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Enterprise Model Builder User's Guide

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About this guide

This document describes how to use the Enterprise Model Builder application to configure and manage the Enterprise Model. The Enterprise Model provides a means of organizing the system around the key entities (items) in the customer's enterprise such as assets, material, activities, and people.

Revision history

Revision	Date	Description
A	February 2015	Initial release of document.

Prerequisite skills

If you are not familiar with the Enterprise Model or the Enterprise Model Builder application, see the 'Enterprise models' section in the *Server and Client Planning Guide*, which provides concept, planning and design information for creating an Enterprise Model.

Special terms

The following terms are used in this document when describing the Enterprise Model and its components that enable it:

Term	Definition
Enterprise Model (EM)	The collective grouping of the Enterprise Model database (EMDB) and the Enterprise Model runtime.
EM Runtime	The portion of the EMDB that is loaded to the servers, and that is used for determining features such as Scope of Responsibility and Alarm Displays.
Enterprise Model Builder (EMB)	The application used to configure the asset model, alarm groups, and the server definitions.
Enterprise Model Database (EMDB)	The repository for the asset model, alarm groups and server definitions in Enterprise Model Builder.
System	The set of servers that reside within the domain of an Enterprise Model.
System server	The server that hosts the EMDB.

About the Enterprise Model

The Enterprise Model Builder (EMB) is the application used to build, edit, and download an Enterprise Model in Experion PKS systems. The Enterprise Model provides a means of organizing the system around the key items in the customer's enterprise, such as assets, material, activities, and people.

Using the Enterprise Model Builder you can:

- Create and construct an asset model
- Create and construct alarm groups
- Load asset model and alarm group configurations to the servers
- Export and import asset models and alarm group files
- Merge multiple Enterprise Models into one system
- Divide an Enterprise Model among multiple systems

Installing the Enterprise Model Builder

The Enterprise Model Builder Database (EMDB) can be installed as part of an Experion PKS server installation. The Enterprise Model Builder application is installed on all Experion Server and Station nodes.

Item names

All items in the Enterprise Model (systems, servers, assets and points) have a tag name which is a unique name used by the system to identify that item. In addition to the tag name, items also have an item name and a full item name (also referred to as an Enterprise Model name), which provide a more structured way of identifying items.

About item names

Item name is a property that is given to all tagged objects in the system. It can be a more descriptive name for an item, rather than using just a tag name. Item name does not have to be unique within a system, but it must be unique among the children of the same parent. When you create an asset or alarm group a default item name is given to that item, you can change this item name to more easily identify the item within the Enterprise Model.

About full item names

The full item name (otherwise known as the Enterprise Model name) is comprised of a set of individual names, one for each individual item. In many cases the structure of the name used to name items in a model is defined by the structure of the model itself, as is the case for the asset model. The full item name is similar in style to the path naming convention that is used for defining files within folders and directories in a Windows environment.

In Enterprise Model Builder the full item name has the following general form:

```
[/SystemName][/Model]/TopLevelItem/Item/.../Item
```

Where *systemName* refers to the name of the DSA system that the particular Enterprise Model includes. If the system name is not specified, then the local system is assumed. If the model name is not specified, then the asset model is assumed.

As an example, the following name refers to an agitator asset in the 1st precipitator on Train 1 in precipitation:

```
/Assets/Precipitation/Train1/Precipitator1/Agitator
```

Item names must be unique amongst the children of a particular asset.

Alarm groups can be referenced similarly as follows:

```
/AlarmGroups/AlarmGroup1
```

About tag names

All Enterprise Model items have a unique tag name (point name) that identifies the item throughout the system. There are cases in which it is more convenient to identify a point or item directly by its tag name.

Points and alarm groups can also be given an Enterprise Model name when associated with assets in the asset model. This allows the points/alarm groups to be identified by names that are more meaningful to users of the system than only tag names. The system allows either tag names or full item names to be used to identify points and items.

The name for point tags spans the entire DSA system and the system assumes that point tag names are unique throughout the system. However, there are cases where point tag names may not be unique. For example, when two LCN systems on separate Enterprise Model Builder servers are integrated into a DSA system, the LCN systems may contain duplicate tag names. A similar situation can occur when two separate existing Enterprise Model Builder servers are first integrated in a DSA system.

Checks for duplicate tag names

The Enterprise Model Builder is responsible for ensuring that the tag names of all assets and alarm groups in an Enterprise Model are unique. When an alarm group is created, it may reference one or more points that have duplicate tag names prefixed with either the system name or the server name, as appropriate. If the Point Browser is used to pick the tag names that belong to an alarm group, it will return the prefixed tag name when appropriate. If you type in a tag name without prefixing it and there happens to be a duplicate, an error is raised by the Enterprise Model Builder server when you attempt to load the model to a server.

Support for duplicate tag names

In order to understand duplicate tag name support, you need to understand the difference between the two different types of points. Server-owned points are points that are owned by a particular server. Examples are analog, status, and CDA points. System-owned points are points that are owned by the system as a whole (which may span several servers). Examples include asset and alarm group points.

Duplicate tag names for server-owned points are supported so long as they exist on separate servers. Duplicate tag names for system-owned points are supported so long as they exist in separate systems. To distinguish between two server-owned points with duplicate tag names, the tag name must be prefixed with the server alias. To distinguish between two system-owned points with duplicate tag names, the tag name must be prefixed with the system name.

To reduce the possibility of clashes with Enterprise Model names, the colon character (':') is used when prefixing the server or system name to the tag name. A system-owned point can never have the same tag name as a server-owned point.

Example of a tag name for a server-owned point:

`SERVER1:FIC123`

Example of a tag name for a system-owned point:

`Mighty River Hydro:TANK01`

For server-owned points where the server alias is not specified, the local server is assumed. Similarly, for system-owned points where the system name is not specified the local system is assumed.

Enterprise Model guidelines

The Enterprise Model Database (EMDB), which is separate from other engineering and system databases, resides on the system server.

Asset models and alarm groups can be created and configured offline in a similar manner as control strategies can be configured in Control Builder. When the offline configuration is complete, the asset model files can be loaded to the servers.

Asset and alarm group restrictions

- Up to 1,000 assets can be designated as assignable within a system model.
- The hierarchy of an asset model should have no more than 10 levels. For usability reasons, it is strongly recommended that you limit the number of levels to 5.
- Up to 5,000 alarm groups can be defined within a system model.
- Alarm groups should have no more than 5 levels.



Attention

- When creating the levels in your asset model and alarm groups, you need to bear in mind that the Full Item Name of an asset or alarm group (which includes the full path of those levels) is limited to a maximum of 200 characters.
-

Client node restrictions

- Enterprise Model Builder (EMB) can be installed on client nodes so that up to 4 users can access and use EMB.
- Each client node may run one asset configuration and one alarm group configuration simultaneously.
- Up to a total of 6 instances of Control Builder and EMB can be running on a workstation together. For example, you can have 3 instances of Control Builder and 3 instances of EMB open on the same client node, or any combination of the two applications that total 6.
- Up to 4 alarm group configurations may be run from different client nodes simultaneously.

Configuring the system

Related topics

“Renaming the system” on page 14

“Adding servers to a system” on page 15

“Loading the system configuration to servers” on page 19

Renaming the system

When Enterprise Model Builder is installed on the server, a default name is given to the system name which you can change. The system name must be unique as it is used by the cluster or all of the servers that are a part of the Enterprise Model.

The system name, which is prefixed to the asset or point name, can be used to distinguish assets/points in one cluster (or system) from the assets/points in another cluster (or system).

Prerequisites

- You have a security level of ENGR or higher.
- At least one user has been defined on the server.



Attention

- When you click **Rename this system**, the system configuration is locked preventing changes by any other users. Once the new name is validated, the lock is removed.
-

To rename the system

- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node.
- 2 Under **System Tasks**, click **Rename this system**.
The **ROOT Block Parameters** dialog box displays.
- 3 In the **Tag Name** box, type the new system name, ensuring that it is no more than 40 characters in length.



Attention


- You cannot use the ampersand (&) character in system names.
-
- 4 If required in the **Item Name**, type an item name for the system.
 - 5 Click **OK**.

Next steps

Load the system configuration to all servers so that the new system name is distributed to all servers in the system.

Adding servers to a system

Servers within the system are considered assets and are part of the system model. Servers are defined and added as part of the system model in Configuration Studio.

External servers can be added that communicate with the system through DSA. However, servers, assets, and alarm groups cannot be downloaded to servers external to the system. External servers are represented in the network tree by the  icon.

Prerequisites

- At least one user has been defined on the server.
- You have a security level of ENGR or higher.



Tip

When adding a server, you can choose to import any areas, assets, and alarm groups defined on that server into the Enterprise Model Database. Messages will prompt you on your choices.

To add system servers to the Enterprise Model

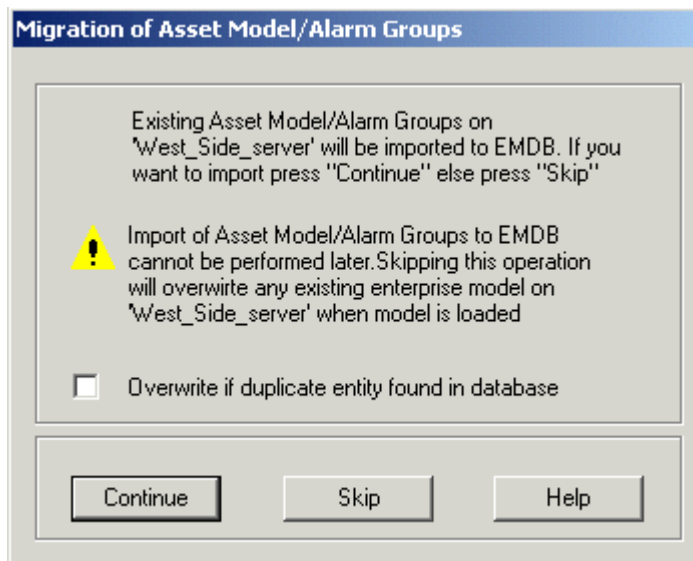
- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node or the **Servers** node.
- 2 Under **Server Tasks**, click the **Add a server to this system** task.
The **SERVER Block Parameters** dialog box appears.

Figure 1: Example SERVER Block Parameters dialog box

- 3 In the **Alias** box, type a new unique tag name.

- 4 If the server is external to the system, select the **Server External To System** check box.
An example of a server that is considered external to the system is where you want to access the data on that server, however, you do not want to manage the Enterprise Model on this server from this system (as this server may be part of another system that has a separate Enterprise Model and Enterprise Model Database). Servers marked as external to the system are excluded from load model operations from this Enterprise Model Database.

If you select this check box, the **Description** and **Abbreviation** boxes are disabled; this information is not required for servers external to the system.
- 5 In the **Description** box, type a description of the server.
- 6 In the **Abbreviation** box, type an abbreviated name for the server.
- 7 If the server is a non-publishing server, select the **Non-Publishing Server** check box.
An example of a non-publishing server is eServer.
- 8 In the **Node Name** box, type the name of the server node. It can be the same as the server tag name.
- 9 In the **Network Type** list, select the server network connection type (SINGLE/FTE or DUAL).
- 10 If the server is part of a redundant pair, select the **Redundant?** check box.
- 11 Click the **Identification** tab.
In the **Block Comment** boxes, type additional information about the server.
- 12 Click **OK**.
A message box appears prompting you to perform a load of the system configuration to distribute the change to all of the servers.
- 13 Click **Yes** to continue displaying these server update messages for the current Configuration Studio session.
A server logon dialog box appears.
- 14 Type a valid user name and password. In the domain list, select **<None>**, and then click **OK**.
A migration of Asset Model/Alarm Groups dialog appears, prompting you to choose whether to import the existing asset model/alarm groups on the newly created server into the Enterprise Model Database.



Select the **Overwrite if duplicate entity found in database** check box to overwrite any existing assets or alarm groups that are duplicates. Clear this check box if you want to be prompted when a duplicate is found.



CAUTION

If you click **Skip**, any existing asset and alarm groups on the server will be overwritten when a model is loaded to that server.

- 15 If you click **Continue**, the asset model and alarm groups from the server will be imported into the EMDB.



Once completed, the newly added server now displays in the System Model tree in Configuration Explorer.

If migration of an asset model or alarm groups fails, the server is not added to the system.

16 Repeat steps 1 to 15 for each server to be defined in the system model.

Results

After a server is added to the system, an icon representing the server displays in the Configuration Explorer tree view. You are now able to configure settings on the server by clicking on a relevant icon under the Server and completing the tasks displayed on the right of the window.

SERVER Block properties reference

The Main tab on the SERVER Block Properties Form contains the following fields:

Field	Description
Alias	An eight-character name that uniquely identifies the server in the system
Description	Up to 24 characters of descriptive text. This text appears on detail and group displays to uniquely describe this block.
Abbreviation	An abbreviated name to identify the server.
Server External to system?	If this field is checked, the server is a remote server.
Non-Publishing Server	If this field is checked, the server is non-publishable.
Node Information	
Node Name	The name of the server node in the system. In the case of a redundant server however, enter the server name minus the last character.
Network Type	Select the communication network type on which the server resides. Single/FTE - If node uses a single subnet or Fault Tolerant Ethernet network for communications. Dual – If the node uses two separate subnets for communications.
Redundant?	If this field is checked, the server is redundant.
System Wide Event Configuration	
Server hosts the System Wide Live Event Cache	If this field is checked, this server will host the system wide live events cache. This option is deselected by default. Only one server in a system can host the live events cache. If you select this option on a system where another server has already been nominated as the Live Events Cache host, you will be prompted to confirm whether you want to proceed with this setting for the current server. If you choose to continue, this server will become the Live Event Cache host and the other server will have the setting cleared on its properties page.
Server publishes System Wide Events	If this field is checked, this server will publish events to the system wide live events. This option is selected by default.

Field	Description
Server subscribes to System Wide Events	If this field is checked, this server will subscribe to system wide live events. This option is selected by default.

Loading the system configuration to servers

A system configuration load is performed during initial server configuration and anytime that system name or any server configuration has been changed. The system configuration is also loaded to the servers as part of loading the asset model and alarm groups. The system configuration load task downloads the system configuration to all of the configured servers in the system.

System configuration in EMDb consists of the following:

- System name.
- Definition of all configured servers.

Prerequisites

- You have a security level of ENGR or higher.
- The Windows mngr user passwords are the same across all servers in the system.

To load the system configuration to servers

- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node or the **Servers** node.
- 2 Under **Server Tasks**, click **Load system configuration to servers**.

The **Enterprise Model Builder - Load** window appears.

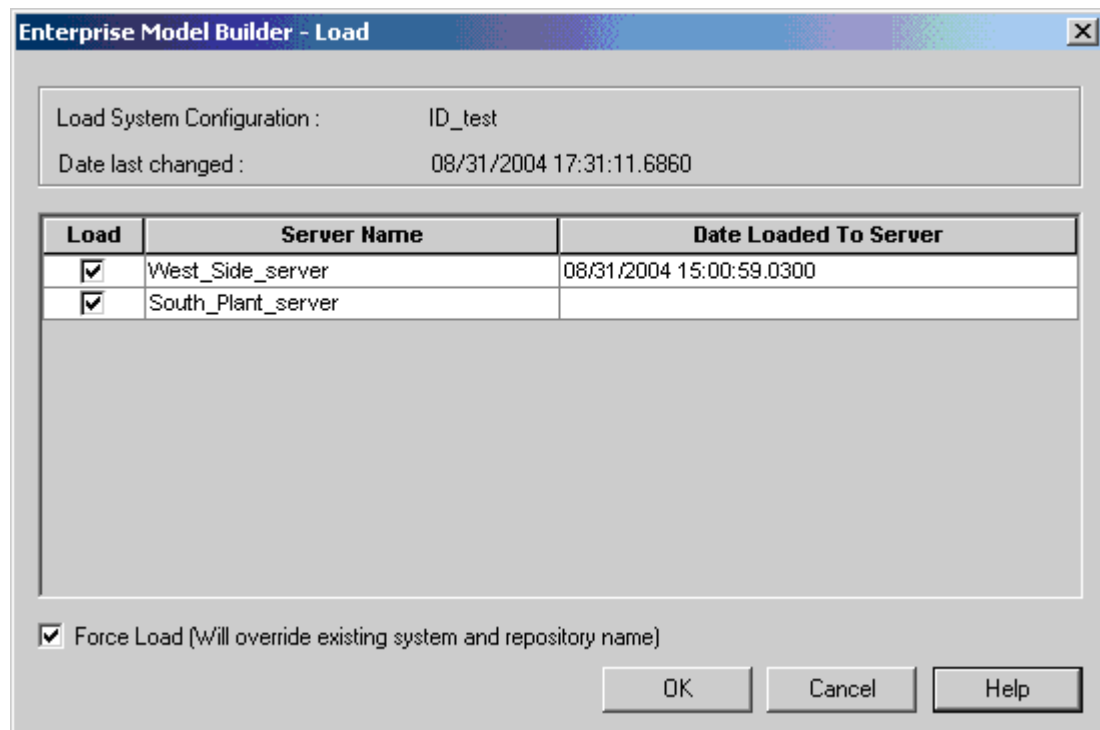


Figure 2: Example Enterprise Model Builder - Load window

- 3 In the **Load** column, select the check boxes of the server that you want to download the system configuration to. Clear the check box of any servers that you do not want to load the system configuration to.



Attention

If no servers are selected, the **OK** button is disabled.

- 4 Click **OK** to begin the system configuration load to the selected servers.

The **Loading System Configuration** dialog appears listing the servers selected for load the system configuration, the load status, and a detailed description for each server. A progress bar shows the duration of the load operation.



Attention

- During the system configuration load, the system will be locked to other users.

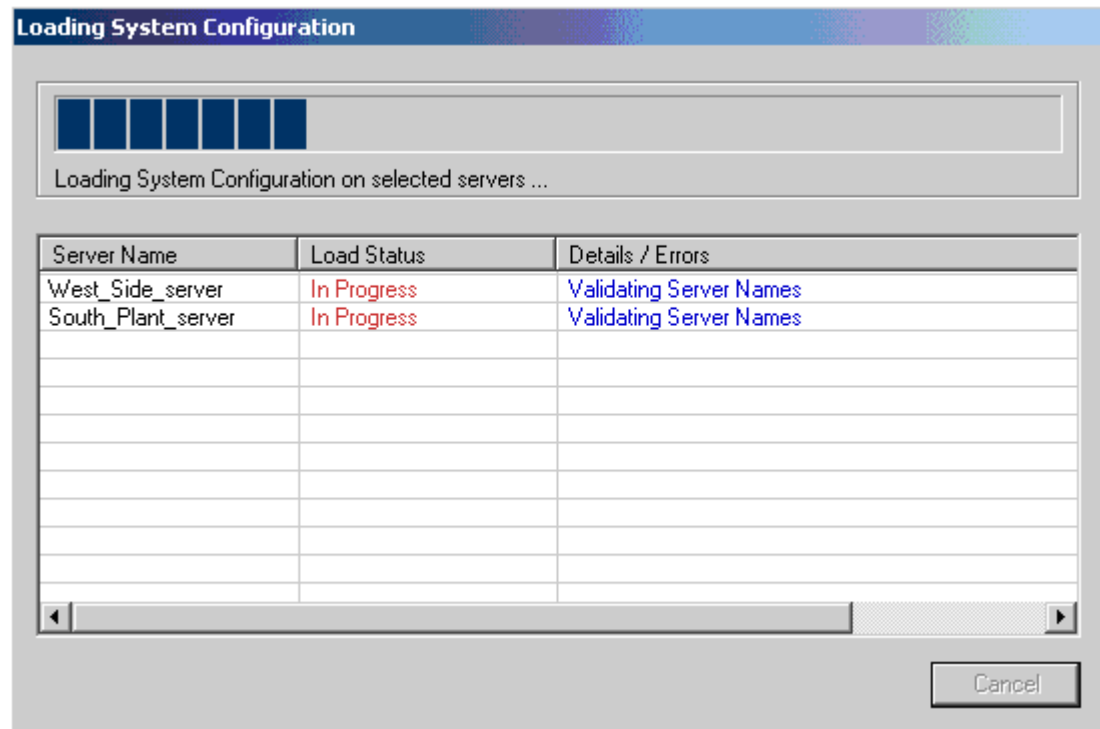


Figure 3: Example Loading System Configuration dialog box

The load operation validates all server names for all the configured servers in the system, on the server(s) selected for load.

If the load operation is successful without detection of any errors or warnings, a load status of Complete appears.

If any errors occur during the load operation, correct the fault and perform the load procedure again.

Load System Configuration properties reference

The **Load** dialog box and the **Load System Configuration** dialog box contain the following properties:

Property	Description
Load	Check boxes allow you select to which servers you want to load. By default, all listed servers are selected.
Server Name	A list of all configured servers in the cluster or system. Remote servers are not shown. If any of the servers selected for load are redundant, the EMB loads to the primary server, then the changes are synchronized to the secondary server.
Date Loaded To Server	Indicates the date and time this model was last loaded to the server.
Force Load	Add a check to this box if you want to override the existing system and repository name in the selected servers.

Property	Description
Help	The Help button opens the <i>Enterprise Model Builder User's Guide</i> and displays information about loading system configuration.
Details/Errors	Show the details relating to the Load Status. If errors occur, a message is displayed.

About status and error messages

Lock errors

When you begin a load operation, the selected items are locked to other users until the load is completed. These items may include the system configuration, asset model, alarm groups, or server definitions. If any of these items is already locked by another user, a message displays describing the locked item and the name of the user that has locked it. These locks must be cleared before proceeding with the load.

Load errors

When you begin a load operation, the system configuration portion of the Enterprise Model or the entire model is downloaded from the EMDB repository to selected servers on the system. If errors occur during the load, an error message may appear, the load operation may abort or be canceled, or the load may continue and complete. The **Load Status** and **Details/Errors** columns in the Load dialog provide information on the status of the load and the cause of any errors. The **Load Status** column of the dialog will indicate the taken by the EMB. Depending upon the type of error or when during the load operation the error occurred, one of three conditions will result:

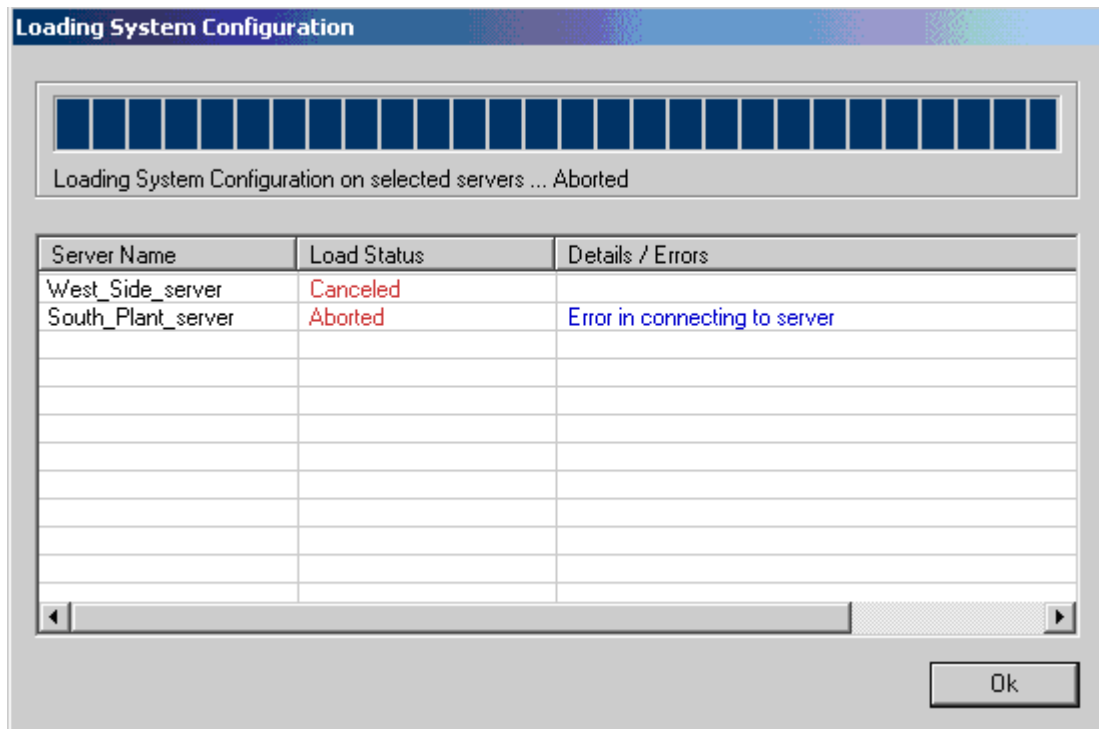
- The load operation aborts on the server where the error was detected. Other servers selected for load may show a status of *Canceled*.
- The load continues and then fails because of a detected error.
- The load completes but reports that an error that was detected, see 'Server Load status'.

A description of the error appears in the **Details/Errors** column, or if there are multiple errors, **Double-click to view log file** appears in the **Details/Errors** column. Double-click on this link to open an error log in Notepad which describes the detected errors.

Load abort errors

The system configuration, or the entire Enterprise Model, will be exported for loading onto the selected server(s). If any errors are detected during export, the entire load operation is aborted and the error is reported to you.

For example, if an error is detected during server validation, the load operation is aborted and the error is reported. The Load Status of **Aborted** appears against the server(s) where the error was detected, as shown in the following figure. The **Details/Errors** column describes the cause of the error. The Load Status of **Canceled** is shown for the other servers, meaning that the load operation was not attempted on those servers.



Load failed errors

When an error is detected during a load operation, a Load Status of *Failed* may appear against the server on which the load operation has failed. However, the load will continue for the other selected servers. A brief description of the error is reported to you in the **Details/Errors** column.

For example, an error may occur when the system name or EMDb has changed and the Force Load option is not checked. The error message will tell you to perform a load with the Force Load option checked (check box on Load dialog) if you wish to overwrite the current system configuration.

If additional errors occur a log file is generated. **Double-click to view log file**, appears in the Details/Errors column against the server on which the errors have occurred. Double-click the link to view a log file generated by the errors. You should rectify the error and repeat the load for that particular server.

If any warnings are generated during the load operation, the load will complete, but the Load Status column will show *Complete (with warnings)*. This may happen when you have chosen the Force Load option, and the system name or EMDb has changed. The load proceeds but a log file will be generated. Click on **Double-click to view log file** to view a log file generated by the errors. You should rectify the error and repeat the load for that particular server.

Related topics

“Loading the Network tree configuration to servers” on page 25

“Loading the model to servers” on page 83

“Load Enterprise Model to servers” on page 99

Troubleshooting load error messages

If an error is detected during the load operation, a status of the load operation is indicated for that server in the **Load Status** column. The **Details/Errors** column gives a brief description of the error. When multiple errors occur, **Double-click to view log file** appears in the **Details/Errors** column. Double-click on the link to open the error log in Notepad which describes the errors.

When errors are reported, look in the Enterprise Model Builder log file and take steps to clear the error before retrying the load operation.

Log files are located in two places:

- `<data folder>\Honeywell\Experion PKS\`
- `<data folder>\Honeywell\Experion PKS\Temp\EMB\`

Where `<data folder>` is the location where Experion data is stored. For default installations, `<data folder>` is `C:\ProgramData`. The `C:\ProgramData` folder is a system folder, which means that it is only visible if you select the **Show hidden files, folders, and drives** option button in the **Folder Options** dialog box. To change this setting in Windows Explorer, click **Organize > Folder and search options**, and then click the **View** tab.

For example, if you encounter any of the following error messages during a load operation:

Error in validating server names
Error in validating point names
Error in validating FQN

Look in the log file and determine what items were causing validation to fail. Look in the most recent file of the form `ErrLog_n.txt`, (where n = a number). Rename the items and then retry the load operation.

The error messages which may be shown in the **Details/Errors** column or in the error log, are listed in the following table:

Details/Errors message	Description
Error in validating server names	Indicates that validation of server names on that particular server has failed. The Load Status of the server is <i>Abort</i> . The load operation to that server is aborted.
Error in validating point names	Indicates that validation of point names on the particular server has failed. The Load Status of the server is <i>Abort</i> . The load operation to that server is aborted.
Error in validating FQN	Indicates that validation of Full Qualified Names (Full Item Names) on the particular server has failed. The Load Status of the server is <i>Abort</i> . The load operation to that server is aborted.
Error in exporting system configuration	Indicates that the export of system configuration has failed. The Load Status of all servers is <i>Abort</i> . The load operation is aborted.
Error in exporting Asset/Alarm group	Indicates that the export of Asset model or Alarm groups has failed. The Load Status of all servers is <i>Abort</i> . The load operation is aborted.
System Name changed - Repeat Load with Force Option set	Indicates that the system name has been changed since the previous load. The Load Status of the server is <i>Failed</i> . The load operation fails for that server.
Repository changed - Repeat Load with Force Option set	Indicates that the EMDB repository has been changed since the previous load. The Load Status of the server is <i>Failed</i> . Load fails for that particular server.
Connection to server failed	Indicates that there was error in connecting to the server. The Load Status of the server is <i>Failed</i> . Load fails for that server.
Error in loading system configuration	Indicates that an unexpected error has occurred in loading system configuration. The Load Status of the server is <i>Failed</i> . The load operation fails for that server.
Error in loading Asset/Alarm Group	Indicates that an unexpected error has occurred in loading the asset model or alarm group. The Load Status of the server is <i>Failed</i> . The load operation fails for that server.
Unable to locate the network share SVRPTBLD.	This error occurs when the network share 'SVRPTBLD' is not found on the client. EMB may need to be reinstalled on the client.

Related topics

“Loading the Network tree configuration to servers” on page 25

Loading the Network tree configuration to servers

You load the Network tree configuration after you have initially configured your Network tree or after you have made adjustments to the Network tree, such as deleting items. An icon appears next to the Network tree item in Configuration Studio to indicate that a change has been made and you need to load the configuration.

To load the Network tree configuration

- 1 In the Configuration Explorer in Configuration Studio, select the system you want to configure. The Network tree appears underneath the system item.
- 2 Click on the **Network** item in the tree.
- 3 Under **Network Tasks**, click the **Load Network Configuration to servers**.
- 4 In the Load column, select the check boxes of the servers that you want to download the Network tree to.
- 5 Click **OK** to begin the Network tree load to the selected servers.

Related topics

“About status and error messages” on page 21

“Troubleshooting load error messages” on page 22

Configuring assets

Assets are items that make up the asset model.

Prerequisites

- You have a security level of ENGR or higher.
- You have launched Configuration Studio and connected to an Experion system. You can only configure assets within an Experion system. You cannot configure assets when connected only to an Experion server.
- You have already configured the system and added servers to the system using Configuration Studio.

To configure assets

- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node.
- 2 Under **System Tasks**, click **Configure Assets for this system**.
The **Enterprise Model Builder** window appears. The left side of the window shows an Asset tree view containing the asset model structure.

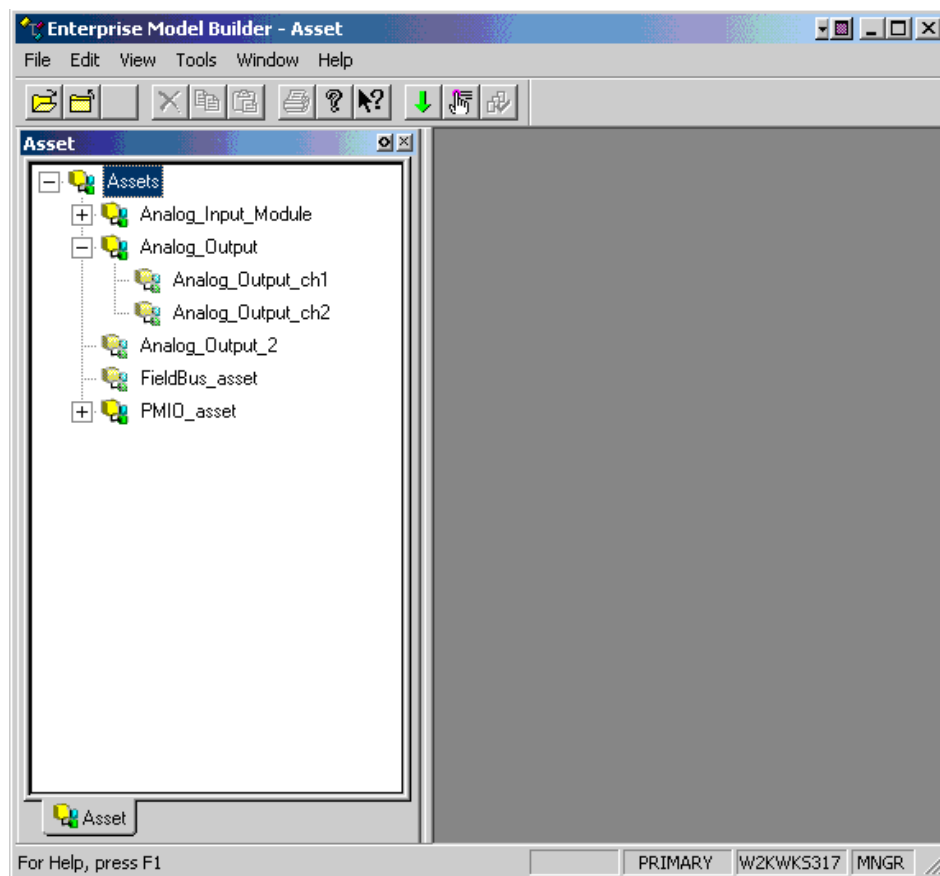



Figure 4: Example of the Asset tree view window in Enterprise Model Builder

- 3 If the Asset tree view window is not visible, click **Open Tree**  on the toolbar to open the asset model.
- 4 Choose **File > New ASSET**.
The **ASSET Block Parameters** dialog box appears.

ASSETS:ASSET Block, AI_device_ch2 - Parameters

Main Identification

Tag Name: AI_device_ch2

Item Name: Analog_input_ch2

Full Item Name: Assets/Analog_Input_Module/Ana

Description:

Point Detail Page:

Associated Display:

☒ Directly Assignable (for scope of responsibility and alarm enable/dis)

☐ Show Parameter Names

OK Cancel Help

Figure 5: Example ASSET Block Parameters dialog box

- 5 In the **Tag Name** box, Enterprise Model Builder has already assigned a default tag name. Type a new unique tag name.
- 6 In the **Item Name** box, Enterprise Model Builder has already assigned a default item name. Type another item name, if you require a different item name.
- 7 In the **Description** box, type a description of the asset.
- 8 In the **Point Detail Page** and **Associated Display** boxes, type the name of the associated displays.
- 9 Select the **Directly Assignable (for scope of responsibility and alarm enable/disable)** check box if you want the asset to be assignable to an operator, Station, or alarm group.
The icons for unassigned assets in the Asset tree view appear dimmed.
- 10 Click the **Identification** tab.
- 11 In the **Block Comment** boxes, type additional information about the asset.
- 12 Click **OK** to create the asset.
The asset appears in the Asset tree view.



Tip

You can arrange assets within the asset tree view by the clicking on the asset icon, and then dragging and dropping the icon to the new location.

- 13 Repeat the above steps for each asset to be defined in the asset model.

Next steps

After configuring the assets and building the asset model, you need to load the asset model to servers in the system.

Related topics

“Loading asset model and alarm groups onto servers in the system” on page 39

“Identifying assets and alarm groups that need to be loaded” on page 43

ASSET Block properties reference

The **Main** tab on the ASSET Block Properties dialog box contains the following properties:

Property	Description
Tag Name	An eight-character name that uniquely identifies this entity within the system.
Item Name	This name does not need to be unique within the system model but must be unique within the children of this particular entity.
Full Item Name	A read-only identifier that consists of the item name of the entity combined with the item name of its parent, and so forth, up to a top level node, similar to the pathname of a file within a directory on your computer. For example, /Plant/Filtration/Tank/Flowmeter.
Description	Up to 24 characters of descriptive text. This text appears on detail and group displays to uniquely describe this block.
Point Detail Page	Enter the name or number of the point detail display page.
Associated Display	The name of the associated display
Directly Assignable (for scope of responsibility and alarm enable/disable)	If this box is checked the asset will be assignable to a station, an operator, or an alarm group.

Configuring alarm groups

Alarm groups provide a means to monitor a group of assets and or data points that are otherwise unrelated to one another in the asset model. Alarm groups are built, and assets are associated with alarm groups by entering the asset tag name as part of the alarm group definition.

Alarm groups are referenced with other alarm groups through a containment relationship, where one alarm group is contained by another (much like assets in the asset model). A set of alarm groups defined in a system effectively form an alarm group model, which is separate from the asset model.

Alarm groups are created and configured in the same way as assets. Assignable assets and data points can be associated with an alarm group.

Prerequisites


- You have a security level of ENGR or higher.
- You have created an asset model and configured assignable assets.
- You have built and configured points, and associated them with assets using Quick Builder or Control Builder.
- Points and assets should be loaded.



Attention

If a point that belongs to an alarm group is deleted, it will be removed from the alarm group in the Experion database. If the point is re-created, you need to update the alarm group configuration in Configuration Studio and download the alarm group configuration again to ensure the point is re-added to the alarm group.

To create and configure alarm groups for the system

- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node.
- 2 Under **System Tasks**, click **Configure Alarm Groups for this system**.
The **Enterprise Model Builder - Alarm Groups** window appears.
The left side of the window shows an Alarm Group tree view containing the alarm group structure.
- 3 If the Alarm Group tree view window is not visible, click **Open Tree**  on the toolbar to open the alarm group model.
- 4 Choose **File > New ALARMGROUP**.
The **ALARMGROUP Block Parameters** dialog box appears.

GROUPS:ALARMGROUP Block, Second_tier_alarm_2 - Parameters

Main Identification

Tag Name: Second_tier_alarm_2

Item Name: Second_tier_alarm_2

Full Item Name: Alarm Groups/First_tier_alm_1/Sec

Description:

Associated Asset: Analog_input_ch1

Point Detail Page:

Associated Display:

Number of Group Items: 8

Group Items:	
1	
2	
3	
4	
5	
6	
7	
8	

☐ Show Parameter Names

OK Cancel Help

Figure 6: Example ALARMGROUP Block Parameters dialog box

- 5 In the **Tag Name** box, Enterprise Model Builder has already assigned a default tag name. Type a new unique tag name.
 - 6 In the **Item Name** box, Enterprise Model Builder has already assigned a default item name. Type another item, if you require a different item name.
 - 7 In the **Description** box, type a description of the alarm group.
 - 8 In the **Associated Asset** box, type the tag name of the asset you want to associate with this alarm group. Or, click the ellipsis button to display the **Point Selection** dialog box, where you can select the asset.
 - 9 In the **Point Detail Page** and **Associated Display** boxes, the name of the associated displays.
 - 10 In the **Number of Group Items** box, type the number of items (assets and data points) that you want to be in this alarm group. There is a limit of 20 items.
 - 11 For each row in the **Group Items** list, type the tag names of the assets and data points that you want to include in each alarm group.
 - 12 Click the **Identification** tab.
 - 13 In the **Block Comment** boxes, type additional information about the alarm group.
 - 14 Click **OK** to create the alarm group.
- The alarm group appears in the Alarm Group tree view.



Tip



You can arrange alarm groups in the Alarm Group tree view by clicking on the alarm group icon, and then dragging and dropping the icon to the new location.

- 15 Repeat the above steps for each alarm group to be defined in the alarm group model.

Results

After configuring the alarm groups and building the alarm group model, you need to load the alarm group model to servers in the system.

Alarm groups are represented in the Alarm Group tree view by the following icons:

Description	Icon
Alarm Groups	
Alarm Groups with multiple parents	

Related topics

“Loading asset model and alarm groups onto servers in the system” on page 39

“Identifying assets and alarm groups that need to be loaded” on page 43

ALARMGROUP Block properties reference

The **Main** tab on the **ALARMGROUP Block Properties** dialog box contains the following properties:

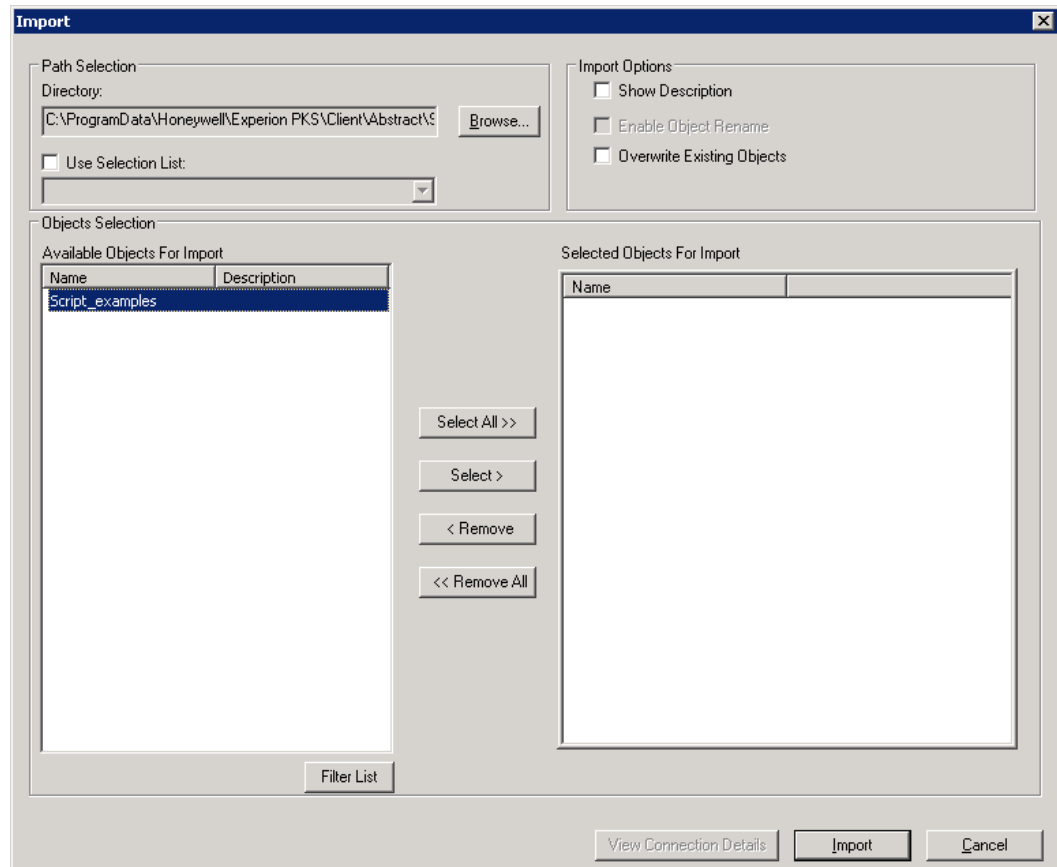
Property	Description
Tag Name	An eight-character name that uniquely identifies this entity within the system.
Item Name	This name does not need to be unique within the system model but must be unique within the children of this particular entity.
Full Item Name	A read-only identifier that consists of the item name of the entity combined with the item name of its parent, and so forth, up to a top level node, similar to the pathname of a file within a directory on your computer. For example, /Plant/Filtration/Tank/Flowmeter.
Description	Up to 24 characters of descriptive text. This text appears on detail and group displays to uniquely describe this block.
Associated Asset	The Tag Name of the Asset to be associated with the alarm group.
Point Detail Page	Enter the name or number of the point detail display page.
Associated Display	The name of the associated display.
Number of Group Items	The number of Group items (assets, points) to associated with this alarm group.
Group Items	The tag names of the assets and/or points associated with the alarm group.

Importing alarm group files

HMIWeb displays can generate an alarm group file based on the points contained within each display, or a single alarm group file for more than one HMIWeb display. For more information about creating alarm group definition files in HMIWeb Display Builder, see the *HMIWeb Display Building Guide*.

To import an alarm group files

- 1 In Enterprise Model Builder, choose **File > Import**.
The **Import** dialog appears.



- 2 Click **Browse**, locate the folder containing the alarm group file (*.cnf.xml), and then click **OK**.
If you have generated individual alarm group files for each display, this file will be located in the display's 'underscore' folder (the folder located in the same location as the display file with *_files* appended to the folder name).

In the **Available Objects For Import** list, objects that can be imported appear.

- 3 In the **Available Objects For Import** list, select the objects to import and then click **Select**.
- 4 Click **Import**.

The **Importing Data** dialog box appears. If the alarm group import is successful this dialog box will disappear as soon as the alarm group has been imported. Any errors will appear in the **Error** list.

The imported alarm group appears as a child of the Alarm Groups parent in the alarm group tree.

Next steps

Modify the alarm group name and properties, if required, and download the alarm group to the system.

Loading asset model and alarm groups onto servers in the system

The asset model and/or alarm groups can be loaded to servers that are configured as part of the Enterprise Model. The procedure is the same when loading either the asset model or alarm groups.

The asset model and alarm groups can be loaded to the following server types:

- Experion Server
- Plant Reference Model (PRM) Server.

This operation loads the entire asset model or alarm groups to the selected servers. The entire model includes the system configuration and all defined items in the model, which includes the top-level asset or alarm group and all assets or alarm groups associated with that item. Individual assets cannot be loaded, assets and alarms are loaded as a model.



Attention


During the load operation, assets and points may temporarily belong to unassigned items in the Alarm Summary display. The tree view on the left of the display may show an incomplete model. Additionally, alarms may temporarily be raised against assets and points in the model showing a blank location field. These conditions should clear once the download is completed.

When you start the load process, all items of the Asset model and/or Alarm group and all configured servers selected for load are locked to other users. If the asset model or alarm group to be loaded is already locked, an error is reported and the load operation is aborted. If any of the configured servers are already locked an error is reported and the load operation is aborted.

Prerequisites

- You have a security level of ENGR or higher.
- A system model has been defined, consisting of at least one server.
- An asset model, or alarm groups, have been defined.
- You have the Enterprise Model Builder window open with either an Asset tree view or Alarm Group tree view displayed.

To load the asset model or alarm groups onto servers in the system

- 1 In Enterprise Model Builder, choose **Tools > Load Entire Model** or click **Load Entire Model**  on the toolbar.
The **Enterprise Model Builder - Load** window appears.

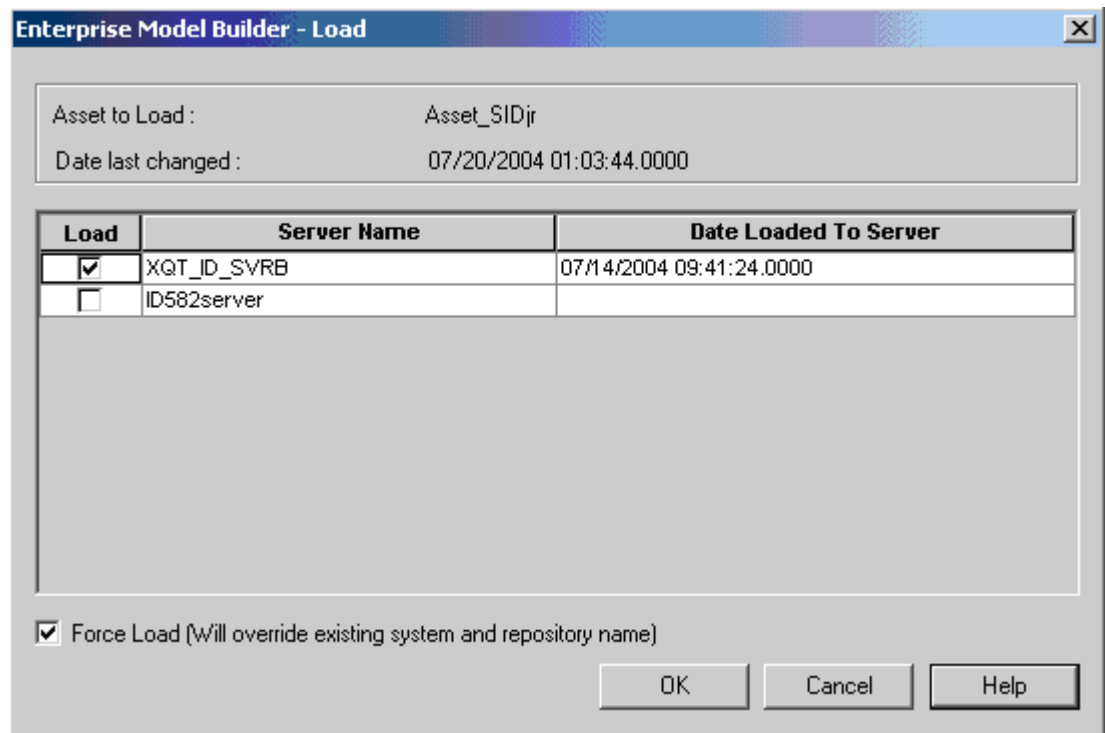


Figure 7: Example Enterprise Model Builder - Load window

- In the **Load** column, select the check boxes of the servers that you want to download the asset or alarm groups to. Clear the check box of any servers that you do not want to load asset or alarm groups to.

**Attention**

If no servers are selected, the **OK** button is disabled.

- If required, select the **Force Load** check box to allow the load to proceed even if the system name or repository name has changed.
- Click **OK** to begin the asset or alarm group load to the selected servers.
The **Loading Asset** or **Load Alarm Group** dialog box appears, showing the name of the top-level asset or alarm group that is being loaded. A progress bar is shown to show the duration of the load operation.

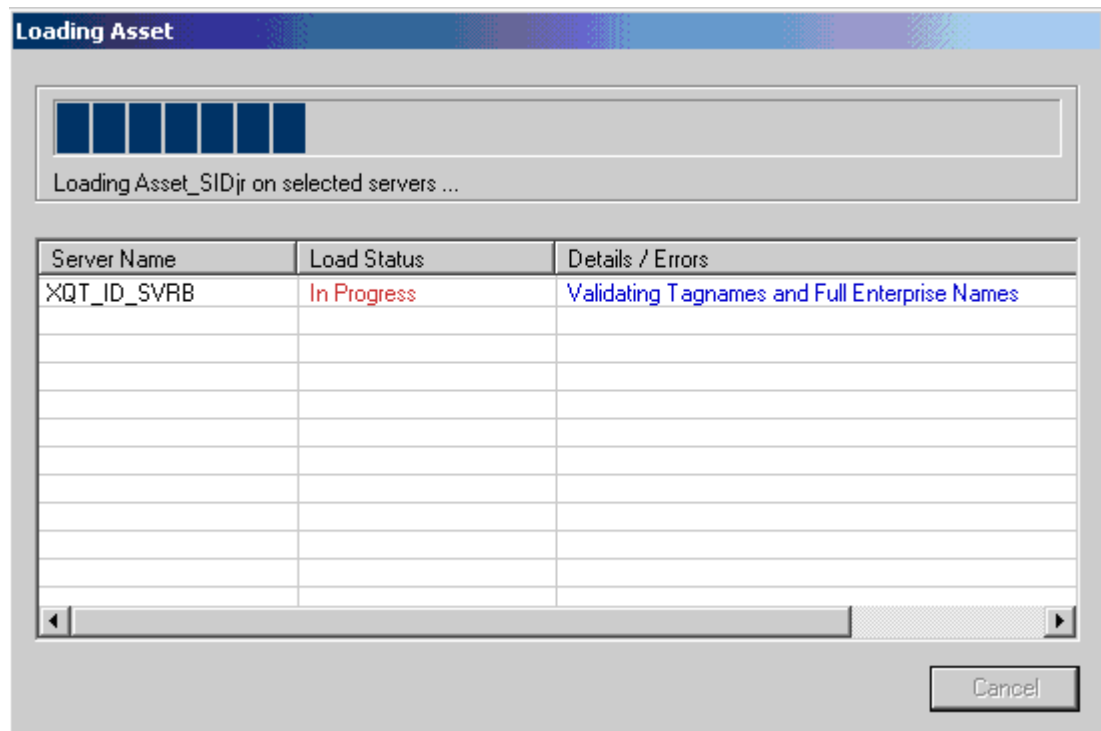


Figure 8: Example Loading Asset dialog box

Results

The load operation validates all server names of all the configured servers in the system, as well as the point and full item names of the asset model or alarm groups.

If the load operation is successful without detection of any errors or warnings, a load status of Complete appears.

If any errors occur during the load operation, correct the fault and then perform the load procedure again.

Related topics

“Configuring assets” on page 27

“Identifying assets and alarm groups that need to be loaded” on page 43

“Configuring alarm groups” on page 33

Load properties reference

The **Load** dialog box properties reference.

Property	Description
Asset to load	The name of the asset of alarm group selected for loading.
Date Last Changed	The date the asset model was last changed.
Load	Select the servers to which you want to load the asset model.
Server Name	The names of the configured servers in the system. If any of the servers selected for load are redundant, the EMB loads to the primary server and the changes are synchronized to the secondary server.
Date loaded to servers	The date and time the selected asset model was loaded to the server. If this is the first time that the asset model is being loaded to the server, no date is shown.
Force Load (Override existing system and repository name)	Check this box to allow the load to proceed even if the system name or repository name has been changed.
Help	The Help button opens the <i>Enterprise Model Builder User's Guide</i> and displays information about loading an asset model or alarm group.

Identifying assets and alarm groups that need to be loaded

The load and change status of an item is indicated by a symbol, displayed next to asset or alarm group icons in the tree view. The 'load' symbol appears when an asset or alarm group has been created, but has not been loaded to a server as part of the model. The 'change' symbol appears when an existing asset, model, or alarm group has been changed since the last time the model was loaded to server.

Load status

The below figure shows the 'load' symbol (two downward arrows) next to each item of the tree that needs to be loaded, including the root node. Once the model is loaded to at least one server, the 'load' symbol disappears.

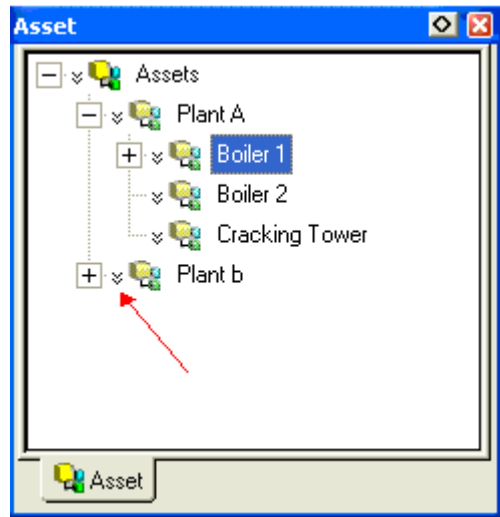


Figure 9: Example Asset tree view showing the 'load' symbol indicating the items that need to be loaded

Change status

If a new item is added to a model or if a change is made to an existing item, the 'change' symbol will appear next to the root node of the model indicating that model structure has changed. See the figure below. The 'load' symbol appears next to the new item (New Asset) or changed items in the model. Once the model is loaded to at least one server, the 'change' and 'load' symbols are removed from the model tree view.

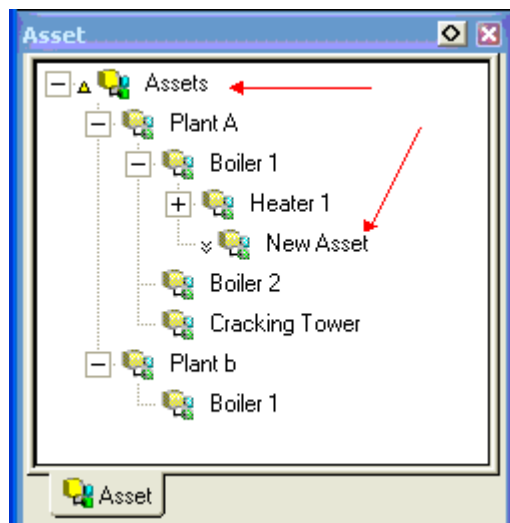


Figure 10: Example Asset tree view showing the 'change' symbol next to the root node

Related topics

“Configuring assets” on page 27

“Loading asset model and alarm groups onto servers in the system” on page 39

“Configuring alarm groups” on page 33

Managing assets and alarm groups

The following topics describe how to manage assets and alarm groups.

Related topics

- “Finding assets or alarm groups” on page 46
- “Editing assets and alarm groups” on page 48
- “Renaming assets and alarm groups” on page 49
- “Copying assets or alarm groups” on page 50
- “Moving assets or alarm groups” on page 53
- “Deleting assets or alarm groups” on page 54

Finding assets or alarm groups

In systems that contain a large number of assets or alarm groups, it can be difficult to find a particular item in the tree view. This feature allows you to find an asset (item) in the Enterprise Model quickly and open the properties form for the asset.

Prerequisites

- You have a security level of ENGR or higher.
- A system model has been defined, consisting of at least one server.
- An asset model or alarm groups have defined.
- The Enterprise Model Builder application is open, with either an asset or alarm group tree view displayed.

To open the properties form of an asset

- 1 Choose **File > Open**.

The **Open Object from Asset** or **Open Object from Alarm Group** dialog box appears.



Figure 11: Example Open Object from Asset dialog box

- 2 Select the appropriate option button, **Item**, **Full Item Name**, or **Tag**.



Tip

- When searching by item name, enter the full item name to avoid duplicate results.
- In the Open Object dialog box, **Item** is the default option button so you can search by item name. To search by tag name, select the **Tag** option button. To search for the full item name, select the **Full Item Name** option button.
- If multiple items in the model contain the same item name (for example, Boiler 1), type the Full Item Name in the text box (Assets/PlantA/Boiler 1). If you use the item name, the first occurrence of the item in the tree with the same item name.

- 3 Enter the initial characters of the name of the asset in the text box.
All the matching assets or alarm groups appear.



Tip

- The **Open Object from ...** dialog boxes include an auto-complete feature. When you type the initial characters of an item name or tag name, all the matching tag names and item names appear.
- You can also select a node in the Asset model tree or Alarm Group tree, and then type the initial characters of an item name. If the item name exists, the Asset model tree or Alarm Group tree view expands to highlight the item name.

- 4 Select the required asset or alarm group.
- 5 Click **Open**.
 - If the asset or alarm group exists in the tree view of the active window, the properties dialog of the asset or alarm group appears and the active window expands the tree view to show the highlighted asset or alarm group (see the figure below).

- If the asset or alarm group does not exist in the active window, or if the asset or alarm group has not been loaded to the server, an error message appears.

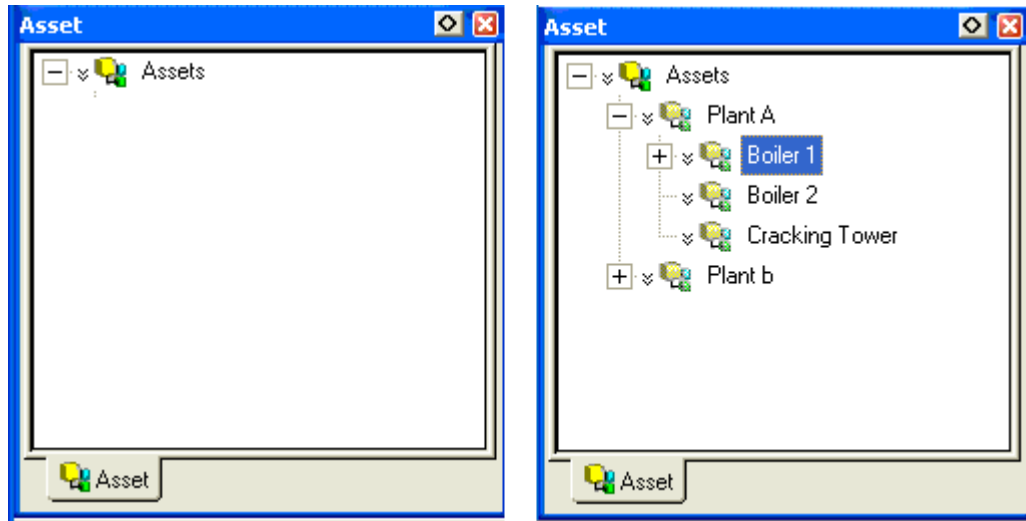


Figure 12: Tree view of the asset model

Error messages when opening an item

The following error messages may appear when you try to open an item.

Message Text	Cause
The item you wish to open is in another model tree. Please select the correct tree.	You have selected a tree in which the item does not exist.
The item you wish to open does not exist in the current view (that is, assignment or containment). Please change the view and try again.	You have selected the wrong view (for example, you have selected the asset view, rather than the alarm group view).
The name you entered does not exist. Please make sure the name is spelled correctly.	You have entered the name of an item that does not exist in the database.
Please enter the name of an item to open.	Nothing was entered in the edit window.
The tag name does not exist in the database. It can be deleted or renamed.	You have entered the tag name, which is deleted from the database or the tag name might be renamed.
The tag name does not exist in the database. It can be deleted or renamed.	You have entered a tag name that has been deleted from the database, or the tag name may have been renamed.

Editing assets and alarm groups

The edit function allows you to change the names and properties of assets and alarm groups.

Any configuration parameters or names that you change during the edit session will appear as underlined so that you can see what changes were made.

When you are editing the names and configuration parameters of assets or alarm groups, the selected asset or alarm group is locked to other users. Once you have finished editing, the lock is released. If the asset or alarm group is already locked, a popup message displays to indicate that another user is accessing the form. You then have the option to open the form as read-only.

To edit the properties of assets and alarm groups

- 1 Select an asset or alarm group to edit.

Then either:

- Use the menu and choose **Edit > Properties**, or
- Right-click and choose **Properties**, or
- Double-click the **Configuration Properties** icon on the toolbar.

The configuration properties dialog box will appear for the asset or alarm group.

- 2 Make the required changes to any available properties.



Tip

To access a help topic associated with a parameter, select that parameter and press F1.

- 3 Click **OK** to confirm the changes.

Renaming assets and alarm groups

You can change the name of an asset or point name of alarm groups without editing configuration parameters. The rename function is available when configuring assets or alarm groups.

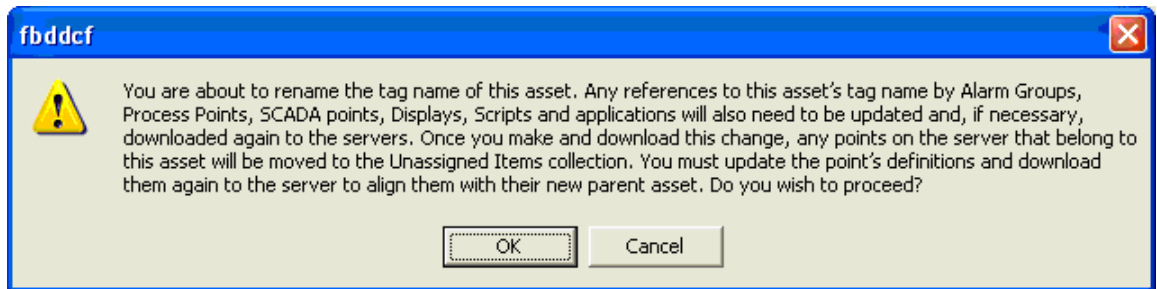
! Attention

- If you change the tag name of an asset or the point name of an alarm group, (either through the properties dialog box or by using the rename function), a message appears warning you of the impact of the name change, as shown in the procedure.

When you select **Rename**, the asset or alarm group is locked to other users. Once the rename is completed, the lock is released. If the asset or alarm group is already locked, then a popup message displays to indicate that another user is accessing the form.

To rename an asset or alarm group

- 1 Right-click on an asset or alarm group in the tree view and choose **Rename**
- 2 In the tree view, type the new name.
- 3 Press ENTER, or click away from the box, to complete the change.
- 4 If you change the tag name of an asset, the following message appears.



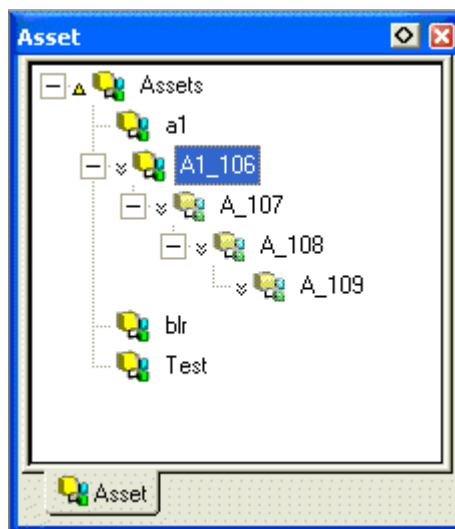
To rename an asset to which TPS units are mapped

- 1 Create a new asset in Configuration Studio and then download to server.
- 2 On the TPS Unit Mapping page, change mapping of the TPS Unit to the new asset.
TPS units are moved to the new asset.
- 3 Check that the old asset does not have any TPS units mapped to it.
- 4 Delete the old asset in Configuration studio and then download to server.

Copying assets or alarm groups

The copy function allows you to select one or more items (assets and/or alarm groups) and then copy them to another location in the Enterprise Model. If a selected asset contains assets which are children of the selected asset, the children are also copied.

You also can select more than one item to copy at one time, which may result in multiple copies of selected items. For example, consider the asset tree below.



In this example if you decide to copy Asset A1_106 and Asset A1_108, then Asset A1_106 and its children (Assets A_107, A_108, and A_109), and Asset A_108 and its child (A_109) are copied.

When you select **Copy**, the selected items are locked to other users. Once the items are copied, the lock is released. Only items that can be locked can be copied. If any of the items are already locked, an error is reported that the item could not be copied. You must remove the lock to perform the copy operation.

To copy assets or alarm groups

- 1 Select one or more assets or alarm groups to copy.
Then either:
 - Use the menu and choose **Edit > Copy**, or
 - Right-click and choose **Copy**, or
 - Drag the selected item(s) onto the target for the copy (with the CTRL key pressed) and then drop it into position on the model in the tree pane.

The **Name New Function Block(s)** dialog box appears.

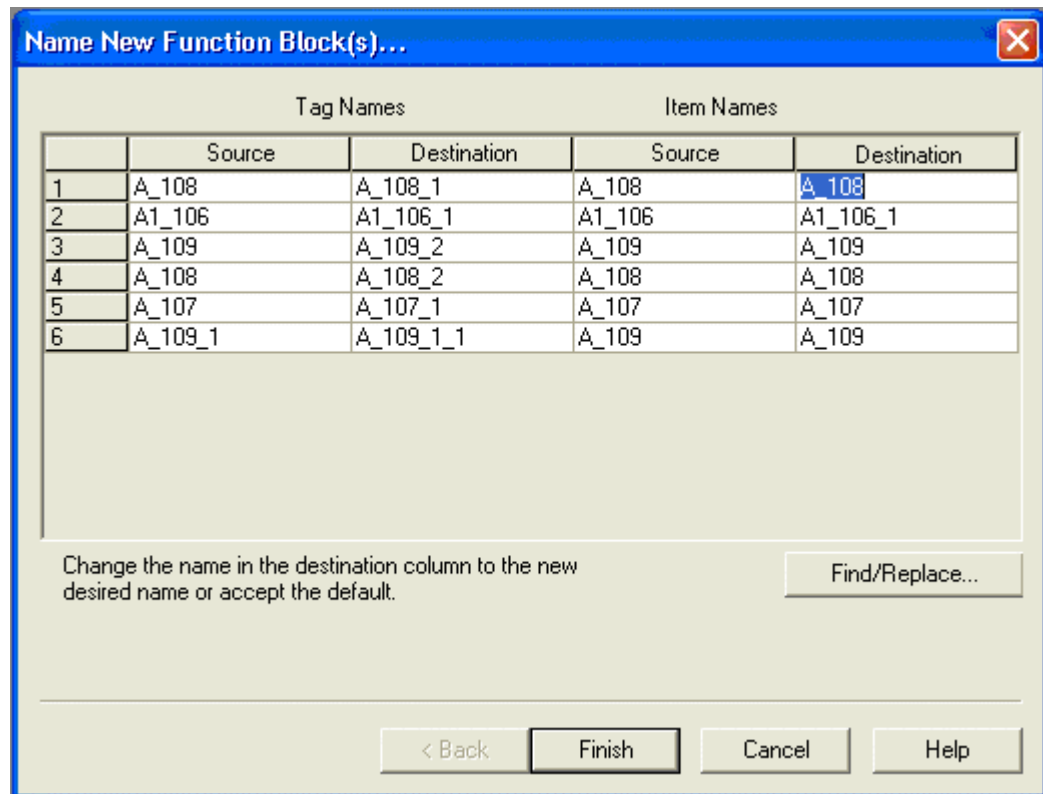


Figure 13: Example Name New Function Block(s) dialog box

The dialog shows a list of items to be copied, which includes all children of the copied items (and their children).

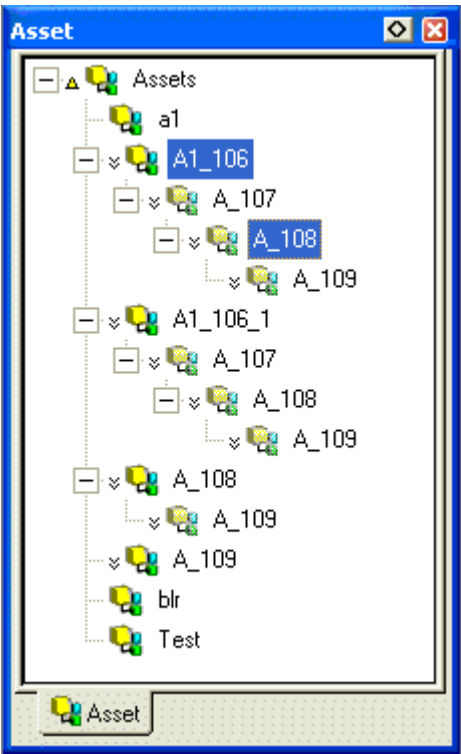
You can also search to find item names and then choose to replace them with other names. The Replace dialog displays when you click on the **Find/Replace...** button.

The system generates new names for the copied items. You can either change the names of the copied items in the **Destination** column or accept the default names.

The **Destination** name will be the same as the source name, as long as the item name does not conflict with any names of the same parent.

- 2 Click **Finish** to complete the copy operation.

The copy operation duplicates the selected items along with the associated children. The destination of the copied item(s) will be under the top level item if no destination has been entered in the dialog.



You can drag and drop the assets or alarm groups to the desired location in the tree.

Moving assets or alarm groups

You can move one or more items (assets or alarm groups) and their associated children from one hierarchy parent to another in the Enterprise Model.

When you select **Move**, both the source and target items of the move operation are locked to other users. The lock is released when the operation is complete. If any of the assets are already locked, then an error is indicated and the operation is canceled. You must remove the lock to perform the move operation.

To move assets or alarm groups

- 1 Select one or more items that you want to move.
- 2 Then click and drag the items onto another item.

If the moved item has another parent, the relation to the other parent is not affected. The move operation will maintain the child relationships of the moved items.



Tip

Open a second tree view to make it easier to move items, especially when the tree view becomes large. You can click, drag, and drop items from one tree view to the new location in the second tree.

- 3 If an item has multiple parents (alarm groups support this), you can move an item to a new parent, while keeping the parent relationship with the current parent.
To do this, drag and drop the item while holding down the CTRL and SHIFT keys until the item is dropped.

Deleting assets or alarm groups

You can delete selected assets from the asset model and alarm groups from the alarms tree.

When you select **Delete**, the selected items are locked to other users. Once the items are deleted, the lock is released. If any of the items is already locked, then a popup message appears to indicate that another user is accessing the item and the Delete function will be canceled. You must remove the lock to perform the Delete operation.

To delete assets or alarm groups

- Select one or more assets or alarm groups.
Then either:
 - In the menu bar, select **Edit > Delete**, or
 - Right-click and choose **Delete**, or
 - Click the Delete icon on the toolbar, or
 - Press the **Delete** key.

The **Delete Selected Object(s)** dialog appears.

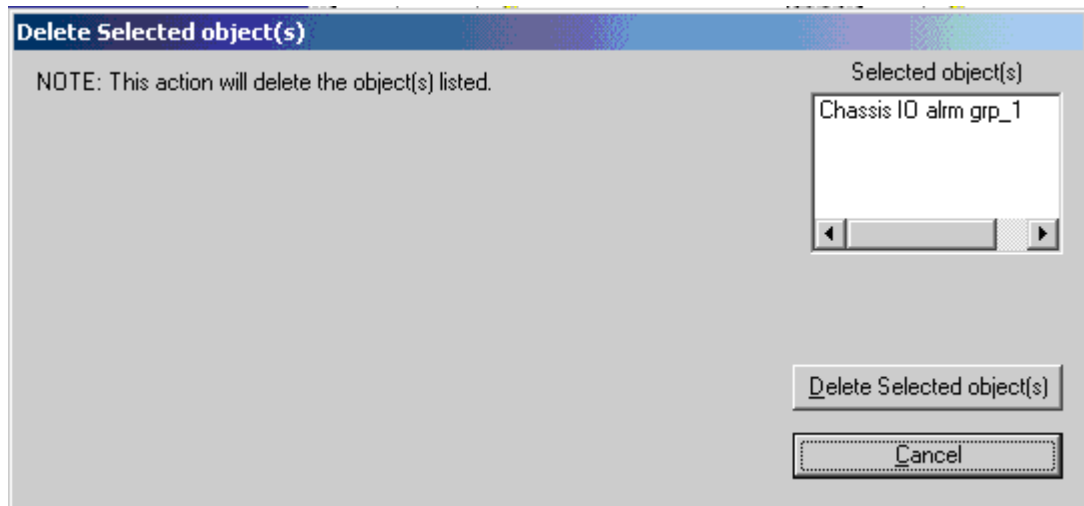


Figure 14: Example Delete Selected Object(s) dialog box

If any of the selected items have children, a message will indicate that children of selected items will be deleted as well.

The selected items and any children of the selected items will be deleted. If a child of a selected item has other parents that are not selected for deletion, then the child will not be deleted.

Managing the Enterprise Model Database (EMDB)

Related topics

“Backing up the Enterprise Model Database (EMDB)” on page 56

“Restoring the Enterprise Model Database (EMDB) from a backup” on page 57

“Exporting and importing data between different Enterprise Model Databases” on page 58

“Generating Enterprise Model reports” on page 62

“Changing Enterprise Model security levels and permissions” on page 63

Backing up the Enterprise Model Database (EMDB)

You use the system utility DBADMIN to back up and restore the Enterprise Model Database (EMDB). In the case of redundant EMDb servers, backup and restore functions can be performed on the backup server, if necessary.

Prerequisites

- You have security level of ENGR or higher.
- For redundant servers, ensure that primary and secondary EMDb servers are synchronized and replication is enabled.

To backup the Enterprise Model Database (EMDB)

- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node.
- 2 Under **System Tasks**, choose **Administer the system database**.
- 3 If prompted, click **Continue** in the **User Account Control** dialog box.
- 4 In the **dbadmin** window, expand the **DbAdmin** folder and then expand the **Server Node** folder.
- 5 Click on the **EMDB Admin Tasks** folder.
- 6 Click **Backup Database**.
The **Backup To** dialog box appears.
- 7 Browse to a folder to save the backup.

A common folder location is `<data folder>\Honeywell\Experion PKS\Engineering Tools\System\ER`.

Where `<data folder>` is the location where Experion data is stored. For default installations, `<data folder>` is `C:\ProgramData`. The `C:\ProgramData` folder is a system folder, which means that it is only visible if you select the **Show hidden files, folders, and drives** option button in the **Folder Options** dialog box. To change this setting in Windows Explorer, click **Organize > Folder and search options**, and then click the **View** tab.

- 8 In the **File name** box, type in the file name.
For example, `ps_emdb_1.bak`.
A backup copy of the current database is created as a `.bak` file under the specified name and in the selected directory location on a local drive.
- 9 Wait for the message dialog box about the successful completion of the backup and then click **OK**.
- 10 Choose **File > Exit** to close the **dbadmin** window.

Restoring the Enterprise Model Database (EMDB) from a backup

You use the system utility DBADMIN to back up and restore the Enterprise Model Database (EMDB).

Prerequisites

- You have security level of ENGR or higher.

To restore the Enterprise Model Database (EMDB) from a backup

- 1 In the Configuration Explorer in Configuration Studio, select the highest-level system node.
- 2 Under **System Tasks**, choose **Administer the system database**.
- 3 If prompted, click **Continue** in the **User Account Control** dialog box.
- 4 In the **dbadmin** window, expand the **DbAdmin** folder and then expand the **Server Node** folder.
- 5 Click on the **EMDB Admin Tasks** folder.
- 6 Click **Restore Database**.
A **Restore Warning** message dialog box appears.
- 7 Review the warning message and then click **OK** to continue.
- 8 If prompted, click **Yes** to disable database replication and to continue with the restore.
The **Restore From** dialog box appears.
- 9 Browse to the folder where the backup file is located. Click on the backup file (*.bak*) and click **Open**.
- 10 Wait for the message dialog box about the successful completion of the restore from a backup and then click **OK**.
- 11 Choose **File > Exit** to close the **dbadmin** window.

Exporting and importing data between different Enterprise Model Databases

The export/import function allows you transfer data between different instances of the Enterprise Model Database (EMDB). You can choose to export/import the entire asset model or alarm group, or segments of the model to another location in the EMDb or to an external node. For example, you may want to export the model, or certain segments of the model so that you can reuse it in (import it to) another location. You may want to export and save the model to use it as a backup. The data is exported and/or imported using XML.

Exporting asset and alarm group models

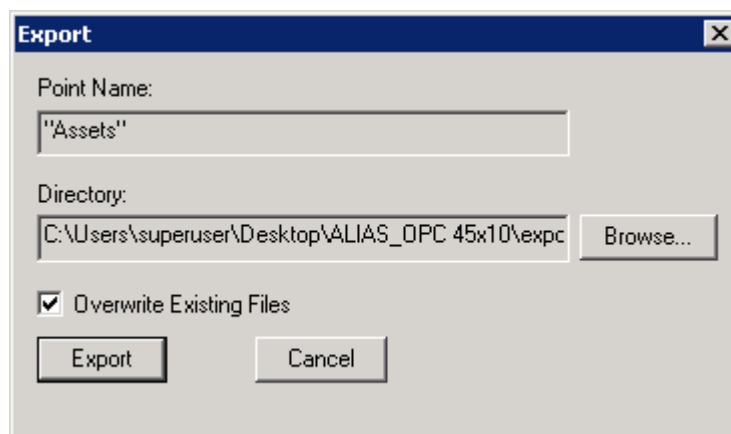
The Export function is available when configuring the asset model or alarm groups. When you choose **Export**, the selected data is saved in an export definition file, as an *.xm7* file.

When you select **Export**, the selected items are locked to other users. The lock is released once the export is complete. If any items are not available to be locked, an error is reported and the operation is canceled.

To export selected items and save them to a file

- 1 Select one item, a group of items, or the top-level item, (if selecting the entire model) to export.
- 2 Choose one of the following:
 - Choose **File > Export**.
 - Right-click on the item and choose **Export**.

The **Export** dialog box appears.



The fully qualified name is displayed for assets and the point name is displayed for alarm groups.

- 3 In the **Directory** box, select a folder for the export definition file.
The name of this export definition file is the same as the name of the first asset or alarm group that is selected for exporting.
- 4 Click **Export**.
The selected item and all associated child items are exported to a single file. The export definition files include all information related to the exported items including:
 - Item name
 - Item Point name
 - Parent Item Point name
 - Property data

Importing asset and alarm group models from a file

The Import function copies a file which contains assets or alarm groups and their associated children and adds it to the currently open asset model or alarm group.

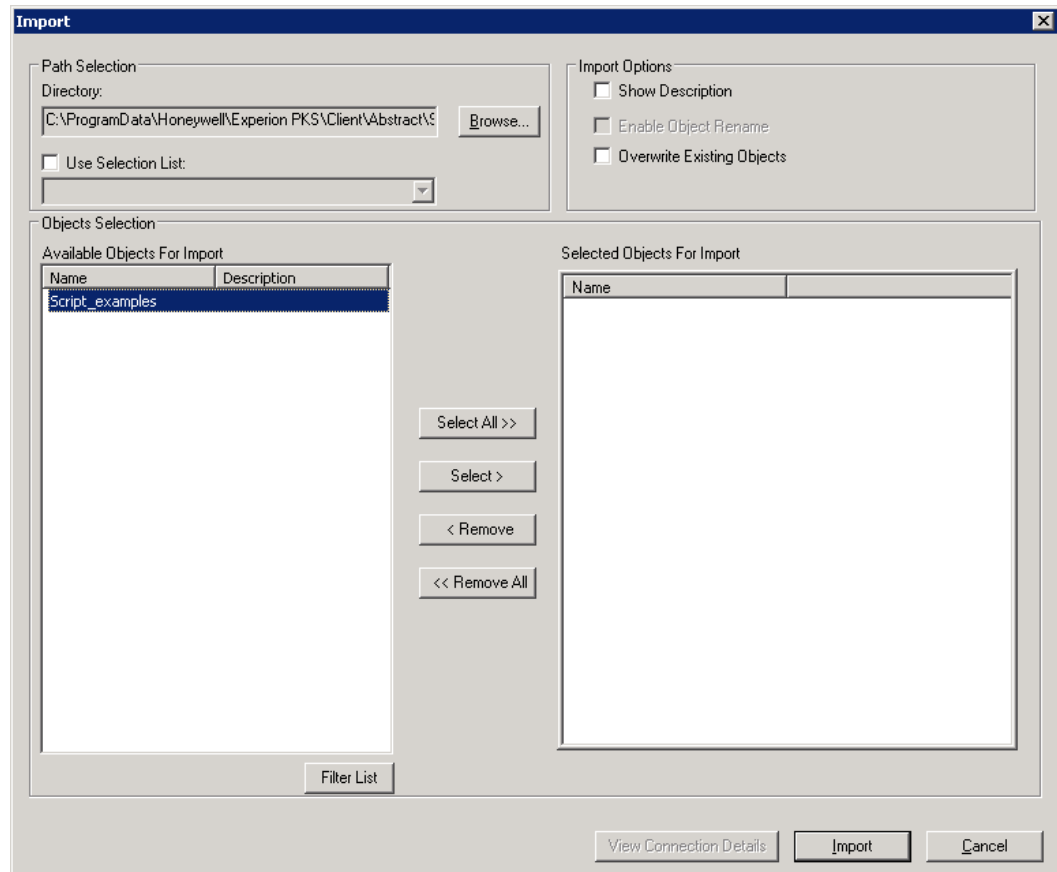
When you select **Import**, the selected item(s) is locked to other users. The lock is released once the import is complete. If any items are not available to be locked, an error is reported and the operation is canceled.

To import asset and alarm group model from a file

- 1 In Enterprise Model Builder, choose **File > Import**.


The **Import** dialog box appears.

This dialog box shows a list of exported items located in the selected folder. You can browse to another folder. The list of exported item will refresh.



- 2 Choose the following import options.

Option	Description
Select the folder from which to import the asset or alarm groups	Click Browse and browse to the folder containing the exported assets or alarm groups.
Use a selection list	Select the Use Selection List check box and then select an available selection list.

Option	Description
Select the import options	<p>You can select the following import options:</p> <ul style="list-style-type: none"> • Show Description Displays the Description column for objects included in the Selected Objects For Import list. • Enable Object Rename Displays the New Name column for objects included in the Selected Objects For Import list. To rename, double-click on the name in the New Name column, and then type the new name. • Overwrite Existing Objects Overwrite any existing items in the Enterprise Model with the same name as the imported items. <hr/> <p> Attention If an item is exported and then imported back into the same model, select the Overwrite Existing Objects check box.</p>

3 Click **Import**.

The import operation imports all items defined in the exported file and moves them to the relevant parent specified in the asset model/alarm group.

Related topics

“About selection lists” on page 61

What happens if the import tries to overwrite existing assets or alarm groups?



Attention

In the following paragraphs, 'source' refers to the information in the exported file and 'target' refers to the item in the Enterprise Model Database (EMDB).

Collisions may occur during a file import operation when the source contains a Point name that already exists in the Enterprise Model Database (EMDB). In the Import dialog, you can specify whether names and items in the EMDB are to be overwritten with the names and item parameters of the source when a collision occurs.

If you choose not to **Overwrite Existing Objects** when collisions occur, (the default), the import continues. Any errors encountered due to collisions during import are reported as shown in the following figure. You can then modify the source selection and/or check the overwrite option and repeat the import.

When you check the **Overwrite Existing Objects** field in the Import dialog the following actions occur in the case of a collision:

- If the parent of the source is different than the target parent, the item is moved to the parent specified in the source
- If the item name of the source is different than the target item name, the source item name is used

Related topics

“Importing Asset Models and Alarm Groups into the merged EM” on page 77

“Import models” on page 95

What happens if the parent asset of alarm group does not exist?

If the parent specified for the item to be imported does not exist in the EMDB and is not selected for import, the item will be added to the Enterprise Model as a top-level item. A warning message appears in the **Importing Data** dialog box when the import operation is complete.

What happens if there are duplicate item names?

The import operation ensures that an imported item name is unique for items of the same parent. If there is an item already in the EMDb with the same name as an item to be imported, the imported item name is assigned a unique name. The name is modified from the source name, and appended with *_n*, where *n* is an integer, for example, an item named *MIXING TANK* in the database causes an imported item with the same name to be modified to *MIXING TANK_1*.

About selection lists

You can use selection lists to filter the assets or alarm groups to import into Enterprise Model Builder. Selection lists are helpful when you have a large number of export definition files, and you need a method to be able to filter the display of these files as part of an import process.

A selection list file (*Export.s7*) is automatically generated when you export an asset model or alarm group from Enterprise Model Builder. This file is created in the same folder as the exported asset or alarm group definition. This file contains a list of the parent assets or alarm groups that were exported. For example, if you exported assets that contain child assets, the asset definitions for the parent and the child assets are contained in the export definition file. However, the selection list file will only include the parent asset names, not all the child asset names.

When you export assets or alarm groups, only one export definition file is generated, no matter the number of objects selected for export. The name of this export definition file is the same as the name of the first asset or alarm group that is selected for exporting. In addition, only one selection list file is generated.

You can create a selection list file manually using a text editor, or you can edit a generated selection list.

Selection lists and exports and imports

A selection list file is only effective when you have multiple export definition files to import. All assets or alarm groups within an export definition file are imported when you import the file. Selection lists are not effective for individual export definition files. That is, a selection list cannot be used to filter the contents of an export definition file. Instead, a selection list is used to filter the export definition files contained within a folder.

In practice, you would individually export the required lower level assets or alarm groups from Enterprise Model Builder. This will generate an export definition file for each of these assets or alarm groups. You would then manually create a selection list file to identify which of these exported assets or alarm groups to import for a specific scenario or context. You can create multiple selection list files.

During an import, when you select a selection list, the list of available objects within the selected folder will be filtered to display only the export definition files identified in the selection list.

Related topics

“Importing asset and alarm group models from a file” on page 59

Generating Enterprise Model reports

You can generate reports that provide information on the items and the Enterprise Model structure. The procedure is the same for generating reports for assets and alarm groups.

To generate an Enterprise Model report

- 1 In Enterprise Model Builder, choose **File > Reports**.

The **Reports** dialog box appears.

An asset or alarm group containment report can be generated from this dialog. The report will print the details of the selected item (asset or alarm group) and any items associated with it.

- 2 You can make these selections in the **Report** dialog box:
 - Select the report type as Asset containment, or Alarm Groups.
 - Click **Print** to initiate a printout of the report.
 - Click **Preview** to review the selected report's contents before printing it.
 - Click **Export** to initiate an export of the report to a disk file or Lotus Notes database in the file format of your choice.
 - Click **Close** to close the dialog box.
 - Click **Help** to call up this file.

Changing Enterprise Model security levels and permissions

You can define permission security levels for certain operations in Enterprise Model Builder, including.

- Set Preferences/Permissions

This setting allows you to change the current preference settings for this application. It allows you to set the user security level for making any changes to permissions. Set this to *Manager security* level to restrict any changes to the permissions by unauthorized users.

- Rename Tags

This sets the user security level for renaming the tag name of an existing item. When you create an asset, or alarm group you enter a tag name in the properties form for that item. The tag name can be changed during creation of the item without restrictions until the properties form is closed, adding the item to the model. Then, any change to the tag name is restricted to the user security level set in the permissions.

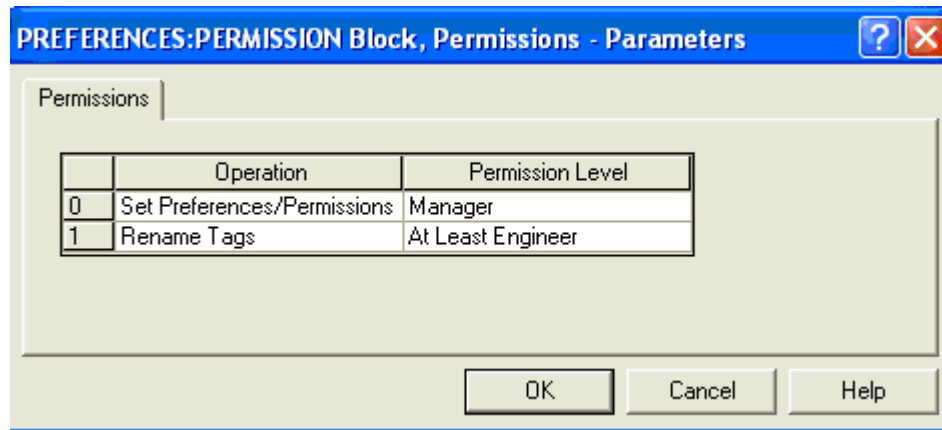
Prerequisites

- You have launched Configuration Studio and have used a logon security level of Engineer or greater to connect to the system.
- You have an Enterprise Model Builder window open with either an asset model tree or alarm group tree displayed.

To set or change the user level for permissions

- 1 In Enterprise Model Builder, choose **Tools > Operation Permissions**.

The **PERMISSION Block Parameter** dialog appears.



- 2 In the **Permission Level** list for each operation, select the required security level for that operation. The default settings are **At Least Engineer** for the permissions.

Recommendations for operation permissions are:

- Select **Manager** for the **Set Preferences/Permissions** operation.
- Select the required security level for the **Rename Tags** operation.

- 3 Click **OK**.

- 4 The settings will not take effect until the next time an Enterprise Model Builder session is started.

Merging Enterprise Models

This section describes the tasks necessary to merge multiple Enterprise Models hosted on multiple system servers into one Enterprise Model hosted on a single system server. The following figure shows the result of merging multiple Enterprise Models. Two system EMDBs (hosted in Cluster B and Cluster Y) are combined into one system EMDB on cluster B.

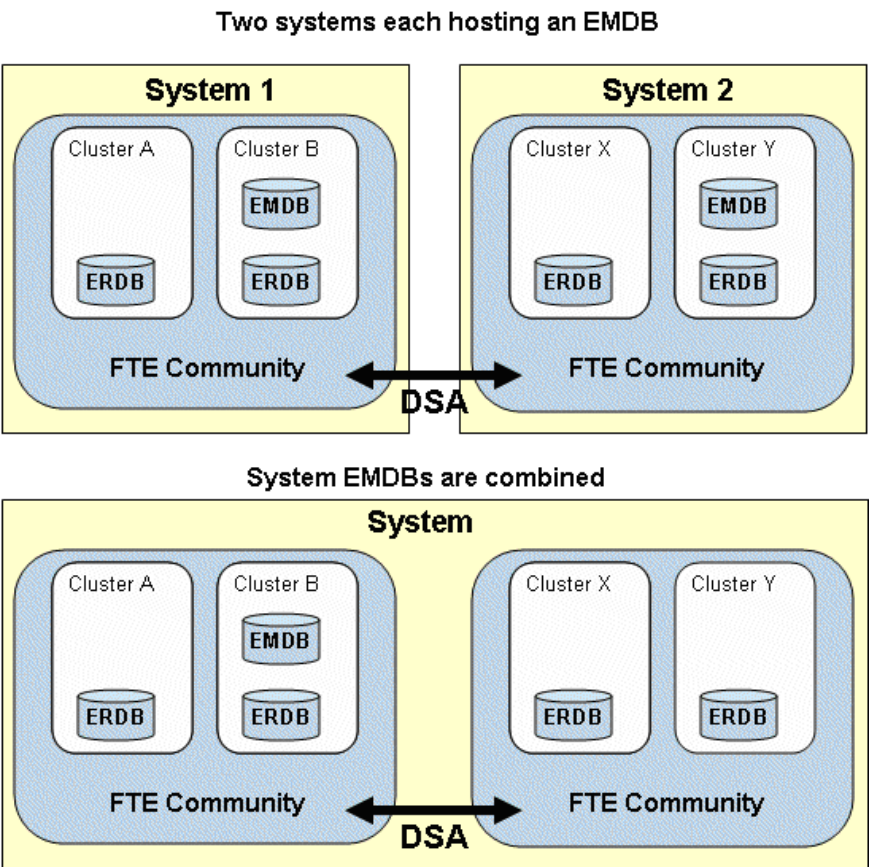


Figure 15: Example of the EM Merge process

Enterprise Model components

An Enterprise Model consists of the configuration repository, the EMDb, and the runtime EM, which is the EMDb loaded to the servers. Additionally, the Enterprise Model is composed of four sub-models:

- System configuration (consisting of the system name and server definitions).
- Asset model.
- Alarm Groups.
- Network model (consisting of computer and network equipment).

Merging EMs into one system

To combine multiple EMs into a single EM successfully, the sub-models in each EM must merge into their corresponding sub-models in the single EM. The figure below shows an example of asset models as they appear in two separate systems and the result when the models are merged into a combined asset model.

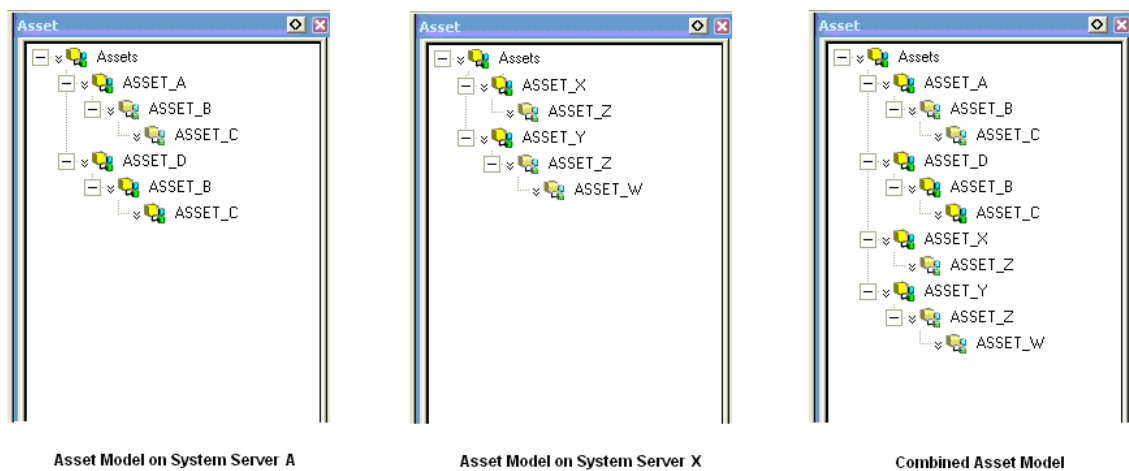


Figure 16: Separate Asset models and the combined model resulting from a merge of the Asset models

A merge of the system configuration, asset models, alarm groups, and network tree will result in corresponding single models of system, assets, alarm groups, and network.

The following figure shows the details of two clusters that share the EMDb located in Cluster A. The servers may or may not be redundant. Controllers and other control hardware are not shown since they are not significant to the process of merging EMs.

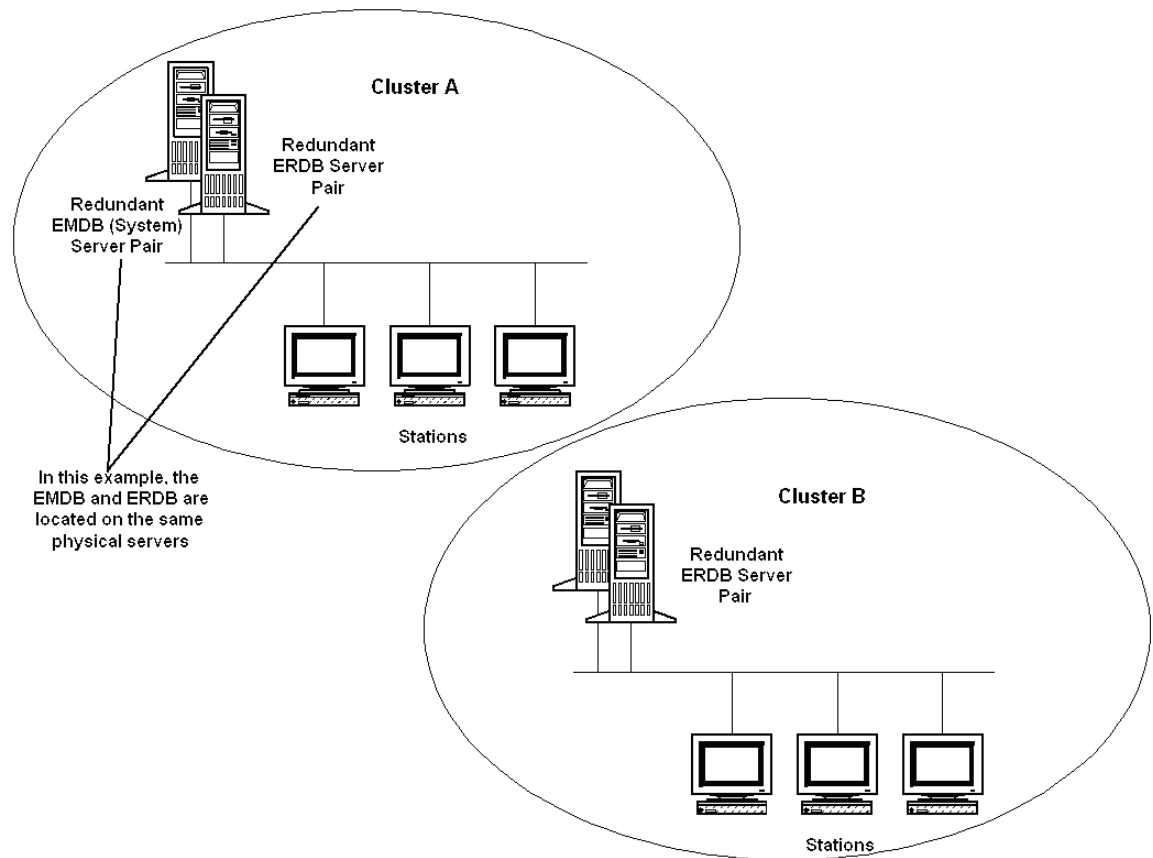


Figure 17: Typical system topology

Planning considerations

First, develop a plan for merging the systems into a single system. There are important guidelines that must be adhered to during this planning stage:

- Make sure that this merge process will have minimal impact on system operations. The system configuration should remain static during the merge. That is, make sure that no changes are made to the EMs once you begin this process.
- Carefully map out a plan detailing the current topology of the system, the desired system topology after the merge, and the steps necessary to achieve the desired result. Create a plan that describes the tasks which must be performed on each server during the merge.
- Determine on what server the merged EM will reside. Is it an existing system server, or is a new server being added to the system that will host the EM? If it is a new server, then you must load Experion Server, install the Enterprise Model Builder application (EMB), add it to the domain, and perform all the required tasks for a new server.

**Attention**

- All system servers should be migrated to, and running, the same Experion release before starting this process.
-

There can be many variations of system topologies, but the basic steps that are required to merge multiple EMs are the same regardless of the starting topology.

Backup databases

Perform a backup of all EMDBs so that the original configurations can be restored, if necessary.

Prerequisites

- You have launched Configuration Studio and have used a logon security level of Engineer or greater to connect to the system.
- For redundant servers, ensure that primary and secondary EMDB servers are synchronized and replication is enabled.

To backup the EMDB

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, choose **Administer the system database**. The DBADMIN utility will open in a separate window.
- 4 Click the plus sign next to the **DbAdmin** folder icon and then the plus sign next to the Server folder icon to expand the tree structure.
- 5 Open the EMDB Admin Tasks folder.
- 6 Click on the **Backup Database** icon.
The Backup To dialog box displays. You can use the default name or specify a name for the backup file.



Attention

Due to increased security in R431, the database backup process does not have permission to write to many local folders. Either use a shared folder (which has permissions for everyone or Product Administrator set to Full Control), *C:\Temp*, or the default location.

A backup copy of the current database is created as a *.bak* file under the specified name and in the selected directory location on a local drive.

- 7 Repeat this procedure for each EM you want to back up.

Related topics

“About importing models” on page 76

About verifying unique names

When merging two or more EMDBs (systems) it is necessary that all items within each sub-model contain a unique name across all EMDBs, otherwise items with duplicate names may be deleted once the databases are merged. All items in a combined EMDB must contain a unique name, which includes:

- The System name.
- The Tag Name and Full Item Name of assets and alarm groups.
- The Alias and Node Name of servers.
- The Full Path name of items in the Network model.

The following paragraphs describe how to identify duplicate names in each sub-model of the EM and the steps to resolve any duplicate name conflicts. The Network tree structure is manually rebuilt after the other sub-models are merged.

Asset models and Alarm Groups

There are two names that identify assets and alarm groups in an EM, the tag name and the item name. The tag names of all assets and alarm groups within a sub-model must be unique across all EMs to be merged. For example, the Asset in the following figure contains the tag name ASSET_103. The tag name used in the Asset model must not be used by any other item in the Asset models to be merged. The same is true for the tag names of items in all Alarm Groups of the EMs.

The screenshot shows a software interface for configuring an asset. The title bar reads 'ASSETS:ASSET Block, ASSET_103 - Parameters'. There are two tabs: 'Main' and 'Identification'. The 'Main' tab is active. It contains several input fields: 'Tag Name' (with the value 'ASSET_103' circled in red), 'Item Name' (with the value 'ASSET_A'), 'Full Item Name' (with the value 'Assets/ASSET_A'), 'Description', 'Point Detail Page', and 'Associated Display'. At the bottom, there is a checked checkbox labeled 'Directly Assignable (for scope of responsibility and alarm enable/dis)'. The background is a light beige color.

Figure 18: Main tab of Properties dialog for ASSET_A

If you use default tag names, given to assets when they are created (for example, ASSET_103), you may need to change them to avoid tag name conflicts when asset models are merged since the same default tag name may be given to an asset in another system. Unique tag names are enforced within an Enterprise Model by the EMB. Review 'Naming conventions in Enterprise Model' for more information.

The item name is used in constructing the Full Item Name which uniquely identifies an asset or alarm group. If the Full Item Name is not unique, then there will be conflicts when the models are merged. The Full Item Name is also shown on the properties dialog above.

You can generate reports that list the tag names and full item names of assets and alarm groups in the EMs to help identify possible duplicates. If any duplicate names are found, then they must be changed to resolve name

conflicts. Changing names is a manual operation - for each item that has a duplicate name you must open the property dialog of that item and change the tag name and or item name.

To help clarify conditions that can occur when merging EMs, which may contain duplicate item names, the following table lists the conditions and results when importing a file into a merged EMDb.

Table 1: Results of merging the EMDb with duplicate item names

Case #	Tag Names	Full Item Names	Results of import
1.	Same names in destination EMDb and import file.	Same names in destination EMDb and import file.	No change to EMDb (that is, no items are added to model).
2.	Same names in destination EMDb and import file.	Different names in destination EMDb and import file.	No change to EMDb. If overwrite is specified, then item names of existing items with same tag names are replaced with item names from imported file.
3.	Different names in destination EMDb and import file.	Same names in destination EMDb and import file.	New items are created with the full item names from the import file appended by a suffix.
4.	Different names in destination EMDb and import file.	Different names in destination EMDb and import file.	New items are created with the tag names and item names in the import file.

Identifying duplicate names

Perform a careful analysis of the current models and the desired merged model before starting an EMDb merge; if duplicate names exist, the merged EMDb may not produce the desired result.

To identify and correct duplicate names for Assets and Alarm Groups

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select the top level asset in the System tree.
- 4 For Asset Models, select **Configure Assets for this system**. For Alarm Groups, select **Configure Alarm Groups for this system**.
- 5 Generate a report for asset models and alarm groups.



Tip

Save the reports in the .csv file format so you can import the files into Excel. You can then combine all assets (or alarm groups) into one Excel file and then sort by tag name to easily locate duplicate tag names.

- 6 Repeat steps to for each system server hosting an EM that you are planning to merge.
- 7 Manually compare the tag names and full item names for all items in the asset models and alarm groups of all EMs.
- 8 Open the asset model or alarm group containing the item with a duplicate name.
- 9 Open the properties dialog of the item.
- 10 To resolve any duplicate tag names, enter a unique **Tag Name** for the item.
- 11 To resolve any duplicate Full Item Names, enter a unique **Full Item Name** for the item.
- 12 Checks for unique tag names and full item names must also be made for the alarm groups.
- 13 Repeat the above procedure to verify the names in alarm groups.

Model name resolution

When a model is created in Enterprise Model Builder, the name "Assets" or "Alarm Groups" is assigned to the top level asset or alarm group. These names may have been changed. For example, on system 1, "Assets" may have been renamed to "Assets for Sys 1." On system 2, the Asset model may have been renamed to "System 2 Assets". When the models are merged, the name of the model that was imported last will become the new model name. If model names have been changed, then you must determine the name that you want to have associated with the merged model. The names of each model on each system can be changed during the merge process, or after the merge is completed.

If the system name for each system has been changed, the name may need to be changed after the merge. You will need to decide on what system name you want to associate with the resulting single system.

About exporting models

Once you have verified that items in the various sub-models of each system contain unique tag names, the models are then ready to be exported to another location. The export of system, assets, and alarm group models basically copies the model to a specified location. The export destination can be a network location that is accessible by the current server or the server that will become the system server for the merged EM, or the exported models can be copied to removable media such as a disk.

When exporting the models to a single network-accessible location, create a folder corresponding to each system server and use the server name as the folder name so that the files containing the models can be easily identified.

If you are merging the EM to an existing system server, then it is not necessary to export the models since it will become the destination for models exported from other system servers. If the EM is being placed on a new system server, it will have an empty EMDB, and the exported models will be imported to it.

Exporting the system model configuration

Before exporting the system model configuration, ensure that all items within the sub-models contain unique names.

To export the system model configuration

- 1 On the system server or server B in a redundant pair, log on as an Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Export Server Definitions**.
- 4 Select the name of the system model you want to export.
- 5 Choose the directory to which you want to export the file.
Use the server name for the directory name so that the files containing the models can be easily identified.
- 6 Click **Export**.
- 7 Repeat this procedure for each system that you want to export and merge into a single system.

Exporting Asset models

You must open and run Configuration Studio on each system so you can export the associated asset model from that system.

To export Asset models

- 1 On the system server or server B in a redundant pair, log on as an Administrator.
- 2 Launch Configuration Studio and use a logon security level of Engineer or greater to connect to the system.
- 3 In the Configuration Explorer in Configuration Studio, select **Configure Assets for this system**.
- 4 Right-click the root node for the Asset model you want to export and select **Export**.



Attention

It is important to select the root node when exporting assets, to ensure that the entire model is exported.

The Export dialog displays, showing the name of the model selected for export. The Point Name should be the same as the root node in the Export dialog.

- 5 Choose the directory with the server name and filename as the target for the export. The sub-models from the same system should be exported to the same directory.
- 6 Click **Export**.

The selected model and all associated items are exported intact to a single file. The export includes all information related to the exported items including:

- Item name
- Item point name
- Parent item point name
- Property data.

The name of the export file will be the name in the **Point Name** field and the file extensions *.cnf.xml*. Using the example in the following figure, the file name of the export file will be *Assets.cnf.xml*.

- 7 Repeat this procedure on each system for each asset model that you want to export and merge into a single system.

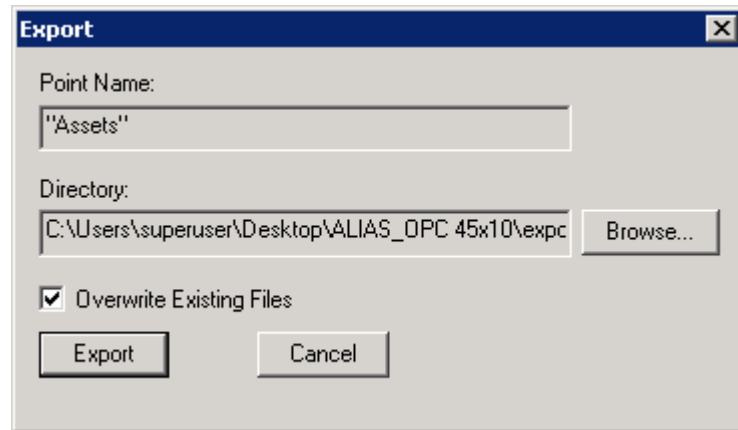


Figure 19: Export Dialog

Exporting Alarm Groups

You must open and run Configuration Studio on each system so you can export the required alarm groups from that system.

To export Alarm Groups

- 1 On the system server or server B in a redundant pair, log on as an Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Configure Alarm Groups for this system**.
- 4 Right-click the root node for the Alarm Group model you want to export and select **Export**.



Attention

- It is important to select the root node when exporting alarm groups, to ensure that the entire model is exported.

A dialog appears displaying the name of the alarm group selected for export. The Point Name should be the same as the root node in the Export dialog.

- 5 Choose the directory with the server name and filename as the target for export. The sub-models from the same system should be exported to the same directory.
- 6 Click **Export**.

The selected model and all associated items are exported intact to a single file. The export includes all information related to the exported items including:

- Item name
- Item point name

- Parent item point name
 - Property data.
- 7 Repeat this procedure for each alarm group that you want to export and merge into a single system.

About importing models

The import function brings the various models together into a single instance of their corresponding models; that is, system, asset and alarm groups.

Any errors that are encountered during the import must be resolved before continuing with the import. It is important that you perform incremental backups of the merged database after each import so that if an error occurs, you can restore the EMDb to its most recent merged condition and will not have to return to the beginning of the merge procedure.

Related topics

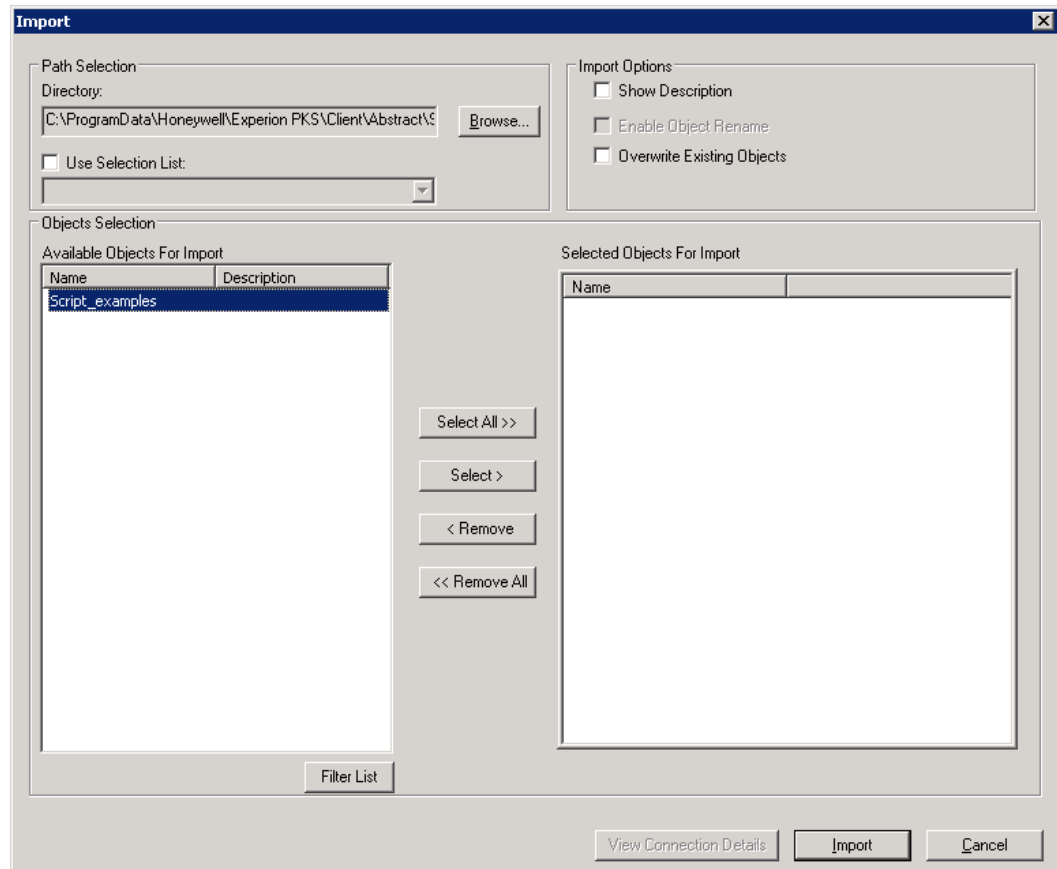
“Backup databases” on page 69

Importing system models into the merged Enterprise Model

Each model file is selected individually and imported into the merged Enterprise Model location. For example, if there are three systems which are being merged to a new system server, it is necessary to perform the import of the system models three times. Make sure that the model file you select to import is the correct model, for example, select only asset model files to import into the merged asset model.

To import system models into the merged Enterprise Model

- 1 On the system server, or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, click the system name.
- 4 Click the **Import server definitions** task.
The **Import** dialog box appears.



- 5 Click **Browse**, locate the folder containing the system model files to import, and then click **OK**.
- 6 In the **Available Objects For Import** list, select the objects to import and then click **Select**.
- 7 Click **Import**.
- 8 Perform a backup of the newly merged Enterprise Model database.
- 9 Repeat this procedure for each system model that you want to import into the merged Enterprise Model.

Importing Asset Models and Alarm Groups into the merged EM

Asset models and alarm group files are merged using the import function in Enterprise Model Builder. The files should be imported individually to the proper destinations. In other words, select asset model files and import them into the merge file for assets. Select alarm group files and import them into the merge file for alarm groups.

To import asset models and alarm groups into the merged EM

- 1 On the system server, or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, choose **Configure Assets for this system** (for asset models) or **Configure Alarm Groups for this system** (for alarm groups).
- 4 Use the menu and choose **File > Import...**

A dialog displays showing a list of exported items based on a default directory. You may navigate to a different directory, which changes the list of exported items.

- Select items for import from the list in the 'Object' window. Or, enter a specific **Point Name** for which to import. Or, use the Directory for files to import, or use the **Browse** button to choose a different directory.

- Enter a check in the **Use Selection List:** field and then click on the drop-down window to select an item for import.
 - Enter a check in the **Overwrite Existing Objects** field if you wish to overwrite any items containing the same name in the Enterprise Model with the imported items.
- 5 Click **Import**.
The import operation imports all items in the exported file and moves the items to the parent specified in the file.
 - 6 Perform a backup of the newly merged file.
 - 7 Repeat this procedure for each asset model and alarm group that you want to import into the merge model.

Related topics

“What happens if the import tries to overwrite existing assets or alarm groups?” on page 60

An alternative method for merging the sub-models of the EMDB

If you choose not to import the server definitions, you can add them manually. When you select **Add a server to this system**, you are given the option to migrate the existing assets and alarm groups on that server into the EMDB. The asset model and alarm groups are exported from the server and imported into the EMDB; the server is added to the system model.

You also have the option to skip the migration of the asset model and alarm groups for the added server. The Migration dialog is shown below.

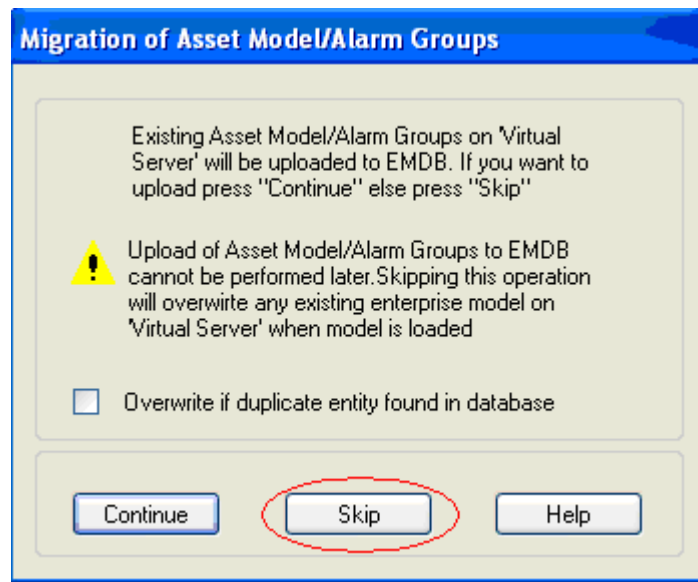


Figure 20: Migration of Asset Model/Alarm Groups dialog

It is important to understand the implications of selecting **Continue** or **Skip** in this dialog. In order to provide servers with the configuration of the Enterprise Model, each model must be loaded to each server. This load process creates the EM Runtime in each server on which the EM is loaded, and this runtime version is used by the server to determine settings such as where alarms and events are displayed and the scope of responsibility.

It is possible to make changes to the EM (in which the changes are made to the engineering EMDB on the system server), so that until the EM with changes is again loaded to the servers, the engineering EMDB and the EM Runtime are different or 'out of sync'. This condition may be an acceptable situation if, for example, changes are being planned for the plant. This situation will also occur during the merge process, since the EMDB is being modified. The advantage of this is that the servers can continue running with their existing EM Runtime until such time that the new merged model is loaded. While there may be some situations where you

may want to select **Continue** (that is, the model from the server will be imported into the EMDB), it is strongly suggested that you select **Skip** if this dialog displays during the merge procedure.

If you select **Continue** then the EM that is currently loaded to the server will be uploaded to the EMDB. If this model is not consistent with that which you are creating then it will result in extra work to move or delete model items, or you may lose changes to the EMDB that you want to preserve. Advance planning is necessary to evaluate your system and determine which approach is right for you.

While it is possible to create a merged model using the migrate server approach, it is not recommended due to the potential for problems with duplicate tag names and full item names, and the possibility of losing EMDB configuration from the EMDB that is being 'eliminated.'

Merging Network trees

The Network tree represents a smaller data set than the other sub-models in the EM. The Network tree structure is manually rebuilt after the other sub-models are merged. The tasks for rebuilding the Network tree are:

- Identify duplicate items in the original EMDB.
- Document the original EMDBs.
- Build the combined network tree in the merged EMDB.

Procedures for completing these tasks are presented below.

Identifying duplicate network items in the EMDBs

Duplicate items in the network tree must be resolved. Full Path Name is used to identify duplicate items in the network tree. Also, duplicate IP addresses must be considered. This applies to all items under the network tree. In the two examples are given below, only one requires renaming the item.

Example 1:

System_1 contains *Network/Computers/Plant Control/Boiler Control/Computer_1*. This computer has the IP address 111.111.111.111.

System_2 contains *Network/Computers/Plant Control/Boiler Control/Computer_1*. This computer has the IP address 111.111.111.111.

These pathnames point to the same physical computer (*Computer_1*), so in this case, no renaming is required.

Example 2:

System_1 contains *Network/Devices/Switch_A*. This Switch_A has the IP address 111.111.111.111.

System_2 contains *Network Devices/Switch_A*. This Switch_A has the IP address 222.222.222.222.

These items have the same pathname, but they do not represent the same physical item because they point to items that have different IP addresses. To preserve both items, one must be renamed. You must identify such items and rename one of them in the modified EMDB prior to building the new tree (in Example 2, you would rename one of the items *Switch_A2*.)

Documenting the original EMDBs

To merge two network trees successfully it is necessary that you keep a record of the original EMDBs for reference.

To document the original EMDBs

- 1 On the system server, or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, fully expand the network tree and perform a screen capture to fully document the items in the tree structure.
- 4 Export the network tree to an .xml file for reference. Save the file under a directory name that identifies it as the original network tree.
- 5 Repeat this procedure for each network tree that is to be merged.

Building the combined network tree

Once you have identified and dealt with any duplicate network items, and documented the original state of each EMDb, you can build the combined network tree.

To build the combined network tree

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select the appropriate Network task to add or remove items from the tree to build the combined network.
 - Go to *<install folder>\Honeywell\Experion PKS\Engineering Tools\System\Bin*, where *<install folder>* is the location where Experion is installed, and copy the file *configfileschema.xml* to the same directory as the exported *.xml* file saved previously.
 - Use the screen captures of the original trees to determine what items are to be included in the combined network tree.
 - Use the exported *.xml* files to get the detailed information for those items.

Deactivating an EMDB

Once the merge of the EMDB to a single system server has been successfully completed, you can now deactivate the other system servers (which will no longer be used as system servers). Servers which are deactivated are no longer identified as system servers that host Enterprise Models.

! Attention

- If the server is redundant, perform this procedure on the secondary (backup) server first.

To deactivate the EMDB on a server

- 1 On the server where you want to deactivate the EMDB, log on as Local Administrator.
- 2 Go to `<install folder>\Honeywell\Experion PKS\Utilities\EPKS_Modify`.
Where `<install folder>` is the location where Experion is installed.
- 3 Double-click **EPKS_Modify.exe**.
The EPKS_Modify tool dialog appears.

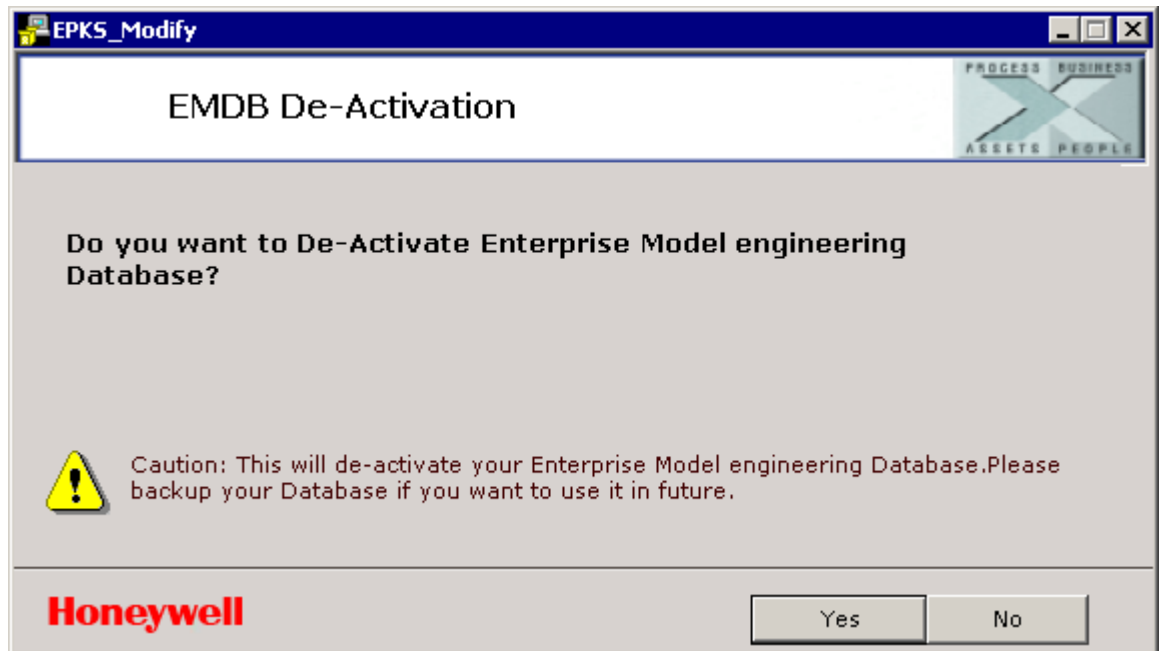


Figure 21: EPKS_Modify tool dialog

- 4 Follow the prompts to deactivate the EMDB on the server.
- 5 Restart the server.
- 6 If the server is redundant, repeat steps 1 to 5 to deactivate the EMDB on the primary server. Repeat this procedure for each server that you wish to deactivate.

Next steps

When a server is deactivated, the EMDB that was originally on the server remains but the server is no longer identified as a system server. If the `EPKS_Modify.exe` is run again on the server, it would again become an active system server with the EMDB that was originally loaded on the server. You need to restart the server to make a change of activation state effective.

Loading the model to servers

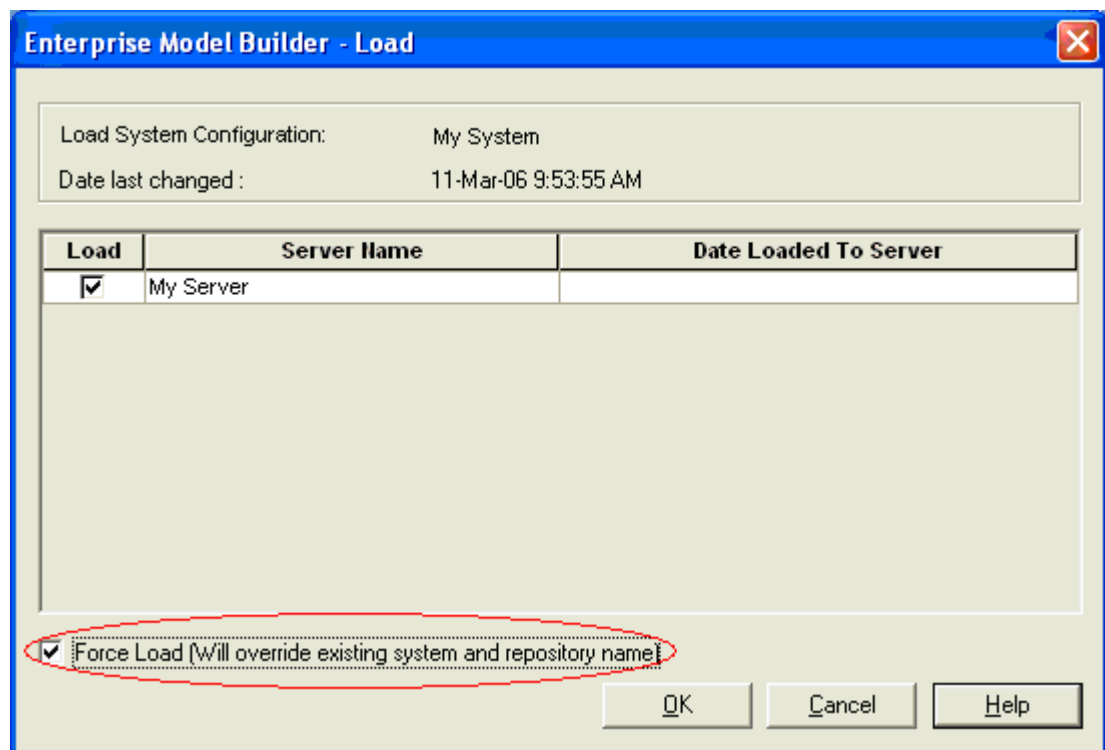
Once the EMDb has been merged, and the other system servers have been deactivated, the EM must be loaded to all the servers.

! Attention

- During the load operation, assets and points may temporarily belong to unassigned items in the Alarm Summary display. The tree view on the left of the display may show an incomplete model. Additionally, alarms may temporarily be raised against assets and points in the model showing a blank location field. These conditions clear once the download is successfully completed.
- Enable DSA on all clusters in the system, just in case that any alarm groups loaded to the clusters contain points that are accessed via DSA.

To load the system model of the merged EM to servers

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Load system configuration to servers**. The following dialog displays which allows you to select the servers to be loaded.




- 4 Select the servers that you want to download with the system configuration by adding a check mark in the **Load** column next to the **Server Name**.
- 5 Uncheck any servers that you do not want to load at this time.
- 6 To overwrite the existing system and repository name in the selected servers, add a check to the **Force Load** box.
- 7 Click **OK** to begin the system configuration load operation on all selected servers. The Loading System Configuration dialog displays showing the name of all servers selected for load, the load status, and a detail description for each server. A progress bar is shown for the duration of the load operation.

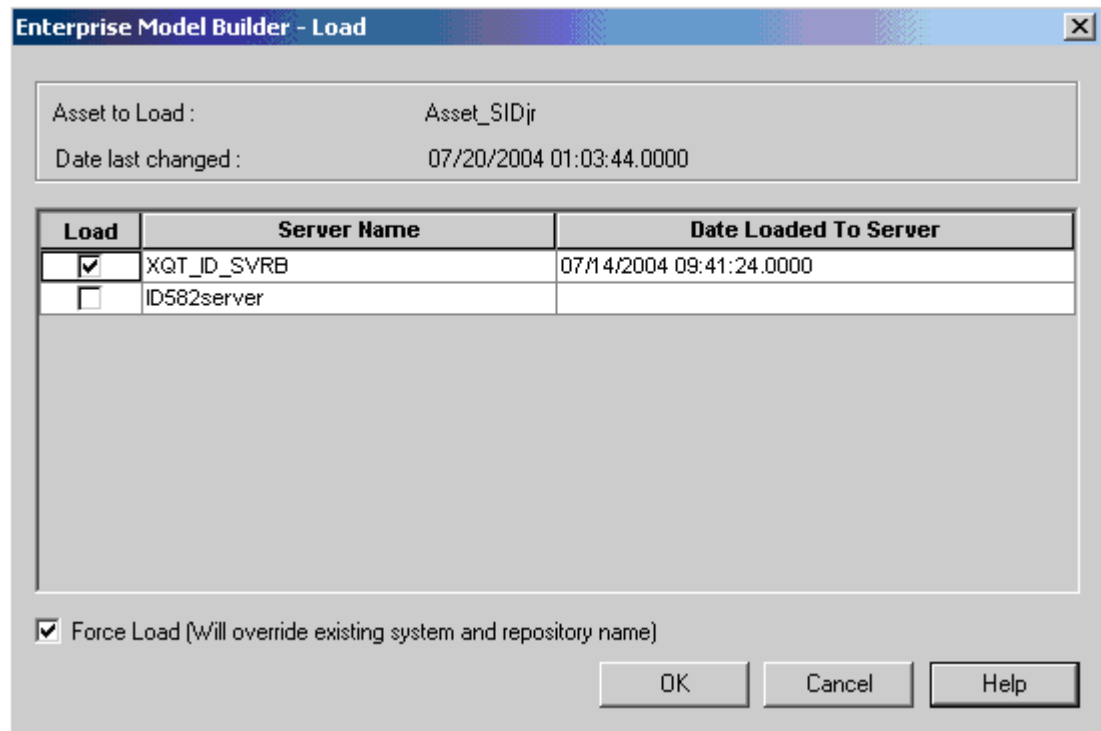
If the load operation is successful without detection of any errors or warnings, a Load Status of *complete* appears.

- 8 If any errors occur during the load operation, correct the fault and perform the load procedure again.

To load the Asset model and Alarm Groups to the servers

- 1 In the Configuration Explorer in Configuration Studio, select **Configure Assets for this system** (for asset models) or **Configure Alarm Groups for this system** (for alarm groups).
- 2 In Enterprise Model Builder, select the menu and choose **Tools > Load Entire Model...** or click **Load**  on the toolbar.

The following Load dialog displays:



- 3 Select the servers that you want to download with the asset model or alarm group by adding a check mark in the **Load** column next to the **Server Name**.
- 4 Uncheck any servers that you do not want to load at this time.
- 5 Add a check to the **Force Load** box to overwrite the existing system and repository name in the selected servers.
- 6 Click the **OK** button to begin the asset model load operation concurrently on all selected servers.

The Loading Asset (or Alarm Group) dialog displays showing the name of the top-level asset (or alarm group) being loaded. A progress bar is shown for the duration of the load operation. The name of all servers selected for load, the load status and a detail description for each server also are shown.

During the load operation, the EMB validates the server names of all the configured servers in the system as well as the point and full item names of the asset model or alarm groups.

If the load operation is successful without detection of any errors or warnings, a Load Status of *complete* appears.

If any errors occur during the load operation, correct the fault and then perform the load procedure again.

- 7 Repeat this procedure to load the alarm groups of the EM to the servers.

Related topics

“About status and error messages” on page 21

Validating the new Enterprise Model

Now that the merge process is complete, you need to verify that the resulting model is correct.

To verify the model is correct

- 1 View the displays on the system and confirm that they are correctly configured.
- 2 Ensure that all alarms are placed in the correct groups.
- 3 Ensure that all operators have been allocated the correct Scope of Responsibility.

Next steps

If changes to any of the models are necessary, then make the changes and load the EM again to update the servers. 'Modifying a merged asset model' describes how to rearrange the structure of a merged asset model, and the required changes as a result.

Related topics

“Modifying a merged asset model” on page 85

Modifying a merged asset model

The merged Asset model example in the Figure, Separate Asset models and the combined model resulting from a merge of the Asset models assumes that the hierarchy of the combined asset model is unchanged from its original models. However, if a different hierarchy is desired, then you must manually make changes to the combined asset model.

For example, the Asset model shown in the Figure, Separate Asset models and the combined model resulting from a merge of the Asset models, if the assets from Server X are to be merged into the model not at the root but as children of "Asset A", then it will be necessary to use the EMB to move the server X assets to "Asset A" after the models are merged, resulting in the model shown in the following figure. This will result in changes to the Full Item Names of the old server X assets, which in turn will necessitate work to update the configurations of the Alarm Groups that reference the assets (Associated asset, and Group Items), strategies in Control Builder that reference assets (parent asset), and SCADA points in Quick Builder.

Currently there is no tool to automatically update the asset item names, so this operation may require significant work.

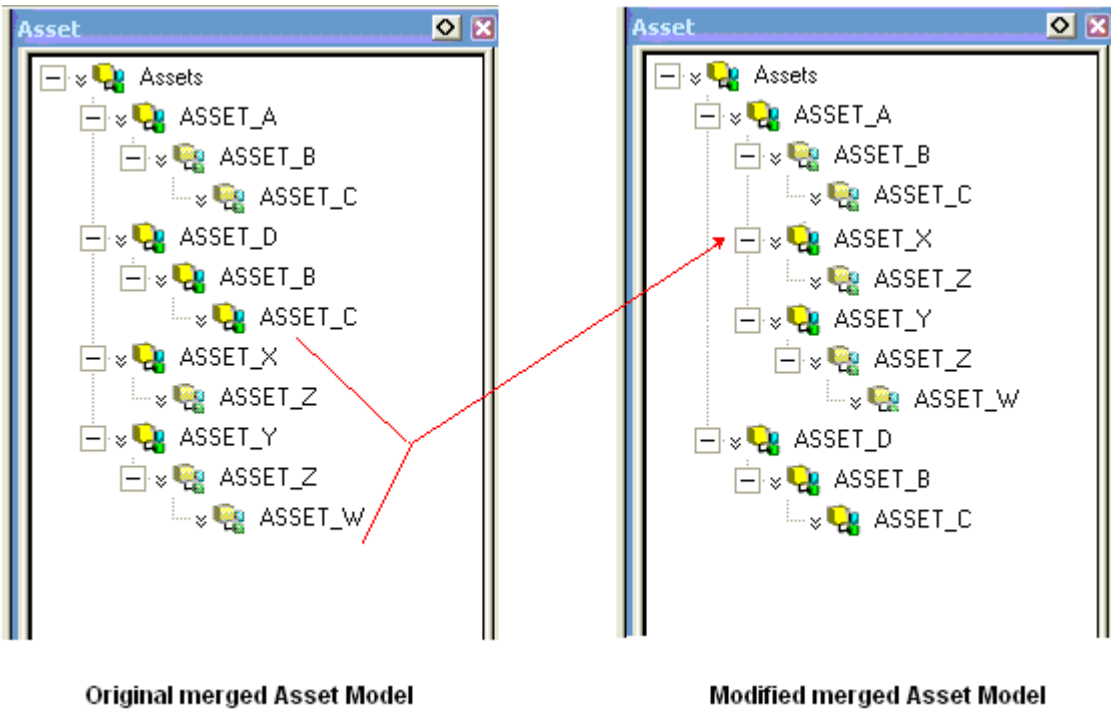


Figure 22: Modifying the hierarchy of a merged Asset model

Related topics

“Validating the new Enterprise Model” on page 85

Splitting an Enterprise Model

This section describes the steps required should you need to create a topology of multiple Enterprise Models from a single system EM. The steps include the export of the EMDb so that it can be distributed among multiple system servers.

Enterprise Model components

An Enterprise Model consists of the configuration repository, the EMDB, and the runtime EM which is the EMDB loaded to the servers. Additionally, the Enterprise Model is composed of four sub-models:

- System configuration, consisting of the system name and server definitions.
- Asset model.
- Alarm Groups.
- Network model (consisting of computer and network equipment.)

Splitting an EM into multiple systems

To split an EM into multiple EMs successfully, each of the sub-models in the EM must be split into their corresponding sub-models in the final EMs. The process of splitting an EM into two or more systems is accomplished by performing the following tasks.

Tasks:	Go to:
Back up all EMDBs to capture the original configuration.	“Backing up databases” on page 91
Export the various sub-models of the EM to another node or to removable media.	“Exporting models” on page 92
Create or activate the servers that will operate as system servers and host the EMDB for each system.	“Activating an EMDB on servers” on page 94
Import the files containing the sub-models to each system server.	“Import models” on page 95
In each system, delete the items from the EM that are not a part of the system. The deleted items include those which exist in other systems.	“Modifying the Enterprise Models” on page 97
Restructure items in the model tree structure to reflect the actual system structure.	
Load the EM to the servers in the system.	“Load Enterprise Model to servers” on page 99

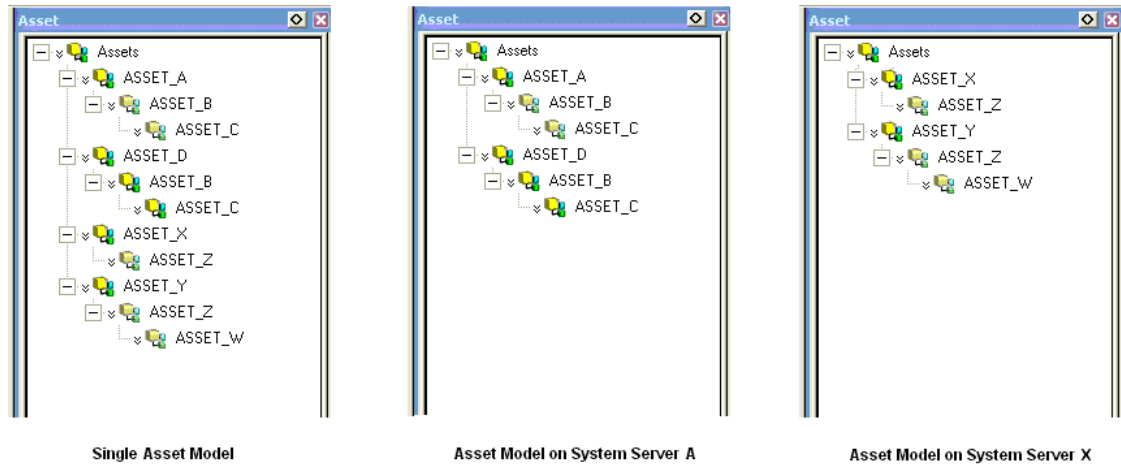


Figure 23: A single asset model and the result of splitting it into two separate asset models

A split of the single EM sub-models (system configuration, asset model, alarm groups, and network tree) will result in multiple versions of the EM, each of which contains a version of systems, assets, alarm groups, and networks corresponding to that system.

Planning considerations

First, develop a plan for splitting the system into multiple systems. There are important guidelines that must be adhered to during this planning stage:

- Make sure that the EM split process will have minimal impact on system operations. The system configuration should remain static during the split. That is, make sure that no changes are made to the EMs once you begin this process.
- Carefully map out a plan detailing the current topology of the system, the desired system topology after the split, and the steps necessary to achieve the desired result. Create a plan that describes the tasks which must be performed on each server during the split.
- Examine the current model structure and determine what items will make up each EM once they are loaded to each system server. For example, if the EMDB is to split to form three systems, what server definitions will exist in each system?
- Identify the servers that will become system servers and will host an EM. Will an existing server be used, or will a new server be added to the system to host an EM? If it is a new server, then you must follow the steps required to add a new server.

**Attention**

Ensure all servers are running the same Experion release before starting this process.

There can be many variations of system topologies to support multiple EMs, but the basic steps which are required to split an EM are the same, regardless of the starting topology.

Backing up databases

Perform a backup of all EMDBs so that the original configuration can be restored, if necessary.

Prerequisites

For redundant servers, ensure that primary and secondary EMDB servers are synchronized and replication is enabled.

To backup the EMDB

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Administer the system database**. The DBADMIN utility will open in a separate window.
- 4 Click the plus sign for DbAdmin folder icon and then the plus sign next to the Server folder icon to expand the tree structure.
- 5 Open the **EMDB Admin Tasks** folder.
- 6 Click on the **Backup Database** icon.

The Backup To dialog box appears. You can use the default name or specify a name for the backup file.



Attention

Due to increased security in R431, the database backup process does not have permission to write to many local folders. Either use a shared folder (which has permissions for everyone or Product Administrator set to Full Control), *C:\Temp*, or the default location.

A backup copy of the current database is created as a *.bak* file under the specified name and in the selected directory.

Exporting models

Each sub-model (system configuration, asset model, alarm groups, and network tree) of the EMDB must be exported (copied) to another location. The export destination can be a network location that is accessible by the current system server or a server that will become the system server for one of the EMs, provided that the server contains an empty EMDB. Also, the exported models can be copied to removable media such as a disk.

To export the system model configuration

- 1 In the Configuration Explorer in Configuration Studio, select **Export Server Definitions**.
- 2 Select the name of the system model you want to export.
- 3 Choose the directory to which you want to export the file.
Name the directory the same as the name of the server so that the files containing the models can be easily identified.
- 4 Click **Export**.

To export Asset models

- 1 In the Configuration Explorer in Configuration Studio, select **Configure Assets for this system**.
- 2 Select the root node for the Asset model you want to export.
Or, hold CTRL and click on multiple assets to select a group of assets to export.
- 3 Right-click and select **Export...** A dialog appears displaying the name of the model selected for export. See the following figure. The Point Name should be the same as the root node in the Export dialog.
- 4 Choose the directory with the server name and filename as the target for the export. Sub-models from the same system should be exported to the same directory.
- 5 Click **Export**.

The selected model and all associated items are exported intact to a single file. The export includes all information related to the exported items including:

- Item name
- Item point name
- Parent item point name
- Property data.

The name of the export file will be the name in the Point Name field with the file extensions *.cnf.xml*. Using the example in the following figure, the file name of the export file will be *Assets.cnf.xml*.

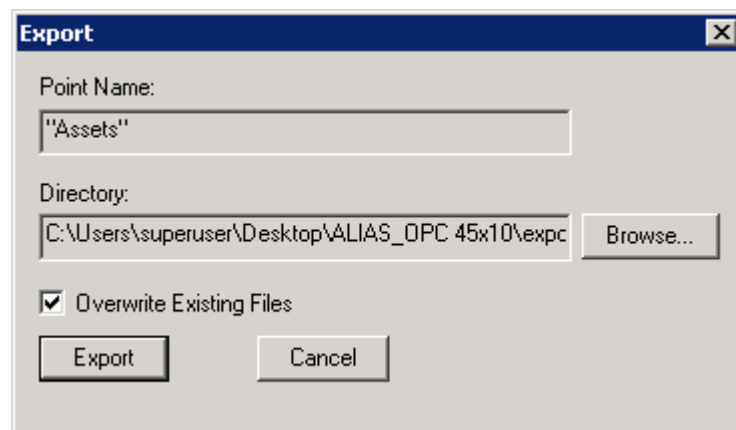


Figure 24: Export dialog

To export Alarm Groups

- 1 In the Configuration Explorer in Configuration Studio, select **Configure Alarm Groups for this system**.
- 2 Right-click the root name for the Alarm Groups you want to export, and choose **Export...**
- 3 A dialog appears displaying the name of the model selected for export. See the figure above. The Point Name should be the same as the root node in the Export dialog.
- 4 Choose the directory with the server name and filename as the target for export. Sub-models from the same system should be exported to the same directory.
- 5 Click **Export**.
The selected model and all associated items are exported intact to a single file. The export includes all information related to the exported items including:

- Item name
- Item point name
- Parent item point name
- Property data.

The name of the export file will be the name in the Point Name field and the file extensions *.cnf.xml*.

Next steps

The tasks for splitting the network tree and distributing it among multiple system servers are performed after the other sub-models (system, asset, and alarm groups) have been imported to the system servers.

Activating an EMDB on servers

All servers that are identified to host an EMDB must be configured as system servers. If a new server is to be used, you must install Experion PKS Server. During installation you will be prompted to designate the server as a system server. If you are using existing servers, they must be reconfigured to be system servers. The EPKS_Modify utility is used to activate the EMDB on the server and reconfigure it as a system server.


Tip

If the server is redundant, perform this procedure on the secondary (backup) server first.

To activate the EMDB on a server

- 1 On the server where the EMDB is to be located, log on as Local Administrator.
- 2 Go to `<install folder>\Honeywell\Experion PKS\Experion PKS\Utilities\EPKS_Modify`.
Where `<install folder>` is the location where Experion is installed.
- 3 Double-click `EPKS_Modify.exe`.
The EPKS_Modify tool dialog appears.

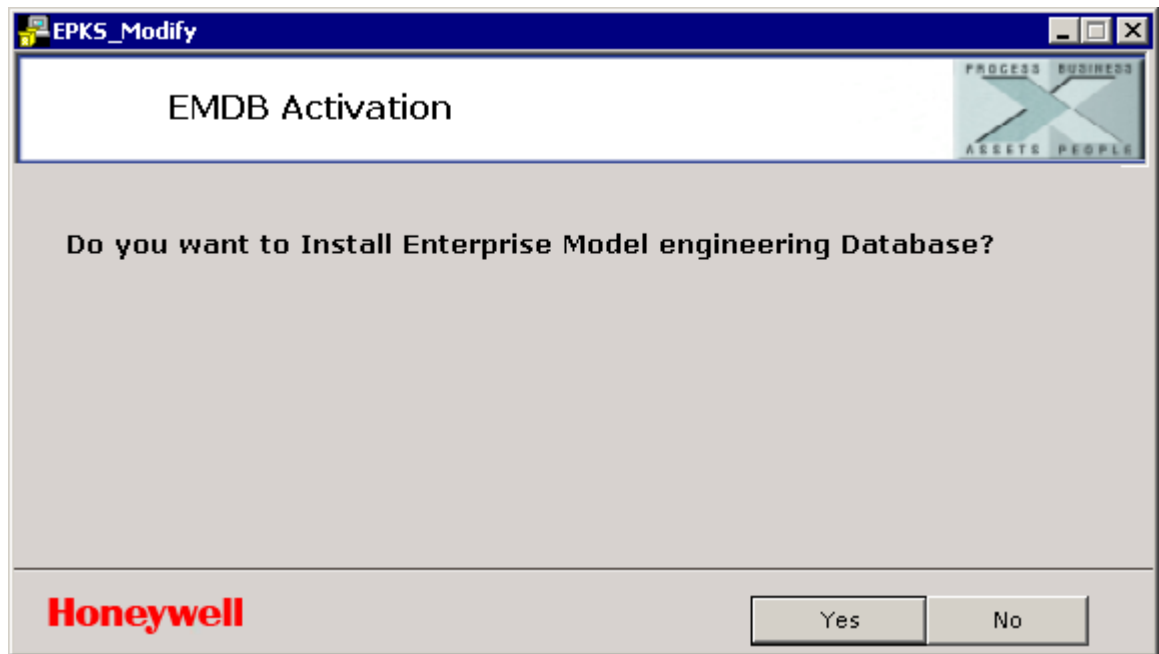


Figure 25: Epks_Modify start window

- 4 Follow the prompts to activate the EMDB on the server.
- 5 Enter MNGR password when prompted.
- 6 Restart the server.
- 7 If the server is redundant, repeat steps 1 to 6 to activate the EMDB on the primary server.
Repeat this procedure for each existing server that is designated to become a system server and host an EMDB.

Import models

You must import each sub-model file, from which the EM is comprised, to each system server that will host an EMDb. For example, if there are three systems in which you plan to host an EM, you must import a copy of each sub-model file (system configuration, asset model, alarm group, and network tree) to each of the three system servers. If you are planning to use the existing system server, no import is necessary since the EM already exists on the server. Make sure that you select the correct model to import; (for example, when importing the asset model, select the file containing the asset model).

Before you import any files into a new system server, you should initialize EMDb to ensure it is empty.

To initialize EMDb and import files into the system server

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, choose **Administer the system database**. The DBADMIN utility will open in a separate window.
- 4 To expand the tree structure, click the plus sign next to the DbAdmin folder icon and then the plus sign next to the Server folder icon.
- 5 Open the **EMDb Admin Tasks** folder.
- 6 Click on **Initialize Database**.
A dialog appears asking **Are you sure that you want to continue and initialize the database?**
- 7 Click **Yes** to initialize a clean EMDb on the server.
- 8 Acknowledge the restart configuration studio prompt. Then close and reopen Configuration Studio.
- 9 Highlight the old system name at the top of the tree in Configuration Explorer. Select **Rename this system**. Enter the new system name in the dialog.
- 10 In the Configuration Explorer tab, choose **Import Server Definitions**.
The Import dialog appears showing a list of exported items based on a default directory. You may navigate to a different directory, which changes the list of exported items.
- 11 Select the file corresponding to the system model that you want to import.
- 12 Use the default directory or navigate to a different directory as the source of the file import.
- 13 Click **Import**.
- 14 Acknowledge the import confirmation dialog.
- 15 Perform a backup of the newly created EMDb.
- 16 Repeat this procedure for each system server that will host an EMDb.

To import asset models and alarm groups into the EMDb

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Configure Assets for this system** (for asset models) or **Configure Alarm Groups for this system** (for alarm groups).
- 4 Select the root node for the Asset Model or Alarm Group you want to import.
 - a Select items for import from the list in the 'Object' window. Or, enter a specific Point Name for which to import. Or, use the Directory for files to import, or use the **Browse** button to choose a different directory.
 - b Enter a check in the **Use Selection List:** field and then click on the drop-down window to select an item for import.

- c Enter a check in the **Overwrite Existing Objects** field if you wish to overwrite any items containing the same name in the Enterprise Model with the imported items.
- 5 Use the menu and choose **File > Import...**
A dialog appears showing a list of exported items based on a default directory. You may navigate to a different directory, which changes the list of exported items.
- 6 Click **Import**.
- 7 The import operation imports all items contained in the exported file and moves the items to the parent specified in the file for each item.
- 8 Perform a backup of the EMDb.
- 9 Repeat steps through to import the alarms groups into the system server.
- 10 Repeat this procedure for each system server that will host an EMDb.

Related topics

“What happens if the import tries to overwrite existing assets or alarm groups?” on page 60

Modifying the Enterprise Models

Once the sub-models of the EM have been imported to the newly designated set of system servers, you must then modify each sub-model that makes up the EM so that they reflect the structure of the system where the EM is hosted. (The network tree portion of the EM is added later in this process.) For example, the various sub-models from the original EMDb are imported to the set of system servers. The original EMDb contained server definitions, assets, alarm groups and a network tree for the entire system, which has since been distributed among the set of system servers through the split process. The system servers now contain the original EMDb and EM. Each system (which is supported by the system server) may contain only a sub-set of the items that existed in the original EMDb. Therefore, you must modify the EMDb on each system server to reflect the structure of that system.

The following figure illustrates a single asset model as it existed in the original EMDb, and the asset model structure after it has been imported to two system servers (Server A and Server X) and then modified to reflect the asset structure present in each system. This example assumes that the basic structure of the asset models on Servers A and X is unchanged from its single model. That is, all assets have the same parent, and the difference is that the assets which do not exist in the separate systems have been removed. If the structure in the separate systems is different, then additional work is required.

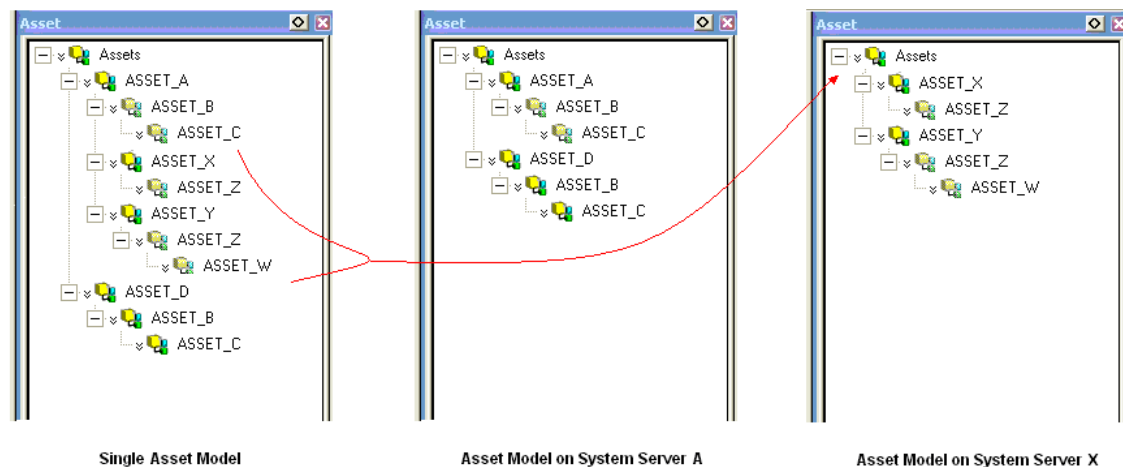


Figure 26: Single asset model and separate modified model structure

In the above example, the single asset model shows that the assets on Server X are children of 'Asset A', after the systems are split you can use the EMB to move the server X assets to the top level node **Assets**, resulting in the model for system X shown in the above figure. This will result in changes to the Full Item Names of the new system X assets, which in turn will require work to update the configurations of the Alarm Groups that reference these assets (Associated Asset, and Group Items properties), strategies in Control Builder that reference assets (Parent Asset), and SCADA points in Quick Builder. Currently there is no tool available to automatically update the asset item names.

Deactivate any unused system servers

If the system server that hosted the original EMDb is not used to host an EM after the EM has been split, the EMDb on that server must be deactivated and as a result it will no longer be designated as a system server. This is only necessary if you are moving the entire EMDb to other servers.



Tip

If the server is redundant, perform this procedure on the secondary (backup) server first.

To deactivate the EMDB on a server

- 1 On the server where you want to deactivate the EMDB, log on as Local Administrator.
- 2 Go to *<install folder>\Honeywell\Experion PKS\Utilities\EPKS_Modify*.
Where *<install folder>* is the location where Experion is installed.
- 3 Double-click **EPKS_Modify.exe**.
The EPKS_Modify tool dialog appears.
- 4 Follow the prompts to deactivate the EMDB on the server.
- 5 Reboot the server.
If the server is redundant, repeat steps 1 to 5 to deactivate the EMDB on the primary server.

Load Enterprise Model to servers

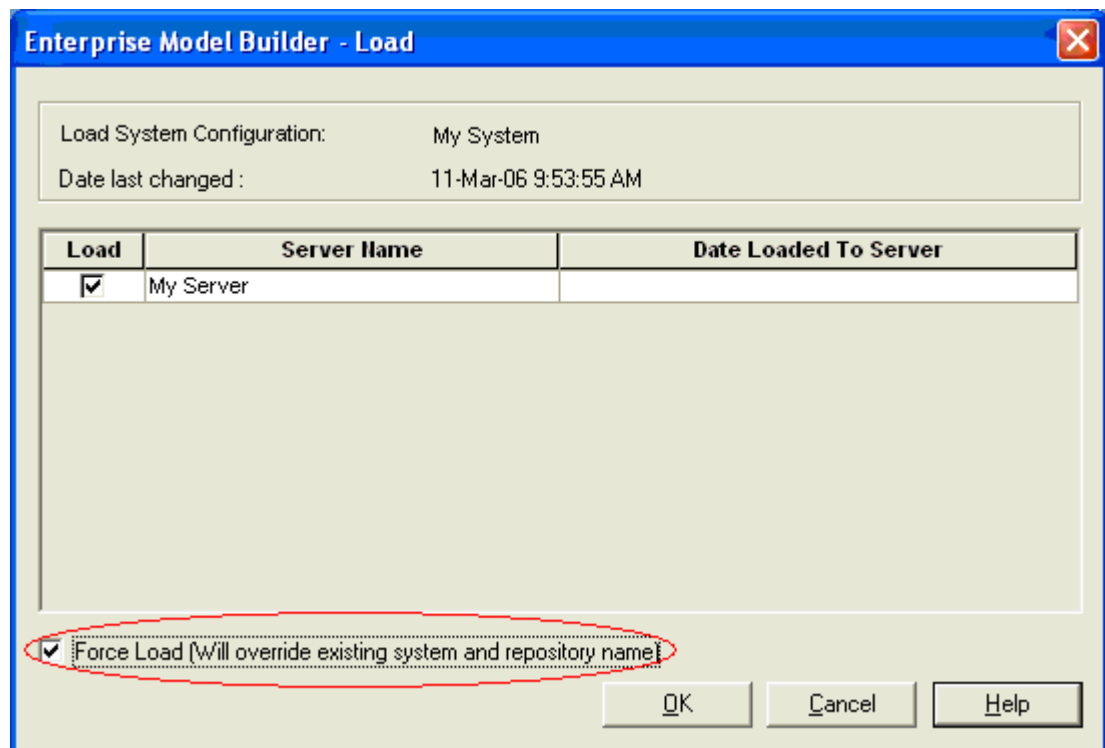
Once the EMDb has been imported to the system servers and the Enterprise model has been modified to reflect the structure of the system, the EM must be loaded to all the servers in the system.

! Attention

- During the load operation, assets and points may temporarily belong to unassigned items in the Alarm Summary display. The tree view on the left of the display may show an incomplete model. Additionally, alarms may temporarily be raised against assets and points in the model showing a blank location field. These conditions should clear once the download is completed.

To load the system model of the EM to servers

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Load system configuration to servers**. The following dialog appears which allows you to select servers to be loaded.




- 4 Select the servers that you want to download with the system configuration by adding a check mark in the **Load** column next to the **Server Name**.
 - 5 Uncheck any servers that you do not want to load at this time.
 - 6 Add a check to the **Force Load** box to overwrite the existing system and repository name in the selected servers.
 - 7 Click **OK** to begin the system configuration load operation on all selected servers.
- The Loading System Configuration dialog appears showing the name of all servers selected for load, the load status, and a detail description for each server. A progress bar is shown for the duration of the load operation.

If the load operation is successful without detection of any errors or warnings, a Load Status of *complete* appears.

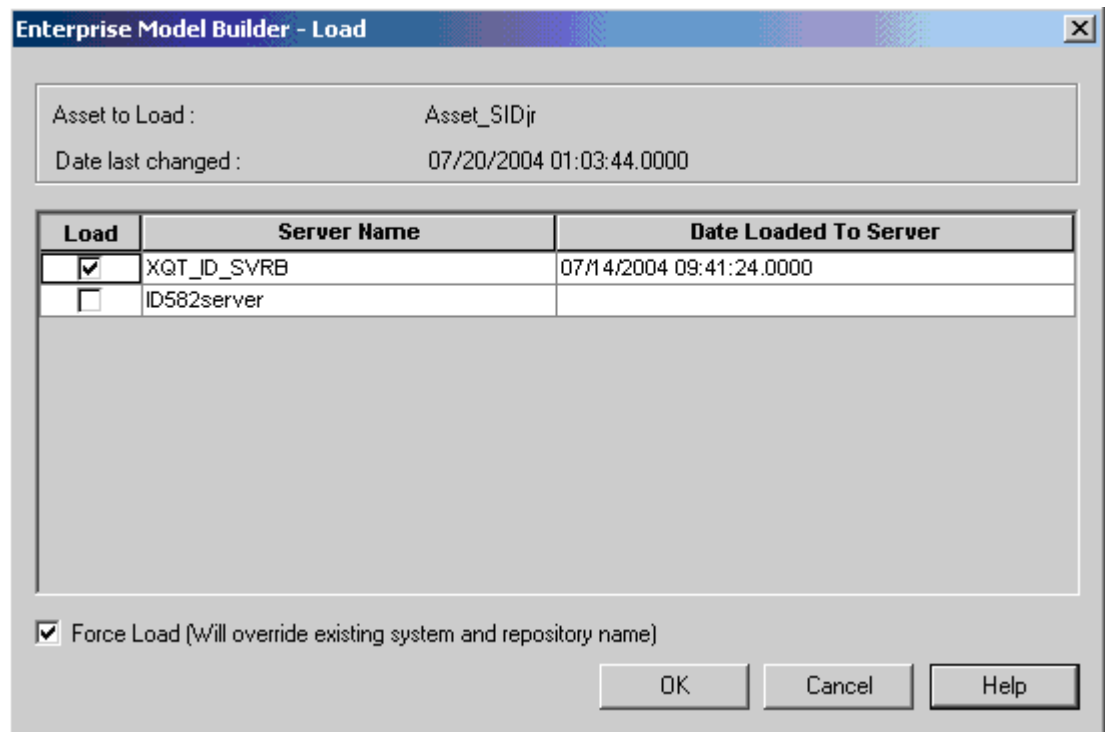
If any errors occur during the load operation, correct the fault and then perform the load procedure again.

- 8 Repeat this procedure on each system server that hosts an EMDb.

To load the Asset model and Alarm Groups to the servers

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, select **Configure Assets for this system** (for asset models) or **Configure Alarm Groups for this system** (for alarm groups).
- 4 In Enterprise Model Builder, either:
 - Select the menu and choose **Tools > Load Entire Model...**
 - or, click **Load**  on the toolbar.

The following Load dialog appears:



- 5 Select the servers that you want to download with the asset model or alarm group by adding a check mark in the **Load** column next to the **Server Name**.
- 6 Uncheck any servers that you do not want to load at this time.
- 7 Add a check to the **Force Load** box to overwrite the existing system and repository name in the selected servers.
- 8 Click **OK** to begin the asset model load operation concurrently on all selected servers.
The Loading Asset (or Alarm Group) dialog appears showing the name of the top-level asset (or alarm group) being loaded. A progress bar is shown for the duration of the load operation. The name of all servers selected for load, the load status and a detail description for each server also are shown.
- 9 During the load operation, EMB validates the server names of all the configured servers in the system as well as the point and full item names of the asset model or alarm groups.
If the load operation is successful without detection of any errors or warnings, a Load Status of *complete* appears.

- 10 If any errors occur during the load operation, correct the fault and then perform the load procedure again.
- 11 Repeat steps through to load the alarm groups to the servers.
- 12 Repeat this procedure on each system server that hosts an EMDB.

Related topics

“About status and error messages” on page 21

Splitting the Network tree

In Experion Release 300.1, the Network tree was introduced as one of the sub-models of the Enterprise Model. This section provides an overview of how to split a Network tree existing in a single system and distribute it among multiple system servers. Standard Network Tree tools are used to manually build new trees in the new EMDBs. The required procedures are:

- Document the original EMDB.
- Manually build the Network trees in the new EMDBs.

The following procedures detail the steps required to complete these tasks.

To document the original EMDB

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 In the Configuration Explorer in Configuration Studio, fully expand the Network tree and perform a screen capture to document the items in the tree structure.
- 4 Export the Network tree to an .xml file for reference. Save the file in a directory name that identifies it as the original Network tree.

To manually build the new Network trees in the new EMDBs

- 1 On the system server or server B in a redundant pair, log on as Domain Administrator or Local Administrator.
- 2 Launch Configuration Studio and connect to the system with a logon security level of Engineer or greater.
- 3 Disable EMDB replication on redundant servers that will be hosting the EMDB.
- 4 Build the Network tree in the new EMDB.
 - a Go to `<data folder>\Honeywell\Experion PKS\Engineering Tools\System\Bin`.
Where `<data folder>` is the location where Experion data is stored. For default installations, `<data folder>` is `C:\ProgramData`. The `C:\ProgramData` folder is a system folder, which means that it is only visible if you select the **Show hidden files, folders, and drives** option button in the **Folder Options** dialog box. To change this setting in Windows Explorer, click **Organize > Folder and search options**, and then click the **View** tab.
 - b Copy the file `configfileschema.xml` to the same directory as the exported .xml file saved previously.
 - c Use the screen capture saved previously to determine what items are to be added in the EMDB.
 - d Use the data in the exported .xml files to get the detailed information for those items.
- 5 Enable EMDB replication on the redundant servers that were disabled in step .
- 6 For additional information on configuring the Network tree, see Network tree configuration tasks in the *Server and Client Configuration Guide*.
- 7 Repeat this procedure on each system server that is identified to host an EMDB.

Validating new Enterprise Models

The EM has been split and distributed among a set of system servers. Each sub-model in the EM has been modified to reflect the structure in each system. Each system now has a unique EM that reflects its system structure.

Now verify that the resulting EM is correct for each system. This requires viewing displays, ensuring that alarms are placed in the correct groups, verifying that operators have the correct Scope of Responsibility. If changes to any of the models are necessary, then make the appropriate changes and perform a load of the EM again to update the servers in the system.

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How to report a security vulnerability

For the purpose of submission, a security vulnerability is defined as a software defect or weakness that can be exploited to reduce the operational or security capabilities of the software.

Honeywell investigates all reports of security vulnerabilities affecting Honeywell products and services.

To report a potential security vulnerability against any Honeywell product, please follow the instructions at:

<https://honeywell.com/pages/vulnerabilityreporting.aspx>

Submit the requested information to Honeywell using one of the following methods:

- Send an email to security@honeywell.com.
- or
- Contact your local Honeywell Process Solutions Customer Contact Center (CCC) or Honeywell Technical Assistance Center (TAC) listed in the “Support and other contacts” section of this document.

Support

For support, contact your local Honeywell Process Solutions Customer Contact Center (CCC). To find your local CCC visit the website, <https://www.honeywellprocess.com/en-US/contact-us/customer-support-contacts/Pages/default.aspx>.

Training classes

Honeywell holds technical training classes on Experion PKS. These classes are taught by experts in the field of process control systems. For more information about these classes, contact your Honeywell representative, or see <http://www.automationcollege.com>.

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