determines how the date parameters will be treated.	You must enter one of the following values: • true: The dates specified in the context file will be used. Additionally, the dates of the last successful run stored in the database will not be updated. • false: The date range used during the extraction will be the date of the last successful record, as stored in the database. Each time a job is run successfully, the database is updated with those dates, and all subsequent runs will use the dates from the last successful record.
REST_FILTER_LIMIT	A numeric value that indicates the number of records that are extracted in one load in the failure table.	The default value is 100.
MAXIMO_RS_COUNT	Limits the amount of Maximo records extracted in one load.	The default value is 1,000.
TARGET_CMMS_ID	Within a source system, this identifies a plant with unique culture settings. For example, if the default source system uses English with the identity of PLT-EN, but there is a plant attached to that source system that requires German, using the ID PLT-DE enables the successful transfer of data between APM and the target plant.	None.

Parameters	Description	Default or Recommended Value
Maximo Notification Management **Important:** You must configure the Maximo parameters for the parameters that correspond to your version of Maximo. For example, if you are using Maximo 76, configure the parameters in the MAXIMO76 section.		
MAXIMO_USERID	The Maximo system user ID.	This value is unique for each user.
MAXIMO_PASSWORD	The Maximo system password.	This value is unique for each user.
LANGUAGE	The alphabetical code that represents the language used for values in the records that are transferred from APM.	This value is unique for each user.

Parameters	Description	Default or Recommended Value
MAXIMO_REST_URL	The REST URL for Maximo Interface. This value is used if you want to use the REST web services to communicate with the Maximo system.	You must enter a value in the following format: http://<maximohost>:<port>/maxrest/rest/os This value is not required if the value for the MAXIMO_WEBSERVICE_URL parameter is false. **Note:** REST services are not fully supported in Maximo versions 7.1 and 7.5.
MAXIMO_WEBSERVICE_URL	The web service URL for Maximo Interface. This value is used if you want to use the SOAP web services to communicate with the Maximo system.	You must enter a value in the following format: http://<maximohost>:<port>/meaweb/services This value is not required if the value for the MAXIMO_WEBSERVICE_URL parameter is true.
MAXIMO_CONNECTION_TIMEOUT	The duration, measured in seconds, until which the Maximo Adapters will wait for the connection to be established with the Maximo system before timing out.	The recommended value is 30.
MAXIMO_RECEIVE_TIMEOUT	The duration, measured in seconds, until which the Maximo Adapters will wait for the response from the Maximo system before timing out.	The recommended value is 60.
MAXIMO_REST_SRNAME	This value is based on the Service Request object structure that you created in the Maximo system.	The default value is MISR.
MAXIMO_REST_WONAME	This value is based on the Work Order object structure that you created in the Maximo system.	The default value is MIWO.
MAXIMO_CREATE_WO_SR	Determines if the Maximo Adapter will transfer Maximo Work Orders or Service Requests.	For Notification Management jobs, a value is required for this parameter. You can enter one of the following values: • WO: Will transfer only Work Orders. • SR: Will transfer only Service Requests.
MAXIMO_DEFAULT_SITE_ID	The site ID in the Maximo records.	This value is unique for each user. You can enter the value of the Site record that is linked to the EAM System records that you are loading to Maximo.

Parameters	Description	Default or Recommended Value
Queue **Note:** The Queue parameters apply only to a cloud deployment.		
QUEUE_HOST	The queue host name.	Enter your unique value, which was provided during installation.
QUEUE_HOST_1	The additional queue host name.	Enter your unique value, which was provided during installation.
QUEUE_HOST_2	The additional queue host name.	Enter your unique value, which was provided during installation.
QUEUE_PORT	The queue port.	Enter your unique value, which was provided during installation.
QUEUE_PORT_1	The additional queue port.	Enter your unique value, which was provided during installation.
QUEUE_PORT_2	The additional queue port.	Enter your unique value, which was provided during installation.
QUEUE_USER	The queue user name.	Enter your unique value, which was provided during installation.
QUEUE_PASSWORD	The queue password.	Enter your unique value, which was provided during installation.
CUSTOMER_NAME	The coded customer name.	Enter your unique value, which was provided during installation.

Parameters	Description	Default or Recommended Value
Email Notification **Note:** The Email Notification parameters apply only to a cloud deployment.		
EMAIL_TO	Email address(es) to which the email will be sent.	Enter your unique value.
EMAIL_FROM	Email address from which the email will be sent.	Enter your unique value.
REPORT_TARGET_DIR	Directory where the report file will be delivered.	Enter your unique value.
FAILURE_DETAIL_REPORT_JRXML_FILE_PATH	Directory where the failure report file will be delivered.	Enter your unique value.
LOAD_SUMMARY_REPORT_JRXML_FILE_PATH	Directory where the load complete report file will be delivered.	Enter your unique value.
SMTP_HOST	Host for SMTP installation on the APM Connect server.	Enter your unique value.
SMTP_PORT	Port for SMTP.	The default value is 25.

Parameters	Description	Default or Recommended Value
LOAD_SUMMARY_REPORT_ENABLED	Indicates whether the load complete report will be loaded with each extraction.	You must enter one of the following values: • true: The load complete report, detailing the number of records that were extracted and successfully loaded into APM, will be sent. • false: The load complete report will not be sent.
FAILURE_DETAIL_REPORT_ENABLED	Indicates whether the failure detail report will be sent when a record fails to load.	You must enter one of the following values: • true: The failure detail report, detailing the records that failed to load into APM and the reason for failure, will be sent. • false: The failure detail report will not be sent.

Parameters	Description	Default or Recommended Value
SFTP **Note:** The SFTP parameters apply only to a cloud deployment.		
SFTP_HOST	The SFTP server host name.	Enter your unique value, which was provided during installation.
SFTP_USERID	The SFTP server user name.	Enter your unique value, which was provided during installation.
SFTP_PASSWORD	The SFTP server password.	Enter your unique value, which was provided during installation.
SFTP_PORT	The SFTP server port.	Enter your unique value, which was provided during installation.
SFTP_LANDING_DIR	Directory where the shared files are stored.	Enter your unique value, which was provided during installation.
SFTP_STAGING_DIR	The temporary storage location for files that are waiting to be loaded.	Enter your unique value (for example, C:\APMConnect\Staging).
USE_SSH_KEY	Determines if the SSH security configuration will be used by the adapters.	You must enter one of the following values: • true: SSH security configuration will be used. • false: SSH security configuration will not be used.
SSH_PRIVATE_KEY	Directory where the SSH key is stored.	Enter your unique value. The SSH key must be generated by the user in the openSSH format. This key can be stored in any directory on the APM Connect server, but it is recommended to store it in the following folder: C:\APMConnect\Config

About Site Reference Configuration via the autojoin_control Table

The Equipment, Functional Location, and Work History records that are imported to APM are assigned to a Site based on a Site Reference. In the Maximo adapter, the Site Reference is configured using the **autojoin_control** table in the Intermediate Repository.

In the table, the value in the **site_reference** column in each row defines the Site that must be used while loading the data defined by the SQL statement specified in that row. To modify the value assigned as the Site in the imported records, you must modify the value in the **site_reference** column.

Important: Site records corresponding to the Sites that you want to assign to the records must exist in APM before you can import the records.

You can configure Site Reference in one of the following ways:

Direct Site Reference:

The Site Reference is configured with a specific site name (for example, Site 100).

Indirect Site Reference:

The Site Reference is configured to use the value in a specific APM field to assign the Site in the imported records. The following fields can be used as Site References for records extracted from Maximo Systems:

- MI_FNCLOC00_SITE_C
- MI_EQUIP000_SITE_C

By default, in the **autojoin_control** table, the **site_reference** column contains the following values:

- #MI_FNCLOCOO_SITE_C# for Functional Location records
- #MI_EQUIPOO_SITE_C# for Equipment records

These values indicate that the site assigned to the Functional Location and Equipment records is determined by the value in the SITEID field in the Maximo system.

Additionally, in the **autojoin_control** table, if the value in the **site_reference** column is null or blank in a row, the records will be assigned with a Site based on the value specified in the **defaut_site_reference** column. The default value in the **default_site_reference** column is *Global*, which assigns the Site Global to the imported records.

In the **autojoin_control** table, the value in the **site_reference** column for the rows that define relationships of the Work History with Functional Locations and Equipment, determines the Site assigned to the Work History records loaded by the Maximo adapters.

Configure Site Reference Values

This topic describes how to modify the autojoin_control table in the Intermediate Repository, to assign site references to records using values other than those in the default configuration.

About This Task

Important: Site records corresponding to the Sites that you want to assign to the records must exist in APM before you can import the records.

Procedure

Steps: Configure the Site Reference Value to Use an Indirect Site Reference Value

1. Using a database browser tool, access your Intermediate Repository.

A list of tables available in the repository appears.

2. In the list of tables, navigate to the **autojoin_control** table, and then, in the data available for the table, locate the **site_reference** column.
3. For each row in which you want to modify the Site Reference, in the **site_reference** column, modify the value using the following format: #FIELD_ID#, where FIELD_ID represents the ID of the APM field from which you want to populate the site reference value.

   For example, if you want the Site Reference for the Equipment and Functional Location records to be assigned with the name of the CMMS System from which the data was extracted, then modify the value in the **site_reference** column with the following values:

   - Where the value #MI_EQUIPOO_SITE_C# occurs, replace the value with `#MI_EQUIP000_SAP_SYSTEM_C#`.
   - Where the value #MI_FNCLOC00_SITE_C# occurs, replace the value with `#MI_FNCLOC00_SAP_SYSTEM_C#`.

   MI_EQUIP000_SAP_SYSTEM_C and the MI_FNCLOC00_SAP_SYSTEM_C are fields in the Equipment and Functional Location records that store the name of the CMMS System.
4. Save the **autojoin_control** table.

   Your changes are saved. When you import records into APM from your Maximo system, the site assigned to the records will be based on the Site Reference that you specified in the **autojoin_control** table.

Steps: Configure the Site Reference Value to Use a Direct Site Reference

5. Using a database browser tool, access your Intermediate Repository.
   A list of tables available in the repository appears.
6. In the list of tables, navigate to the **autojoin_control** table, and then, in the data available for the table, locate the **site_reference** column.
7. For each row in which you want to modify the Site Reference, in the **site_reference** column, replace the value with the name of the Site that you want to assign to the records.
8. Save the **autojoin_control** table.
   Your changes are saved. When you import records into APM from your Maximo system, the site assigned to the records will be the Site that you specified in the **autojoin_control** table.

Create Object Structures in Maximo

About This Task

To connect your Maximo system and your APM system, you will need to create object structures in Maximo for the following:

- Asset
- Location
- Work Order
- Service Request

Procedure

- Create Object Structure - Asset

  1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
  2. In the **Object Structure** window, in the **Object Structure** box, enter `MXASSET`, and then open the object structure.

3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**, and then enter the Object Structure name `MIASSET`.
4. In the **Source Object for MIASSET** section, remove all objects except the ASSET object.
5. Add the CLASSSTRUCTURE object with ASSET as parent and CLASSSTRUCTURE as relationship.
6. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
7. In the **Exclude/Include Fields** window, in the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following fields:
    - **ASSETID**
    - **ASSETNUM**
    - **ASSETTYPE**
    - **CHANGEDATE**
    - **DESCRIPTION**
    - **INSTALLDATE**
    - **ITEMNUM**
    - **LOCATION**
    - **MANUFACTURER**
    - **PRIORITY**
    - **SERIALNUM**
    - **SITEID**
    - **STATUS**
    - **VENDOR**
    - **WARRANTYEXPDATE**
8. In the **Non-Persistent Fields** tab, select the **Include?** check box on the row corresponding to the **DESCRIPTION_LONGDESCRIPTION** field.
9. Under the CLASSTRUCTURE object structure, in the **Non-Persistent Fields** section, select the **Include?** check box in the row corresponding to the following fields:
    - **HIERARCHYPATH**
    - **DESCRIPTION_CLASS**
10. Select **OK**.

- Create Object Structure - Location

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
2. In the **Object Structure** window, in the **Object Structure** box, enter `MXOPERLOC`, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**, and then enter the Object Structure name `MIOPERLOC`.
4. In the **Source Object for MIOPERLOC** section, remove all objects except the LOCATION object.
5. Add the ASSET object with LOCATION as parent and ASSET as relationship.
6. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
7. In the **Exclude/Include Fields** window, in the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following Fields:
    - **CHANGEDATE**
    - **DESCRIPTION**
    - **LOCATION**

- **LOCATIONSID**
- **SITEID**
- **STATUS**
- **TYPE**

8. In the **Non-Persistent Fields** tab, select the **Include ?** check box on the row corresponding to the following fields:
   - **FAILURECODE**
   - **PARENT**
   - **LOCPRIORITY**
   - **DESCRIPTION_LONGDESCRIPTION**
9. Under the CLASSTRUCTURE object structure, in the **Non-Persistent Fields** section, select the **Include?** check box in the row corresponding to the following fields:
   - **HIERARCHYPATH**
   - **DESCRIPTION_CLASS**
10. Select **OK**.

- Create Object Structure - Work Order

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
2. In the **Object Structure** window, in the **Object Structure** box, enter `MXWO`, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**, and enter the Object Structure name `MIWO`.
4. In the **Source Object for MIWO** section, remove all objects except the WORK ORDER object.
5. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
6. In the **Exclude/Include Fields** window, in the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following fields:
   - **ACTFINISH**
   - **ACTLABCOST**
   - **ACTLABHRS**
   - **ACTMATCOST**
   - **ACTSERVCOST**
   - **ACTSTART**
   - **ACTTOOLCOST**
   - **ACTTOTALCOST**
   - **ASSETLOCPRIORITY**
   - **ASSETNUM**
   - **CALCPRIORITY**
   - **CHANGEBY**
   - **CHANGEDATE**
   - **CREWID**
   - **DESCRIPTION**
   - **ESTLABCOST**
   - **ESTLABHRS**
   - **ESTMATCOST**
   - **ESTSERVCOST**
   - **ESTTOOLCOST**

- **JPNUM**
- **JUSTIFYPRIORITY**
- **LEAD**
- **LOCATION**
- **OUTLABCOST**
- **OUTMATCOST**
- **OUTTOOLCOST**
- **PMNUM**
- **REPORTDATE**
- **SCHEDFINISH**
- **SCHEDSTART**
- **SITEID**
- **STATUS**
- **TARGCOMPDATE**
- **TARGSTARTDATE**
- **WONUM**
- **WOPRIORITY**
- **WORKTYPE**

7. In the **Non-Persistent Fields** tab, select the **Include ?** box on the row corresponding to the **DESCRIPTION_LONGDESCRIPTION** field.
8. Select **OK**.

- Create Object Structure - Service Request

1. In the **Go To Application** column, select **Integration**, and select **Object Structures**.
2. In the **Object Structure** window, in the **Object Structure** box, enter `MXSR`, and then open the object structure.
3. In the **Go To Application** column, in the **More Actions** section, select **Duplicate Object Structure**, and enter the Object Structure name `MISR`.
4. In the **Source Object for MIWO** section, remove all objects except the service request object.
5. In the **Go To Application** column, in the **More Actions** section, select **Exclude/ Include Fields**.
6. In the **Exclude/Include Fields** window, in the **Persistent Fields** tab, clear the **Exclude?** check boxes on the rows corresponding to the following fields:
   - **ASSETNUM**
   - **DESCRIPTION**
   - **LOCATION**
   - **SITEID**
   - **TICKETID**
7. In the **Non-Persistent Fields** tab, select the **Include ?** box on the row corresponding to the **DESCRIPTION_LONGDESCRIPTION** field.
8. Select **OK**.

Create Web Services in Maximo

About This Task

Note: You must only complete this step if you are not using the REST services. REST services are not fully supported in Maximo versions 7.1 and 7.5.

To complete the connection between your Maximo and your APM System, you need to deploy each of the following web services in your Maximo system:

- MIASSET
- MIOPERLOC
- MIWO
- MISR

Procedure

1. On the **Go To Applications** menu, select **Integration**, and then select **Web Service Library**.
   The **Web Services Library** page appears.
2. In the **More Actions** section, select **Create Web Service**, and then select **Create Web Service from Object Structure**.
   The **Create Web Service from an Object Structure Service Definition** window appears.
3. In the **Source Name** column, select the check box next to the web service name you want to create, and then select **Create**.
   The web service name appears in the **Web Services Library** list.
4. In the **More Actions** tab, select **Deploy to Product Web Service Container**, and then select **Deploy Web Service**.
5. Repeat Steps 1 on page 23-4 on page 23 to create the remaining web services.

Configure the Default Password

If you have enabled web service authentication in your Maximo system, then you must configure a default user name and password in Maximo.

Procedure

1. In Maximo, select **System configuration**, and then select **Platform configuration**, and then select **System properties**.
2. Search for the following property: mxe.int.dfltuser.
3. For the mxe.int.dfluser property set the default user as `mxintadm`.
4. Refresh your Maximo system, and then search for the following property mxe.int.dfltuserpassword.
5. For the mxe.int.dfltuserpassword property, enter your default password, and then refresh your Maximo system.
   The default user name and password are configured.

Next Steps

After configuring the default user name and password, you can run the web service, and authentication will be accomplished through the default user and password.

Set System Properties Settings for Web Service Response

Procedure

1. In the **Go To Application** column, select **System Configuration**, select **Platform configuration**, and then select **System Properties**.
   The **System Properties** page appears displaying the **Global Properties** and **Instance Properties**.

2. In the **Global Properties** section, navigate to the property mxe.int.keyresponse.
3. On the **mxe.int.keyresponse** row, select .
   The row is expanded, and the **Global Properties Details** appear.
4. In the **Global Value** box, enter 1.
   The **Global Value** is equal to 1.

Results

Setting the **Global Value** to one enables Service Request numbers or Work Order numbers on APMRecommendation to be updated and the Request Number field will be populated. It allows the response returned during the update to contain key elements and will prevent the value from being null.

Create a Maximo EAM System Record

You must configure an EAM System record to establish a connection between any EAM system and APM.

Procedure

1. Create a new EAM System record.
2. In the **Datasheet ID** box, select **Maximo**.
3. In the **Name** box, enter the name of your system.
4. If this system is the system to and from which you want to send data by default, select the **Default EAM System?** check box.
5. In the **System Type** box, select **Maximo**.
6. In the **User ID** box, enter a valid User ID.
7. In the **Password** box, select .
8. In the **Enter EAM System Password** window, in the **Password** box, enter the password that is associated with the specified user ID.
9. In the **Confirm Password** box, reenter the password.
10. Select **OK**.
11. In the **Web Service URL** box, enter the URL for the Maximo Web Services that will extract the data.
12. In the **Language** box, enter the code of the language for this connection (for example, EN).
13. In the **Service Request Family Name** box, enter the table name for the Service Request in Maximo (this value is usually MISR).
14. In the **Work Order Family Name** box, enter the table name for the Work Order in Maximo (this value is usually MIWO).
15. In the **WO or SR** box, enter the default notification type to be created. This value can either be WO or SR.
16. In the **Default Site ID** box, enter the Site under which the WO or SR should be created if it is not provided in the notification the system receives.
17. **Optional:** Select **Use Rest** to have the system use REST requests to create service requests or work orders.
18. Select .
    The EAM System record is saved.
19. Select , and then select **Test Connection**.
    The connection parameters are verified, and the **System ID** box is populated with your EAM System Name.

Results

- An EAM system record is created for the EAM system that defines a connection with APM. The ID for this EAM record should now be used in the Name field of a Site Reference record.
- Linking an EAM system to an EAM System record enables the APM Connect Adapters to create Notifications against that EAM System.

Enable Multiple Cultures From a Single Source System

To enable data flow when there are multiple cultures configured for a single source system, you must complete the following steps.

Procedure

1. Create a context file for each culture originating from a specific source system.
   a) Assign a CMMS_ID and TARGET_CMMS_ID that indicates the culture.
   For example, consider a source system that supports both French and Spanish. Your CMMS_ID and TARGET_CMMS_ID for the two systems could resemble `SRC1_client_FR` and `SRC1_client_ES`.
2. Create the Intermediate Repository database for the first CMMS_ID you define.
3. For each additional CMMS_ID defined in Step 1.a on page 25, run the addSourceSystem job.
4. For each CMMS_ID defined in Step 1.a on page 25, create an EAM system record, using the CMMS_ID in the **System Name** field.
5. Select **Test Connection** for each EAM System record you created.

Results

You have configured APM Connect to support multiple cultures from a single source system.

Chapter 4

Reference

Topics:

General Reference

Requirements

Maximo System Requirements

APM Connect supports Maximo versions above 7.1.1.6.

Maximo Application Server:

A Maximo Application Server machine that houses the Maximo Web Services and is running version 7.1, 7.5, or 7.6.

Maximo Database Server:

A database that houses the Maximo data model and data and is running a version that is supported by the Maximo Application Server. For details on requirements of the Maximo Database Server, see the Maximo documentation.

Maximo Client Workstation:

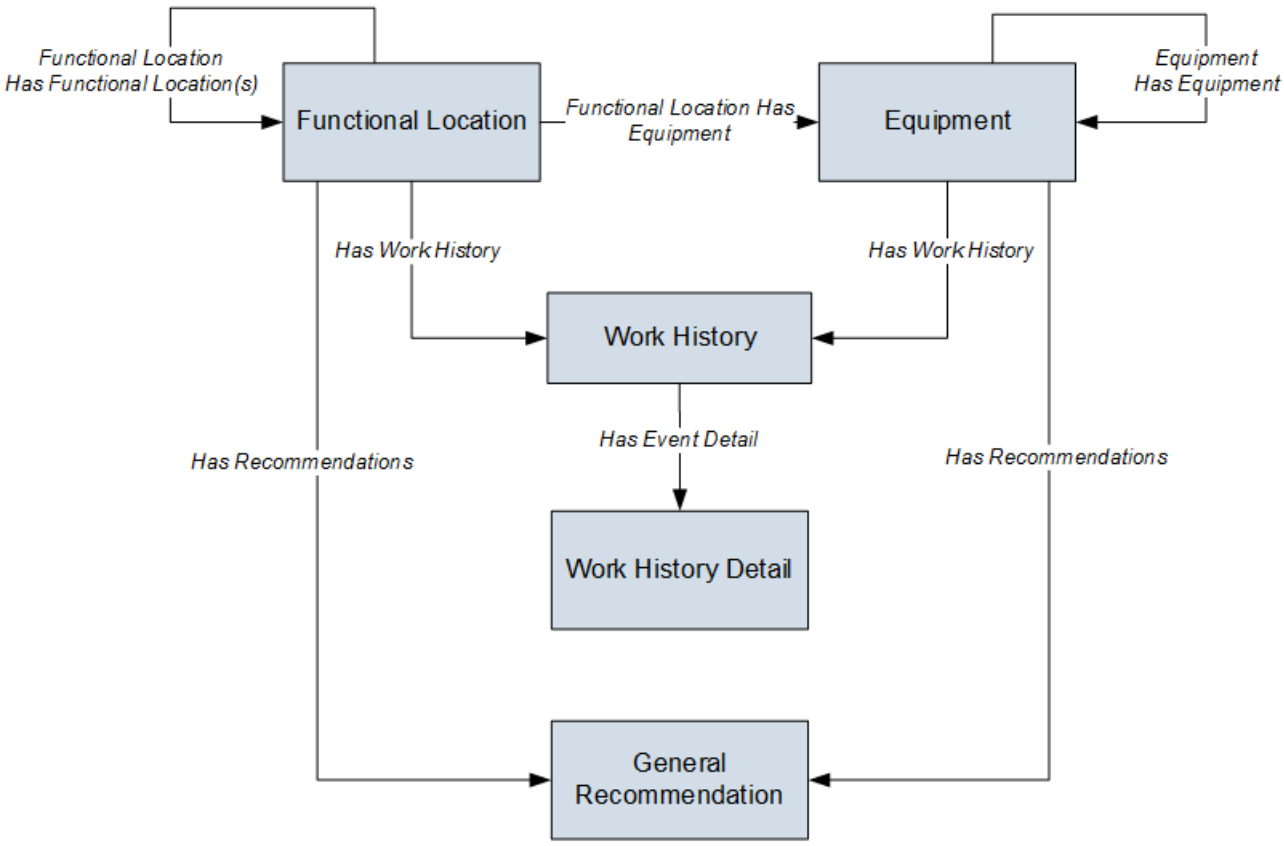
A computer that is used to access the Maximo application. For details on the requirements of the Maximo Client workstation, see the Maximo documentation.

Maximo Administrative Workstation:

A computer that contains the Maximo application. For details on the requirements of the Maximo Administrative workstation, see the Maximo documentation.

Maximo Data Model

The following diagram shows how the families used by the Maximo Adapter are related to one another.



Note: In the diagram, boxes represent entity families and arrows represent relationship families that are configured in the baseline database. You can determine the direction of each relationship definition from the direction of the arrow head: the box from which the arrow originates is the predecessor, and the box to which the arrow head points is the successor.

The APM Maximo Interfaces feature consists of entity families, relationship families, and business rules. When attempting to understand and make use of the APM Maximo Interfaces functionality, it can be helpful to visualize the Maximo Interfaces data model. You can use the Maximo Interfaces to create and view records. This documentation assumes that you are familiar with the concept of records and viewing records in the APM Record Manager.

About Interface Log Records used by the Service Request and Work Order Interface Record

Each time an interface is run, an Interface Log record is created automatically to store information about the process, such as the status of the process (for example, Completed with warnings), the date the interface was run, and the parameters that were used to run the interface.

If the value in an Interface Log record is Completed with Warnings or Completed with Errors, a Super User or a member of the MI CMMS Interfaces Administrator Security Group can review the warnings or errors, and then change the status to Completed with Warnings (Cleared) or Completed with Errors (Cleared).

Maximo Interfaces Security Groups

The following table lists the baseline Security Groups available for users within this module, as well as the baseline Roles to which those Security Groups are assigned.

Important: Assigning a Security User to a Role grants that user the privileges associated with all of the Security Groups that are assigned to that Role. To avoid granting a Security User unintended privileges, before assigning a Security User to a Role, be sure to review all of the privileges associated with the Security Groups assigned to that Role. Also be aware that additional Roles, as well as Security Groups assigned to existing Roles, can be added via Security Manager.

Security Group	Roles
MI CMMS Interface Administrator	MI Data Loader Admin
MI CMMS Interface User	MI Data Loader User

The baseline family-level privileges that exist for these Security Groups are summarized in the following table.

Family	MI CMMS Interface Administrator	MI CMMS Interface User
Entity Families		
CMMS Interface	View, Update, Insert, Delete	View
CMMS Mapping	View, Update, Insert, Delete	View
CMMS System	View, Update, Insert, Delete	View
Equipment	View, Update, Insert, Delete	View
Functional Location	View, Update, Insert, Delete	View
Interface Log	View, Update, Insert, Delete	View
SAP System1	View, Update, Insert, Delete	View
Site Reference	View	View
Work History	View, Update, Insert, Delete	View, Update, Insert, Delete
Work History Detail	View, Update, Insert, Delete	View, Update, Insert, Delete
Relationship Families		
Equipment Has Equipment	View, Update, Insert, Delete	View, Update, Insert, Delete
Functional Location Has Equipment	View, Update, Insert, Delete	View, Update, Insert, Delete
Functional Location Has Functional Location(s)	View, Update, Insert, Delete	View, Update, Insert, Delete
Has CMMS Interface	View, Update, Insert, Delete	View
Has CMMS Mapping	View, Update, Insert, Delete	View
Has CMMS System	View, Update, Insert, Delete	View

Family	MI CMMS Interface Administrator	MI CMMS Interface User
Has Event Detail	View, Update, Insert, Delete	View, Update, Insert, Delete
Has SAP System	View, Update, Insert, Delete	View

The autojoin_control Table

The **autojoin_control** table is used to customize the data that is loaded into APM.

Each row in the table contains an SQL statement that defines the fields that must be imported to APM. You can also specify the value to be used as Site Reference using the **autojoin_control** table. The following columns are available in the **autojoin_control** table:

Column	Description
AUTOJOIN_ID	An integer value used to identify each row in the table.
BATCH_NAME	The name of the batch to which the query belongs. When a job for loading data is processed, queries with the same BATCH_NAME are run together.
TABLE_NAME	The name specified in this column along with the unique ID for the job is used to define the name of the temporary table that is created to store the data extracted using the SQL statement specified in the row.
SQL_EXECUTION_ORDER	The sequence in which the SQL statements will be run when they are processed in batches. Within a batch, SQL statements for rows with lower numbers in this column will be run first.
SQL	An SQL SELECT statement that defines the data that will be loaded to APM. The results of this statement are copied to the temporary table, whose name is defined by the unique ID of the job and the value in the TABLE_NAME column. The columns defined in the SELECT statement must match the column names in the APM family to which the data is being loaded.
SITE_REFERENCE	The value used to determine the Site assigned to records generated for the corresponding SQL statement. You can configure this value to modify the Site Reference. The default value is #MI_FNCLOCOO_SITE_C# for Functional Location records and #MI_EQUIPOO_SITE_C# for Equipment records, indicating that the site assigned to the records is determined by the value in the SITEID field in the Maximo system.
APM_SITE_REFERENCE_COLUMN	The APM field that is used to store the names of the Site. Unless you have customized the APM database, this value should be MI_SITE_NAME.

Column	Description
APM_SITE_REFERENCE_FAMILY	The APM family to which the Site Reference will be applied. When the relationship is being built within the records of the same entity, the value is <PRED_FAMILY_ID>. Unless you have customized the APM database, you do not need to modify this value.
USE_RELATIONSHIP_LOOKUP	Specifies whether the row is for an entity or a relationship family. If the row is used to populate a relationship family, the value is 1. Otherwise, the value is 0. This affects the way relationship references are defined in the resulting SQL statements.
DEFAULT_SITE_REFERENCE	A value that indicates the Site Reference that should be used in one of the following scenarios: • The value in the **site_reference** column is null. -or- • The value in the field specified in the **site_reference** column for indirect site reference is null. If you want to assign the site as global, in this field, you must enter *Global*. If you want to assign a site to the records, you must enter the name of a site.

Family Field Descriptions

EAM System

EAM System records are used to store information about your systems to facilitate data extractions and loads.

When you transfer data from APM to your EAM or service management system, the APM system uses EAM System records to determine which EAM system to use.

In addition, EAM System records are used by the Equipment Adapter and the Functional Location Adapter.

This topic provides an alphabetical list and description of the fields that exist for the EAM System family. The information in the table reflects the baseline state and behavior of these fields.

This family is not enabled for site filtering, which means that records in this family can be accessed by any user with the appropriate license and family privileges. For more information, refer to the Sites section of the documentation.

Field	Data Type	Description	Behavior and Usage
Create WO or SR	Character	A value that determines whether this MAXIMO system connection creates either Service Requests or Work Orders.	The default value is SR. On the datasheet, select **SR** to create Service Requests or **WO** to create Work Orders on this connection. This value is used in the Notification Management workflow where either a Maximo Service Request or Work Order is created from the Recommendation record.
Default EAM System?	Boolean	A value that indicates whether this system should be used by default when transferring data between your APM system and your system.	On the datasheet, you can select the check box to identify this system as the Default EAM System. The default EAM system is used when creating a notification from a General Recommendation when there is no technical object from which to obtain the EAM system for the creation of the notification.
Default Site ID	Character	The site ID used when a MAXIMO system receives a notification record without a site ID specified.	Enter a unique value.
Language	Character	A code that indicates the language used for this connection.	Enter the appropriate language code used by the target system for this connection. The default value is E. **Note:** For SAP, the language code is part of the value of the Connection String field.
Name	Character	The name of the system.	You can enter any name, but we recommend that you enter a name in the format <SYSID>-<CLIENT>, where <SYSID> is the System ID of the system and <CLIENT> is the Client number. By doing so, the value in the Name field will match the value that will be populated automatically in the System ID field.
Password	Character	The password to the system.	The password that you enter will be encrypted and displayed as asterisks on the datasheet.

Field	Data Type	Description	Behavior and Usage
Service Request Family Name	Character	The default MAXIMO Service Request Family Name used for this connection for Service Request records that do not specify a family name.	The default value is MISR. Enter a unique value.
System ID	Character	The ID of the system.	This field is populated automatically after you test the connection to the system using the **Test Connection** link on the **Associated Pages** menu. Specifically, the System ID field is populated automatically with the name of the system, using the format <SYSID>-<CLIENT>, where <SYSID> is the System ID of the system and <CLIENT> is the Client number.
System Type	Character	EAM system type.	Enter the value MAXIMO.
User ID	Character	The User ID of a user that can log in to the system.	None
Use Rest	Boolean	Specifies whether the system creates a service request or work order through a REST or SAP request.	A SOAP request is used by default. Select this option to use a REST request.
Web Service URL	Character	The URL of the MAXIMO Web Service.	Enter a unique value.
Work Order Family	Character	The default MAXIMO Work Order Family Name used for this connection for Work Order records that do not specify a family name.	The default value is MIWO. Enter a unique value.

Maximo Mappings

Maximo Equipment Mappings

The following table contains a list of Maximo fields that are used to populate fields in the Equipment records created in APM when you use the Maximo Equipment Adapter.

APM Family ID	APM Field ID	APM Field Caption	Maximo Table	Maximo Internal ID	Maximo Adapter Label	Comments
MI_EQUIP000	MI_EQUIP000_SAP_SYSTEM_C	CMMS SYSTEM	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	This is a APM key field.
MI_EQUIP000	MI_EQUIP000_CHANGE_DATE_D	CMMS Last Changed Date	ASSET	CHANGEDATE	Changed Date	None
MI_EQUIP000	MI_EQUIP000_CRITI_IND_C	Criticality Indicator	ASSET	PRIORITY	Priority	None
MI_EQUIP000	MI_EQUIP000_EQUIP_ID_C	Equipment ID	ASSET	ASSETNUM	Asset	This is a APM key field.
MI_EQUIP000	MI_EQUIP000_EQUIP_LNG_DESC_T	Equipment Long Description	ASSET	DESCRIPTION_LONGDESCRIPTION	On the Maximo interface, this value appears in the **Long Description** box.	None
MI_EQUIP000	MI_EQUIP000_SN_C	Equipment Serial Number	ASSET	SERIALNUM	Manufacturer Serial Number	None
MI_EQUIP000	MI_EQUIP000_EQUIP_SHRT_DESC_C	Equipment Short Description	ASSET	DESCRIPTION	On the Maximo interface, this value appears next to the **Asset** box.	None

APM Family ID	APM Field ID	APM Field Caption	Maximo Table	Maximo Internal ID	Maximo Adapter Label	Comments
MI_EQUIP000	MI_EQUIP000_EQUIP_TECH_NBR_C	Equipment Technical Number	ASSET	ASSETID	None. This field does not appear on the Maximo interface.	None
MI_EQUIP000	MI_EQUIP000_TYPE_C	Equipment Type	ASSET	ASSETTYPE	Type	None
MI_EQUIP000	MI_EQUIP000_EQUIP_VNDR_C	Equipment Vendor	ASSET	VENDOR	Vendor	None
MI_EQUIP000	MI_EQUIP000_FNC_LOC_C	Functional Location	ASSET	LOCATION	Location	None
MI_EQUIP000	MI_EQUIP000_INV_NO_C	Inventory Number	ASSET	ITEMNUM	Rotating Item	None
MI_EQUIP000	MI_EQUIP000_MFR_C	Manufacturer	ASSET	MANUFACTURER	Manufacturer	None
MI_EQUIP000	MI_EQUIP000_OBJ_TYP_C	Object Type	CLASSSTRUCTURE	HIERARCHYPATH	Classification	None
MI_EQUIP000	MI_EQUIP000_OBJ_TYP_DESC_C	Object Type Description	CLASSSTRUCTURE	DESCRIPTION_CLASS	Class Description	None
MI_EQUIP000	MI_EQUIP000_PRCH_D	Purchase Date	ASSET	INSTALLDATE	Installation Date	None
MI_EQUIP000	MI_EQUIP000_SITE_C	Site	ASSET	SITEID	Site	None
MI_EQUIP000	MI_EQUIP000_SYS_ST_C	System Status	ASSET	STATUS	Status	None
MI_EQUIP000	MI_EQUIP000_WRNTY_EXPR_D	Warranty Expiration Date	ASSET	WARRANTYEXPDATE	None. This field does not appear on the Maximo interface.	None

Maximo Functional Location Mappings

The following table contains a list of Maximo fields that are used to populate fields in the Functional Location records created in APM when you use the Maximo Functional Location Adapter:.

APM Family ID	APM Field ID	APM Field Caption	MAXIMO Table	Maximo Internal ID	Maximo Adapter Label	Comments
MI_FNCLOC00	MI_FNCLOC00_CHANGE_DATE_D	CMMS Last Changed Date	LOCATION	CHANGEDATE	None. This field does not appear on the Maximo interface.	None
MI_FNCLOC00	MI_FNCLOC00_SAP_SYSTEM_C	CMMS System	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	This is a APM key field.
MI_FNCLOC00	MI_FNCLOC00_CRTCAL_IND_C	Criticality Indicator	LOCATION	LOCPRIORITY	Priority	None
MI_FNCLOC00	MI_FNCLOC00_FAIL_CLASS_C	Failure Class	LOCATION	FAILURECODE	Failure Class	None
MI_FNCLOC00	MI_FNCLOC00_FNC_LOC_C	Functional Location	LOCATION	LOCATION	Location	This is a APM key field.
MI_FNCLOC00	MI_FNCLOC00_FNC_LOC_DESC_C	Functional Location Description	LOCATION	DESCRIPTION	On the Maximo interface, this value appears next to the **Location** box.	None
MI_FNCLOC00	MI_FNCLOC00_INTERNAL_ID_C	Functional Location Internal ID	LOCATION	LOCATIONSID	None. This field does not appear on the Maximo interface.	None

APM Family ID	APM Field ID	APM Field Caption	MAXIMO Table	Maximo Internal ID	Maximo Adapter Label	Comments
MI_FNCLOC00	MI_FNCLOC00_FNC_LOC_LNG_DESC_C	Functional Location Long Description	LOCATION	DESCRIPTION_LONGDESCRIPTION	This value appears in the **Long Description** box.	None
MI_FNCLOC00	MI_FNCLOC00_TYPE_C	Location Type	LOCATION	TYPE	Type	None
MI_FNCLOC00	MI_FNCLOC00_OBJ_TYP_C	Object Type	CLASSSTRUCTURE	HIERARCHYPATH	Classification	None
MI_FNCLOC00	MI_FNCLOC00_OBJ_TYP_DESC_C	Object Type Description	CLASSSTRUCTURE	DESCRIPTION_CLASS	Class Description	None
MI_FNCLOC00	MI_FNCLOC00_SITE_C	Site	LOCATION	SITEID	Site	None
MI_FNCLOC00	MI_FNCLOC00_SUPR_FNC_LOC_C	Superior Functional Location	LOCATION	PARENT	Parent	None
MI_FNCLOC00	MI_FNCLOC00_SYS_STATUS_C	System Status	LOCATION	STATUS	Status	None

Maximo Work History Mappings

The following tables list the Maximo fields that are used to populate the fields in the Work History records created in APM when you extract Work Orders and Service Request using the Maximo Work History Adapter.

Values Mapped from Maximo Work Orders to APM Work History Records

APM Family Name	APM Work History Field ID	APM Work History Field Caption	Maximo Table Name	Maximo Internal ID	Maximo Interface Label	Comments
MI_EVWKHIST	MI_EVWKHIST_MAINT_COMPL_D	Maintenance Completion Date	WORKORDER	ACTFINISH	Actual Finish	None
MI_EVWKHIST	MI_EVWKHIST_ACT_LABOR_COST_N	Actual Labor Cost	WORKORDER	ACTLABCOST	Actual Labor Cost	None

APM Family Name	APM Work History Field ID	APM Work History Field Caption	Maximo Table Name	Maximo Internal ID	Maximo Interface Label	Comments
MI_EVWKHIST	MI_EVWKHIST_ACT_LABOR_TIME_N	Actual Labor	WORKORDER	ACTLABHRS	Actual Labor Hours	None
MI_EVWKHIST	MI_EVWKHIST_ACT_MTRL_COST_N	Actual Material Cost	WORKORDER	ACTMATCOST	Actual Material Cost	None
MI_EVWKHIST	MI_EVWKHIST_ACT_SERV_COST_N	Actual Service Cost	WORKORDER	ACTSERVCOST	Actual Service Cost	None
MI_EVWKHIST	MI_EVWKHIST_MAINT_START_D	Maintenance Start Date	WORKORDER	ACTSTART	Actual Start	None
MI_EVWKHIST	MI_EVWKHIST_ACT_TOOL_COST_N	Actual Tool Cost	WORKORDER	ACTTOOLCOST	Actual Tool Cost	None
MI_EVWKHIST	MI_EVWKHIST_MAINT_CST_N	Maintenance Cost	WORKORDER	ACTTOTALCOST	Actual Total Cost	None
MI_EVWKHIST	MI_EVWKHIST_EQU_LOC_PRIORTY_N	Equipment Location Priority	WORKORDER	ASSETLOCPRIORITY	Asset/ Location Priority	None
MI_EVWKHIST	MI_EVENT_ASST_ID_CHR	Equipment ID	WORKORDER	ASSETNUM	Asset	None
MI_EVWKHIST	MI_EVWKHIST_CALC_PRIORTY_N	Calculated Priority	WORKORDER	CALCPRIORITY	Asset/ Location Priority	None
MI_EVWKHIST	MI_EVENT_MODFD_BY_CHR	Modified By	WORKORDER	CHANGEBY	Modified By	None
MI_EVWKHIST	MI_EVWKHIST_ORDR_CHNG_DT_D	Order Last Change Date	WORKORDER	CHANGEDATE	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVWKHIST_CREW_ID_C	Crew ID	WORKORDER	CREWID	Crew	None

APM Family Name	APM Work History Field ID	APM Work History Field Caption	Maximo Table Name	Maximo Internal ID	Maximo Interface Label	Comments
MI_EVWKHIST	MI_EVWKHIST_ORDR_DESC_C	Order Description	WORKORDER	DESCRIPTION	Description	None
MI_EVWKHIST	MI_EVENT_SHRT_DSC_CHR	Event Short Description	WORKORDER	DESCRIPTION	Description	None
MI_EVWKHIST	MI_EVENT_LNG_DSC_TX	Event Long Description	WORKORDER	DESCRIPTION_LONGDESCRIPTION	This value appears in the **Long Description** box.	None
MI_EVWKHIST	MI_EVWKHIST_EST_LABOR_COST_N	Estimated Labor Cost	WORKORDER	ESTLABCOST	Estimated Labor Cost	None
MI_EVWKHIST	MI_EVWKHIST_EST_LABOR_TIME_N	Estimated Labor	WORKORDER	ESTLABHRS	Estimated Labor Hours	None
MI_EVWKHIST	MI_EVWKHIST_EST_MTRL_COST_N	Estimated Material Cost	WORKORDER	ESTMATCOST	Estimated Material Cost	None
MI_EVWKHIST	MI_EVWKHIST_EST_SERV_COST_N	Estimated Service Cost	WORKORDER	ESTSERVCOST	Estimated Service Cost	None
MI_EVWKHIST	MI_EVWKHIST_EST_TOOL_COST_N	Estimated Tool Cost	WORKORDER	ESTTOOLCOST	Estimated Tool Cost	None
MI_EVWKHIST	MI_EVWKHIST_ORDR_MAINT_PLAN_C	Order Maintenance Plan	WORKORDER	JPNUM	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVWKHIST_ORDR_PRTY_DESC_C	Order Priority Description	WORKORDER	JUSTIFYPRIORITY	Priority Justification	None
MI_EVWKHIST	MI_EVWKHIST_LEAD_CRAFT_C	Lead Craft	WORKORDER	LEAD	Lead	None
MI_EVWKHIST	MI_EVENT_LOC_ID_CHR	Location ID	WORKORDER	LOCATION	Location	None

APM Family Name	APM Work History Field ID	APM Work History Field Caption	Maximo Table Name	Maximo Internal ID	Maximo Interface Label	Comments
MI_EVWKHIST	MI_EVWKHIST_ACT_OUT_LBR_CST_N	Actual Outside Labor Cost	WORKORDER	OUTLABCOST	Outside Labor Cost	None
MI_EVWKHIST	MI_EVWKHIST_ACT_OUT_MTR_CST_N	Actual Outside Material Cost	WORKORDER	OUTMATCOST	Outside Material Cost	None
MI_EVWKHIST	MI_EVWKHIST_ACT_OUT_TL_CST_N	Actual Outside Tool Cost	WORKORDER	OUTTOOLCOST	Outside Tool Cost	None
MI_EVWKHIST	MI_EVWKHIST_PM_NBR_C	PM Number	WORKORDER	PMNUM	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVWKHIST_RQST_ID_C	Request ID	WORKORDER	ORIGRECORDID	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVWKHIST_RQST_TYP_CD_C	Request Type Code	WORKORDER	ORIGRECORDCLASS	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVENT_STRT_DT	Event Start Date	WORKORDER	REPORTDATE	Reported Date	None
MI_EVWKHIST	MI_EVWKHIST_SCHED_COMPL_D	Scheduled Completion Date	WORKORDER	SCHEDFINISH	Scheduled Finish	None
MI_EVWKHIST	MI_EVWKHIST_SCHED_START_D	Scheduled Start Date	WORKORDER	SCHEDSTART	Scheduled Start	None
MI_EVWKHIST	MI_EVWKHIST_SITE_C	Site	WORKORDER	SITEID	Site	None
MI_EVWKHIST	MI_EVWKHIST_ORDR_SYS_STAT_C	Order System Status	WORKORDER	STATUS	Status	None

APM Family Name	APM Work History Field ID	APM Work History Field Caption	Maximo Table Name	Maximo Internal ID	Maximo Interface Label	Comments
MI_EVWKHIST	MI_EVWKHIST_TARGET_COMPL_D	Target Completion Date	WORKORDER	TARGCOMPDATE	Target Finish	None
MI_EVWKHIST	MI_EVWKHIST_TARGET_START_D	Target Start Date	WORKORDER	TARGSTARTDATE	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVENT_ID	Event ID	WORKORDER	WONUM	Work Order	None
MI_EVWKHIST	MI_EVWKHIST_ORDER_ID_N	Order ID	WORKORDER	WONUM	Work Order	None
MI_EVWKHIST	MI_EVWKHIST_ORDR_PRTY_C	Order Priority	WORKORDER	WOPRIORITY	Priority	None
MI_EVWKHIST	MI_EVWKHIST_ORDR_TYP_CD_C	Order Type Code	WORKORDER	WORKTYPE	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVWKHIST_OBJECT_NUMBER_C	Object Number	WORKORDER	"OR"+WONUM	None. This field does not appear on the Maximo interface.	This field appears as a drop-down list box in APM.
MI_EVWKHIST	MI_EVWKHIST_SAP_SYSTEM_C	CMMS System	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	This is a APM key field.

Values Mapped from Maximo Service Request to APM Work History Records

APM Family	APM Work History Field ID	APM Work History Field Caption	Maximo Table	Maximo Internal ID	Maximo Interface Label	Comments
MI_EVWKHIST	MI_EVENT_ASST_ID_CHR	Equipment ID	SR	ASSETNUM	Asset	None
MI_EVWKHIST	MI_EVENT_SHRT_DSC_CHR	Event Short Description	SR	DESCRIPTION	Summary	None
MI_EVWKHIST	MI_EVENT_LOC_ID_CHR	Location ID	SR	LOCATION	Location	None
MI_EVWKHIST	MI_EVWKHIST_SITE_C	Site	SR	SITEID	Site	None
MI_EVWKHIST	MI_EVWKHIST_OBJECT_NUMBER_C	OBJECT NUMBER	SR	"QM"+TICKETID	None. This field does not appear on the Maximo interface.	This is a APM key field.
MI_EVWKHIST	MI_EVWKHIST_RQST_CHNG_DT_D	Change Date	SR	CHANGEDATE	None. This field does not appear on the Maximo interface.	None
MI_EVWKHIST	MI_EVWKHIST_RQST_ID_C	Request ID	SR	TICKETID	Service Request	None
MI_EVWKHIST	MI_EVENT_ID	Event ID	SR	TICKETID	Service Request	None
MI_EVWKHIST	MI_EVWKHIST_SAP_SYSTEM_C	CMMS System	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	This is a APM key field.

Maximo Work History Detail Mappings

The following tables list the Maximo fields that are used to populate the fields in the Work History Details records created in APM when you extract Work Order information and Service Request information using the Maximo Work History Adapter.

Values Mapped from Maximo Work History Details to APM Work History Detail Records

APM Family	APM Work History Field ID	APM Work History Field Caption	Maximo Table	Maximo Internal ID	Maximo Interface Label	Comments
MI_DTWKHIST	MI_DTWKHIST_ASST_ID_C	Equipment ID	WORKORDER	ASSETNUM	Asset	None
MI_DTWKHIST	MI_DTWKHIST_EVNT_DTL_DESC_C	Work History Detail Description	WORKORDER	DESCRIPTION	Description	None
MI_DTWKHIST	MI_DTWKHIST_DTL_NARTV_T	Detail Narrative	WORKORDER	DESCRIPTION_LONGDESCRIPTION	This value appears in the **Long Description** box.	None
MI_DTWKHIST	MI_DTWKHIST_LOC_ID_C	Location ID	WORKORDER	LOCATION	Location	None
MI_DTWKHIST	MI_DTWKHIST_CNDTN_CD_C	Condition Code	WORKORDER	PROBLEMCODE	Problem Code	None
MI_DTWKHIST	MI_DTWKHIST_SITE_C	Site	WORKORDER	SITEID	Site	None
MI_DTWKHIST	MI_DTWKHIST_WRK_HISTRY_ID_C	Work History ID	WORKORDER	WONUM	Work Order	None
MI_DTWKHIST	MI_DTWKHIST_ORDR_ID_C	Order ID	WORKORDER	WONUM	Work Order	None

APM Family	APM Work History Field ID	APM Work History Field Caption	Maximo Table	Maximo Internal ID	Maximo Interface Label	Comments
MI_DTWKHIST	MI_DTWKHIST_EVNT_DTL_ID_C	History Detail ID	WORKORDER	WONUM	Work Order	This is a APM key field.
MI_DTWKHIST	MI_DTWKHIST_SAP_SYSTEM_C	CMMS System	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	This is a APM key field.

Values Mapped from Maximo Service Request Details to APM Work History Detail Records

APM Family	APM Work History Field ID	APM Work History Field Caption	Maximo Table	Maximo Internal ID	Maximo Interface Label	Comments
MI_DTWKHIST	MI_DTWKHIST_ASST_ID_C	Equipment ID	SR	ASSETNUM	Asset	None
MI_DTWKHIST	MI_DTWKHIST_EVNT_DTL_DESC_C	Work History Detail Description	SR	DESCRIPTION	Summary	None
MI_DTWKHIST	MI_DTWKHIST_LOC_ID_C	Location ID	SR	LOCATION	Location	None
MI_DTWKHIST	MI_DTWKHIST_SITE_C	Site	SR	SITEID	Site ID	None
MI_DTWKHIST	MI_DTWKHIST_RQST_ID_C	Request ID	SR	TICKETID	Service Request	None

APM Family	APM Work History Field ID	APM Work History Field Caption	Maximo Table	Maximo Internal ID	Maximo Interface Label	Comments
MI_DTWKHIST	MI_DTWKHIST_EVNT_DTL_ID_C	History Detail ID	SR	TICKETID	Service Request	This is a APM key field.
MI_DTWKHIST	MI_DTWKHIST_SAP_SYSTEM_C	CMMS System	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	Automatically populated by the Maximo System.	This is a APM key field.

Maximo Recommendation Mappings

The following tables contain a list of APM Recommendation fields that are used to populate Maximo Work Orders and Service Requests when you use the Maximo Notification Management Adapter.

Values Mapped to Maximo Work Order from APM Recommendation

APM Family	APM Field	Maximo Object Structure	Maximo Field
MI_REC	MI_REC_ASSET_ID_CHR	WORKORDER	ASSETNUM
MI_REC	MI_REC_SHORT_DESCR_CHR	WORKORDER	DESCRIPTION
MI_REC	MI_REC_LONG_DESCR_TX	WORKORDER	DESCRIPTION_LONG
MI_REC	MI_REC_LOC_ID_CHR	WORKORDER	LOCATION
MI_REC	MI_REC_SITE_C	WORKORDER	SITEID
MI_REC	MI_REC_TARGE_COMPL_DATE_DT	WORKORDER	TARGCOMPDATE
CONSTANT	WORKORDER	WORKORDER	WOCLASS
CONSTANT	PM	WORKORDER	WORKTYPE
CONSTANT	Add/Change	WORKORDER	@action

Values Mapped to Maximo Service Request from APM Recommendation

APM Family	APM Field	Maximo Object Structure	Maximo Field
MI_REC	MI_REC_ASSET_ID_CHR	SR	ASSETNUM
MI_REC	MI_REC_SHORT_DESCR_CHR	SR	DESCRIPTION

APM Family	APM Field	Maximo Object Structure	Maximo Field
MI_REC	MI_REC_LONG_DESCR_TX	SR	DESCRIPTION_LONG
MI_REC	MI_REC_LOC_ID_CHR	SR	LOCATION
MI_REC	MI_REC_SITE_C	SR	SITEID
MI_REC	MI_REC_TARGE_COMPL_DATE_DT	SR	TARGET FINISH
CONSTANT	SR	SR	CLASS
CONSTANT	Add/Change	SR	@action