

Experion PKS
Configuration Studio Overview Guide

EPDOC-X113-en-431A
February 2015

Release 431

Document	Release	Issue	Date
EPDOC-X113-en-431A	431	2013	February 2015

Disclaimer

This document contains Honeywell proprietary information. Information contained herein is to be used solely for the purpose submitted, and no part of this document or its contents shall be reproduced, published, or disclosed to a third party without the express permission of Honeywell International Sàrl.

While this information is presented in good faith and believed to be accurate, Honeywell disclaims the implied warranties of merchantability and fitness for a purpose and makes no express warranties except as may be stated in its written agreement with and for its customer.

In no event is Honeywell liable to anyone for any direct, special, or consequential damages. The information and specifications in this document are subject to change without notice.

Copyright 2015 - Honeywell International Sàrl

Contents

About this guide	7
Getting started with Configuration Studio	9
Starting Configuration Studio	10
Connecting to servers and systems located across subnets	10
Layout of the Configuration Studio window	12
Configuration Explorer	12
Configuration tools	13
Toolbars	13
Performing configuration tasks	15
Switching servers in Configuration Studio after an Experion server failover	16
Changing user account while connected to a server	17
Configuration tasks help	19
System	20
Server Tasks	20
System Tasks	20
Security Tasks	21
Search	22
Network Tasks	23
Servers	25
Server Tasks	25
Server	26
Server Tasks	26
Database Administration	26
Security Tasks	27
Search	27
Stations and Consoles	30
Build Flex Stations	30
Configure Flex Stations	30
Configure Console Stations	30
Configure Consoles	31
Configure server-wide Station settings	31
Printers	32
Build printers	32
Configure printers	32
Control Strategy	33
Equipment	33
Process Control Strategies	33
SCADA Control	34
Electronic Flow Measurement (EFM) Configuration	34
I/O and Network Maintenance	35
Help Topics	36
Batch	37
Trends and Groups	38
Configure trends	38
Configure groups	38

Displays	39
Create new Normal display	39
Create new Popup display	39
Create new Dynamic Shape display	39
Create new Shape Sequence display	39
Edit existing displays	39
System Access	40
Operator Security	40
Parameter Security	41
Profiles	41
Alarm and Event Management	42
Configure alarm processing	42
Configure alarm and alert notification settings	42
Configure event archiving	42
Configure alarm appearance	43
Server-wide alarm and event options	43
Configure alarm trackers	43
Configure system alarm priorities	43
History	44
Standard history collection	44
Extended history collection	44
Fast history collection	44
Exception history collection	45
Configure history archiving	45
Reports	46
Define reports	46
Server-wide report settings	46
Schedules	47
Configure point control schedules	47
Configure holidays	47
Configure shifts	47
System Interfaces	48
Configure system interfaces	48
View distributed servers	48
View redundant server configuration	48
Applications	49
Configure SCADA recipes	49
Acronyms	50
Configure system acronyms	50
Configure TDC CL acronyms	50
Configure user acronyms	50
Application Development	51
User developed applications	51
Application point lists	51
System sinewave	51
Task timers	51
Watchdog timers	51
User-defined data formats	52
Server Scripting	53
Configure script engines	53
Configure server scripts	53
View point scripts	53
File Replication	54
Configure file replication	54

IEC61850	55
Network	56
Network Tasks	56
Computer Tasks	56
Devices Tasks	57
Notices	59
Documentation feedback	60
How to report a security vulnerability	61
Support	62
Training classes	63

About this guide

This guide describes the user interface of the Configuration Studio and an overview of the configuration tasks.

Revision history

Revision	Date	Description
A	February 2015	Initial release of document.

Getting started with Configuration Studio

Configuration Studio provides a central location for the tools necessary to configure, check status, and access information for your Experion system. This allows you to manage all aspects of your system configuration including, but not limited to, hardware configuration, history, OPC, control strategies, controllers, and even field devices.

In Configuration Studio, you are provided with a customized list of tasks that you are required to complete to configure your system. When you click a task, the appropriate tool is launched so that you can complete the task.

The method for navigating Configuration Studio is based around Windows Explorer functionality. For example, double-click to expand folders or click the +/- icons to expand or collapse a folder.

Configuration Studio is installed as part of the Experion installation process.

Starting Configuration Studio

Prerequisites

You must have an Experion operator account on the Experion server to which you want connection.



Attention

- If this is a new installation, use the default operator account **mngn**.

To start Configuration Studio

- 1 Choose **Start > All Programs > Honeywell Experion PKS > Configuration Studio**.
Configuration Studio appears, displaying the **Connect** dialog box.
- 2 In the list of systems and servers, click the system or specific server that you want to connect to and then click **Connect**.
The **Login to Server** dialog box appears.
Note that you connect to:
 - A *system* when you want to configure your asset model, define your servers in a Distributed System Architecture (DSA), configure your Network tree, or select a server for server-specific tasks.
 - A *server* when you want to configure something specific to that server such as defining Alarm Groups or renaming the system.
- 3 Log on to Configuration Studio.



Attention

- The login prompt is only displayed if the account used to log on to Windows is not configured as an operator either directly or via Windows group membership, that is, if your system is not using *single signon*. If single signon is enabled, you do not need to enter a name or password, or select a domain name.

- a Type the operator name and password.
- b In the **Domain** list, select one of the following:

If...	Select...
The operator name is maintained in a Windows domain	The Windows domain name
The operator name is maintained on the server or system that you are connecting, and you use integrated security	<i>Servername</i> (the target)
You are using traditional operator security	<Traditional Operator Security>

- c Click **OK**.

Results

- Configuration Explorer is populated with a tree of items that you can configure for your system or server.

Connecting to servers and systems located across subnets

When using Configuration Studio to connect to a server through a router that has multicast traffic blocked, the **Local Targets** tab of the **Connect** dialog box will not list the server or system names belonging to the remote subnet. This is sometimes the case within Level 2 and Level 3 environments and frequently between L4 and L2/L3 environments. This will always happen when multicast traffic is blocked by the router or firewall.

In this situation, it is still possible to connect to servers or systems located in other subnets by typing in the server name.

To connect to servers or systems located in other subnets

- 1 Start Configuration Studio and display the **Connect** dialog box.
- 2 Click the **Other Targets** tab.
- 3 Using the **Target Type** drop down box, select type of subnet to which you want to connect.
- 4 In the **Target Name** text box, type the computer name of server to which you want to connect.
Alternatively, you can specify the IP address of the server.
- 5 Click **Connect**.

Layout of the Configuration Studio window

The following figure is an example of the Configuration Studio window.

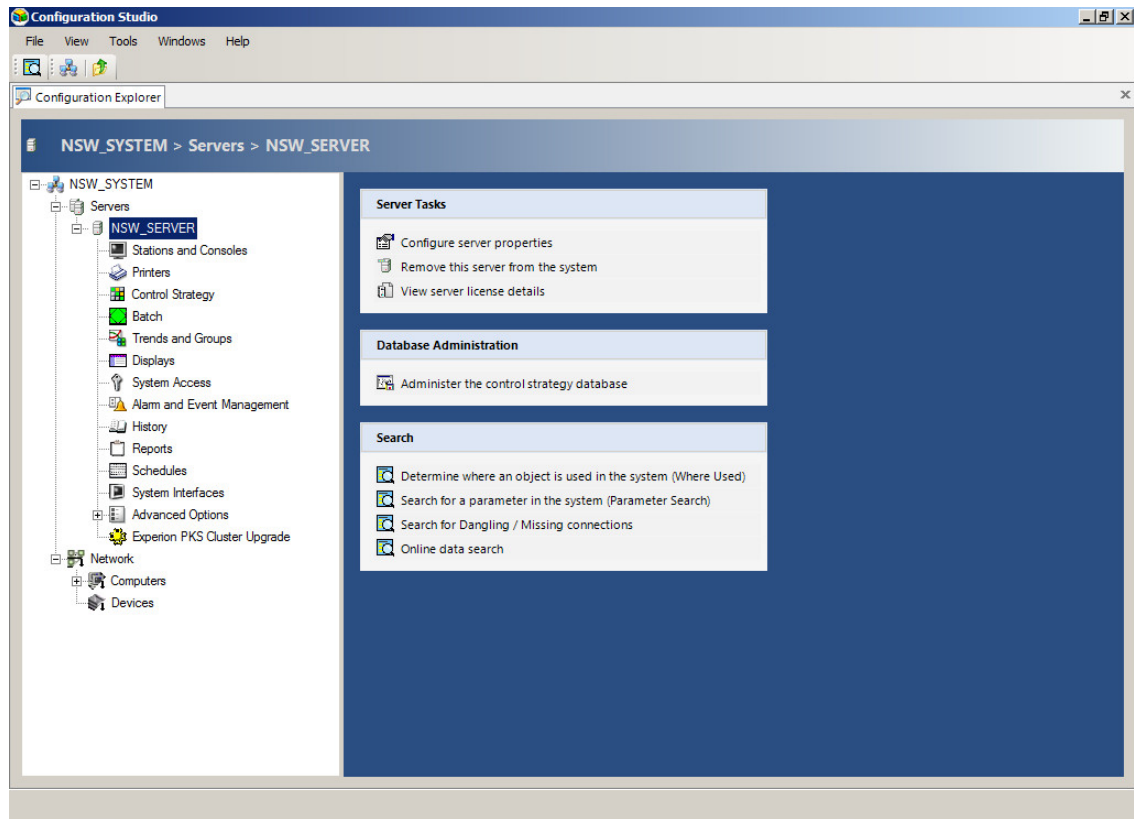


Figure 1: Configuration Studio

The Configuration Studio window contains the following components:

- Configuration Explorer is the first tab displayed.
- Toolbars and menus appear at the top.
- Configuration applications or displays that are integrated with Configuration Studio are displayed as additional tabs when starting a task.
- The status bar at the bottom of the screen. When you connect to an Experion system, the status bar will be empty. When you connect to an Experion server, the status bar displays the name of the server, user name, and the related security level.

Configuration Explorer

Configuration Explorer is displayed as a tab within the Configuration Studio window. Use Configuration Explorer to navigate through the configuration tasks for your system.

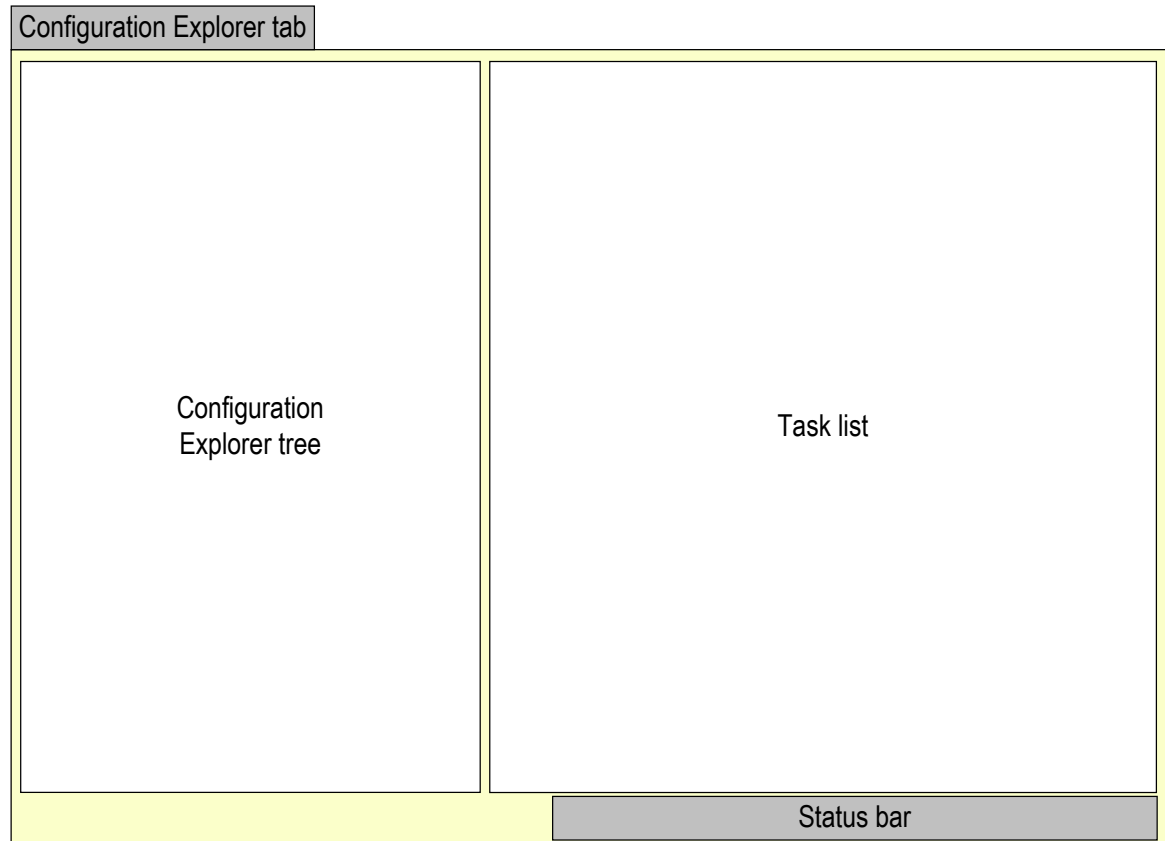


Figure 2: Configuration Explorer layout

The Configuration Explorer tree lists all the items that you can configure in your system. These items are determined by the license details of the Experion server to which you are connected.

When you select an item in the Configuration Explorer tree, the Task list displays the configuration tasks applicable for the selected item. Click on the task name to start a specific task.

Attention

- Tasks are enabled or disabled based on the version of Experion the target server is running.

The status bar displays the server name of the target that you are connected to, your user name, and your security level. It also displays the server's online or offline status with an icon next to the server name.

Configuration tools







If a task requires a tool, such as Control Builder or Quick Builder, the appropriate tool is launched automatically. If a task requires a system display, then the appropriate display is called up as a separate tab within the Configuration Studio window.

Toolbars

The toolbar provides quick access to commonly used commands. The toolbar is dynamic; some buttons are added or removed, depending on the commands available for the tab displayed in the application.



Figure 3: Configuration Studio toolbar

Button	Description
	Connect to. Connects to an Experion system or server on the network.
	Back. Jump back a page.
	Forward. Jump forward a page.
	Up. Navigate to the node above in the Configuration Explorer tree.
	Refresh. Refresh the current page
	Configuration Explorer. Shows the Configuration Explorer tab.

Performing configuration tasks

To perform most configuration tasks

- 1 Connect to the server or system that you need to configure.
- 2 On the Configuration Explorer tab, click the item in the Configuration Explorer tree to configure.
The Task list displays the applicable configuration tasks for the item you selected.
For more help about the tasks available, press F1.
- 3 Click the configuration task.
The associated display is shown as a separate tab or the appropriate configuration tool is launched.
- 4 Complete the configuration task as required.
- 5 Repeat the above steps until you have configured your system as required.

Switching servers in Configuration Studio after an Experion server failover

**Attention**

This task only applies if Configuration Studio is connected to a redundant server. You must connect to one of the redundant servers; you cannot connect to a system to complete this task.

If an Experion server failover occurs, you need to switch the Configuration Studio connection to the backup server. After a server failover, the server status in Configuration Studio will be no connection. You can switch to the backup server using the **Server Connection Status** dialog box.

To switch servers in Configuration Studio after an Experion server failover

- 1 Click on the server name in the status bar.
The **Server Connection Status** dialog box appears.
- 2 If a backup server is available, click **Switch to Backup** to connect to the backup server.
Wait for the server connection status to change to Connected.

Results

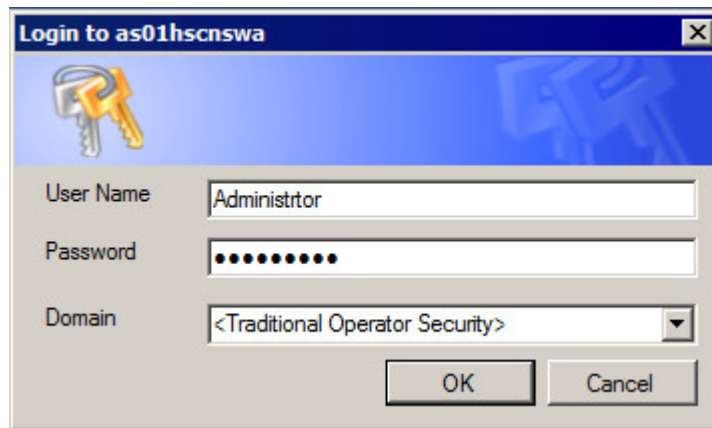
After switching to the backup server, all Configuration Studio tasks will be performed on the backup server.

Changing user account while connected to a server

You can switch user accounts directly from Configuration Studio. You can only switch user accounts when you are connected to a server; if you are connected to a system, you cannot switch user accounts.

To change user accounts

- 1 Click on the user name in the status bar.
A logon dialog appears.



- 2 Enter a User Name and Password for the account to which you want to switch. Click **OK**.
The new user name and the related security level will appear in the status bar.



Attention

Any open tools (tasks opened prior to changing the credential), such as Quick Builder, will continue to use the old credential until they are closed and reopened.

Configuration tasks help

These topics describe each of the configuration tasks.

Related topics

- “System” on page 20
- “Servers” on page 25
- “Server” on page 26
- “Stations and Consoles” on page 30
- “Printers” on page 32
- “Control Strategy” on page 33
- “Batch” on page 37
- “Trends and Groups” on page 38
- “Displays” on page 39
- “System Access” on page 40
- “Alarm and Event Management” on page 42
- “History” on page 44
- “Reports” on page 46
- “Schedules” on page 47
- “System Interfaces” on page 48
- “Applications” on page 49
- “Acronyms” on page 50
- “Application Development” on page 51
- “Server Scripting” on page 53
- “File Replication” on page 54
- “IEC61850” on page 55
- “Network” on page 56

System

The following system tasks are only available if you are connected to a system. If you selected server as your connection type during the Configuration Studio log on, you cannot access these tasks.

Server Tasks

Add a server this system

You add a server to the system in Configuration Studio.

While adding a server to the system you can configure the following:

- The name.
- The detailed description.
- If this server is external to the system.
- The network type connecting the server within the system.
- If this server is a redundant server.
- System wide event configuration.

Load system configuration to servers

You load the system model (server definitions) to all servers in the system in Configuration Studio.

Export server definitions

You export the system model (server definitions) to an external file in Configuration Studio.

Import server definitions

You import a system model (server definitions) from an external file in Configuration Studio.

System Tasks

Configure Assets for this system

You configure the asset model using the Enterprise Model Builder in Configuration Studio.

The asset model is a hierarchical representation of entities such as fixed plant equipment, materials, buildings, floors, rooms, and so on. The hierarchy reflects the arrangement of these assets in the enterprise.

For each asset you can specify:

- An intuitive name, which makes it easier to identify.
- A detailed description.
- If this is an assignable asset for the purpose of scope of responsibility. For more information on scope of responsibility see the topic “Configuring security and access” in the *Server and Client Configuration Guide*.

Using the Enterprise Model Builder, you can place each asset within a hierarchy.

Configure Alarm Groups for this system

You configure alarm groups using the Enterprise Model Builder in Configuration Studio.

Alarm groups are arbitrary groups of assets and points that are useful for managing alarms. They provide a representation of enterprise assets that make it easier for operators to identify, focus on, and respond to abnormal situations.

For each alarm group you can specify:

- An intuitive name, which makes it easier to identify.
- A detailed description.
- The tagname of the assignable asset associated with this alarm group.

Rename this system

When Enterprise Model Builder is installed on the server, a default name is given to the system. The default system name assigned by Experion can be changed using Configuration Studio.

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.



Attention

- The ampersand (&) and the question mark (?) characters cannot be used when renaming system names in Configuration Studio.

Administer the system database

You administer the enterprise model database using DbAdmin in Configuration Studio. Note that the DbAdmin task will only be displayed for the server on which you are physically running Configuration Studio, and no other DbAdmins will be displayed.

For data security, you can back up and restore the enterprise model database.

Configure Alarm Suppression

The **Configure Alarm Suppression** task in Configuration Studio calls up the **Alarm Suppression** display.

You use this display to create, modify, delete and load alarm suppression groups.

Dynamic Alarm Suppression (DAS) is an Experion license option that provides an automated way of temporarily removing alarms from the default (unfiltered) view of the Alarm Summary. Alarms are removed in accordance with a set of rules that you configure. By temporarily removing specific alarms from the Alarm Summary when pre-configured conditions are met, DAS helps operators to focus on the issue at hand or on other more critical conditions in the plant.

For more information, see the *Server and Client Planning Guide* and the *Server and Client Configuration Guide*.

Security Tasks

Manage Secure Communications

Secure Communications enables encrypted communication technology to minimize security vulnerabilities in your Experion system. It provides a common infrastructure for Experion Console Station, server, and C300 controller nodes to communicate using cryptographic (encryption, authentication, and message integrity protection) communication technology.

With Secure Communications, you can mitigate the following risks:

- Man-in-the-middle (MITM) attacks on Level 2 of the Experion network.
- Disclosure of information in communication between secured nodes.
- Rogue or unauthorized devices added to Level 2 of the Experion network.

In Secure Communications, configuration tasks, such as setting the security policy and administration, are restricted to the Security Administrator role to ensure security. The following tasks can be performed in Secure Communications:

- Initialize a Security Area (A Security Area is a collection of Experion nodes and networks that share similar requirements for protection of information. A Security Area consists of one or more Security Zones.)

- Configure secure communications for nodes in a Security Zone (A Security Zone is a group of nodes in a Security Area, for which a single security policy is configured.)
- Configure the security policy for a Security Zone.

For information about how to configure and manage Secure Communications, see the *Secure Communications User Guide*.

Search

Determine where an object is used in the system (Where Used)

You search for where objects are used in the system using the Search utility in Configuration Studio. This search tracks where a given entity (point, parameter, assets, alarm groups, and display shapes) is used within the system.

Using the search utility, you can define the search criteria by entering name(s) of entities and then start the search.

The results of the search returns any instances of the entities existing in the database based on the search criteria.

Searches can also be conducted to find where parameters are used in selected customer-defined HMIWeb displays. The utility searches the display files for selected parameter instances and returns results based on the search criteria.

For example, searching to find where a point 'CM_1' is used in a system. The results could indicate the point 'CM_1' is used in another point 'CM_2' as a connection, is used in 'Display_1' as a reference and is used in 'Alarm_101' as a group item.

For more information about how to conduct where used searches, see the *Search Utility User's Guide*.

Search for a parameter in the system (Parameter Search)

You search for a parameter name or value in the system using the Search utility in Configuration Studio.

This search type allows you to enter a parameter name or value in the search criteria and then have the Search utility return all instances of that parameter defined in the database.

For example, this query can be used to list all the points whose PV is greater than a pre-defined value ($PV > 75$) or it could be used to list parameters whose value lies between a range of values ($PV > 50$ and $PV < 75$). This is useful in scenarios where the user wants to search for all EEs in 'run' state, PV compliance to a set point, or determine the number of EEs for a particular execution cycle time.

For more information about how to conduct parameter searches, see the *Search Utility User's Guide*.

Search for Dangling/Missing connections

A connection is said to be dangling, if a block is missing at one end of the connection. A connection is said to be missing, if the blocks are missing at both ends of the connection.

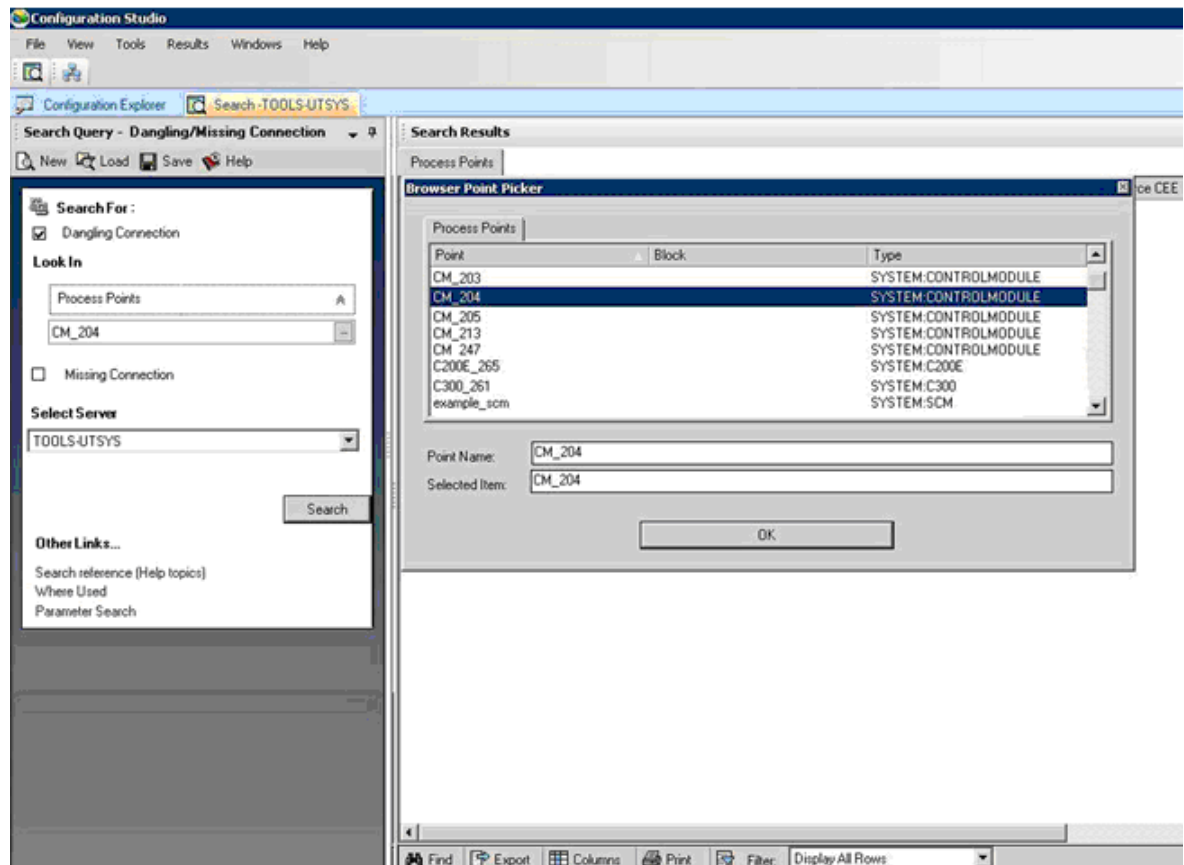
You can search for dangling and missing connections in the system using the Search utility in Configuration Studio. You can perform a search for a dangling connection at the system, the server, the controller, and the tagged module level. You can perform a search for a missing connection at the system and the server level.

With this feature, you can perform a search for dangling or missing connections in the following type of connections in both the Project and the Monitoring view:

- Connections (Wired/Parameter Connector)
- Peer connections
- RCM phase block
- SCM Expressions
- Aliases

- Substitute Parameters
- CAB Parameter references

For example, you can perform a search for dangling connections in the server “TOOLS-UTSYS” for the tagged module “CM_204.” In addition, you can correct the connections from the search results.



Online data search

You can start an Online Data Search from Configuration Studio.

For more information about how to conduct searches, see the *Search Utility User's Guide*.

Network Tasks

Load network 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.

Export network definitions

You can export a network definition created on one computer for import to another computer. Typically, this would be used when creating the network definition offline and then transporting this definition to an online system at a customer site.

Import network definitions

Note that importing a network definition is a one-time activity. Importing an existing network definition is allowed only if you do NOT already have a network definition for the current site. If a network definition for a site already exists, you must delete the existing network definition before importing a new one.

Refresh

You can rebuild the network tree from the EMDB and Experion point database.

Servers

Related topics

“Server Tasks” on page 20

Server Tasks

Add a server this system

You add a server to the system in Configuration Studio.

While adding a server to the system you can configure the following:

- The name.
- The detailed description.
- If this server is external to the system.
- The network type connecting the server within the system.
- If this server is a redundant server.
- System wide event configuration.

Load system configuration to servers

You load the system model (server definitions) to all servers in the system in Configuration Studio.

Export server definitions

You export the system model (server definitions) to an external file in Configuration Studio.

Import server definitions

You import a system model (server definitions) from an external file in Configuration Studio.

Server

Related topics

“Server Tasks” on page 26

“Database Administration” on page 26

“Security Tasks” on page 21

“Search” on page 22

Server Tasks

Configure server properties

You configure servers in Configuration Studio.

You can configure the following:

- The name.
- The detailed description.
- If this server is external to the system.
- The network type connecting the server within the system.
- If this server is a redundant server.
- System wide event configuration.

Remove this server from the system

You remove servers from a system in Configuration Studio.

After deleting the server, you will need to reload the server configurations onto each server in the system.

View server license details

You view the server license details from the Server Licensing Details display in Configuration Studio.

Database Administration

Administer the control strategy database

You administer the control strategy database using the DbAdmin tool in Configuration Studio. Note that the DbAdmin task will only be displayed for the server on which you are physically running Configuration Studio. No other DbAdmins will be displayed.

With DbAdmin you can perform the following administration tasks:

- Display and clear locks left in the database after an abnormal termination of Control Builder.
- Check the consistency of the database.
- Reorganize data and index pages, and update statistics of the database.
- Create a backup of the current database.
- Expand the size of the database.
- Restore a backup of the database.
- Synchronize the control strategy database with the Qualification and Version Control System (QVCS) database.

If you have redundant servers, you can also do the following:

- Recover a primary or secondary database.
- Synchronize databases for replication.

Security Tasks

Manage Secure Communications

Secure Communications enables encrypted communication technology to minimize security vulnerabilities in your Experion system. It provides a common infrastructure for Experion Console Station, server, and C300 controller nodes to communicate using cryptographic (encryption, authentication, and message integrity protection) communication technology.

With Secure Communications, you can mitigate the following risks:

- Man-in-the-middle (MITM) attacks on Level 2 of the Experion network.
- Disclosure of information in communication between secured nodes.
- Rogue or unauthorized devices added to Level 2 of the Experion network.

In Secure Communications, configuration tasks, such as setting the security policy and administration, are restricted to the Security Administrator role to ensure security. The following tasks can be performed in Secure Communications:

- Initialize a Security Area (A Security Area is a collection of Experion nodes and networks that share similar requirements for protection of information. A Security Area consists of one or more Security Zones.)
- Configure secure communications for nodes in a Security Zone (A Security Zone is a group of nodes in a Security Area, for which a single security policy is configured.)
- Configure the security policy for a Security Zone.

For information about how to configure and manage Secure Communications, see the *Secure Communications User Guide*.

Search

Determine where an object is used in the system (Where Used)

You search for where objects are used in the system using the Search utility in Configuration Studio. This search tracks where a given entity (point, parameter, assets, alarm groups, and display shapes) is used within the system.

Using the search utility, you can define the search criteria by entering name(s) of entities and then start the search.

The results of the search returns any instances of the entities existing in the database based on the search criteria.

Searches can also be conducted to find where parameters are used in selected customer-defined HMIWeb displays. The utility searches the display files for selected parameter instances and returns results based on the search criteria.

For example, searching to find where a point 'CM_1' is used in a system. The results could indicate the point 'CM_1' is used in another point 'CM_2' as a connection, is used in 'Display_1' as a reference and is used in 'Alarm_101' as a group item.

For more information about how to conduct where used searches, see the *Search Utility User's Guide*.

Search for a parameter in the system (Parameter Search)

You search for a parameter name or value in the system using the Search utility in Configuration Studio.

This search type allows you to enter a parameter name or value in the search criteria and then have the Search utility return all instances of that parameter defined in the database.

For example, this query can be used to list all the points whose PV is greater than a pre-defined value ($PV > 75$) or it could be used to list parameters whose value lies between a range of values ($PV > 50$ and $PV < 75$). This is useful in scenarios where the user wants to search for all EEs in 'run' state, PV compliance to a set point, or determine the number of EEs for a particular execution cycle time.

For more information about how to conduct parameter searches, see the *Search Utility User's Guide*.

Search for Dangling/Missing connections

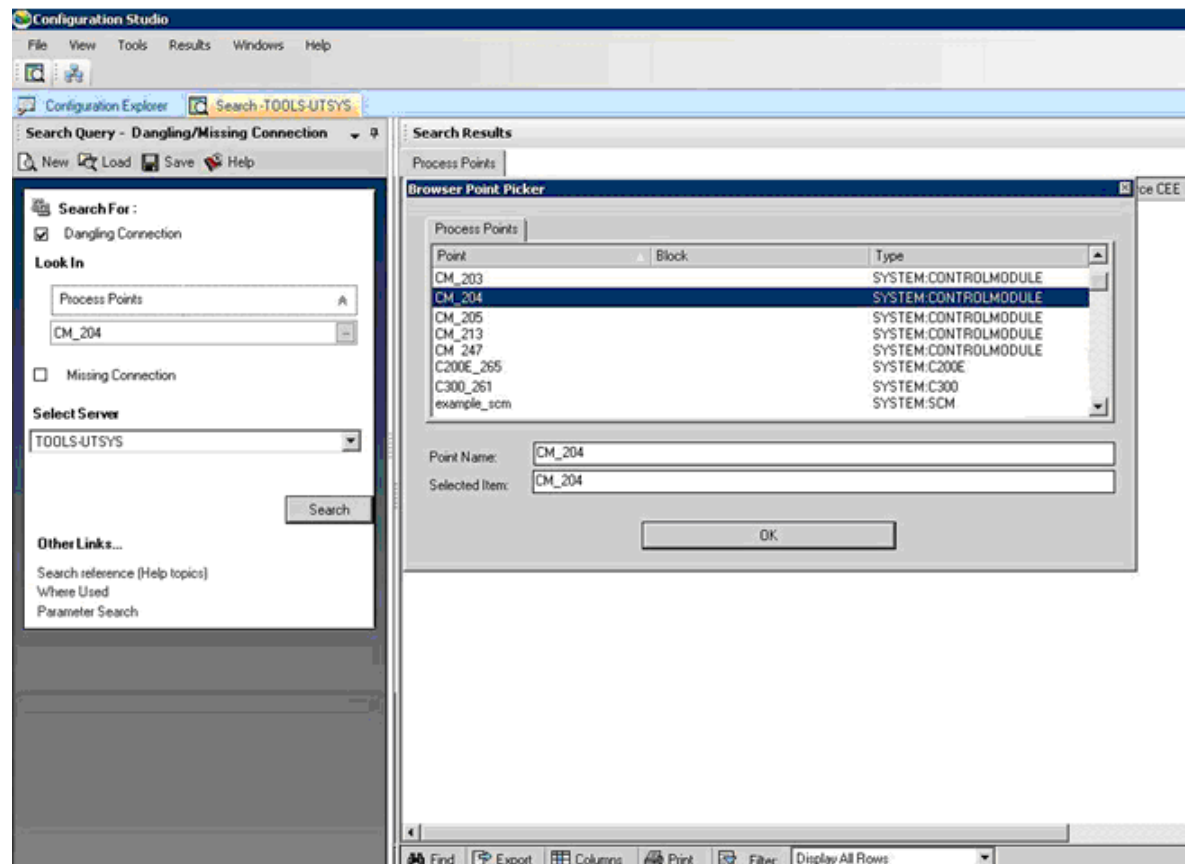
A connection is said to be dangling, if a block is missing at one end of the connection. A connection is said to be missing, if the blocks are missing at both ends of the connection.

You can search for dangling and missing connections in the system using the Search utility in Configuration Studio. You can perform a search for a dangling connection at the system, the server, the controller, and the tagged module level. You can perform a search for a missing connection at the system and the server level.

With this feature, you can perform a search for dangling or missing connections in the following type of connections in both the Project and the Monitoring view:

- Connections (Wired/Parameter Connector)
- Peer connections
- RCM phase block
- SCM Expressions
- Aliases
- Substitute Parameters
- CAB Parameter references

For example, you can perform a search for dangling connections in the server “TOOLS-UTSYS” for the tagged module “CM_204.” In addition, you can correct the connections from the search results.



Online data search

You can start an Online Data Search from Configuration Studio.

For more information about how to conduct searches, see the *Search Utility User's Guide*.

Stations and Consoles

Related topics

- “Build Flex Stations” on page 30
- “Configure Flex Stations” on page 30
- “Configure Console Stations” on page 30
- “Configure Consoles” on page 31
- “Configure server-wide Station settings” on page 31

Build Flex Stations

You build Flex Stations using Quick Builder in Configuration Studio.

For each Flex Station you can specify:

- The name of the Flex Station.
- The connection type.
- The security type.

After you build and download your Flex Stations, there are further configuration settings you can specify for each Flex Station.

Configure Flex Stations

You configure Flex Stations from the Flex Station Configuration Summary display in Configuration Studio, where all Flex Stations are listed.

For each Flex Station you can configure:

- Associated Stations.
- Startup/Idle timeout action.
- Printer Assignment. You can assign printers only after you have built and configured them (to build and configure a printer, click Printers in the Configuration Explorer tree).
- Audible Alarm/Station Failure Alarm.
- Asset assignment.
- System alarms. You can restrict the system alarms that are visible by selecting the minimum system alarm priority to be displayed.

To configure a Flex Station, click the Flex Station name in the Configuration Summary display. The Flex Station Configuration display opens for the selected Flex Station.

For more information about configuring Flex Stations, see “Flex Station Configuration Display” in the “Customizing Stations” section of the *Server and Client Configuration Guide*.

Configure Console Stations

You configure Console Stations from the Console Station Configuration Summary display in Configuration Studio.

For each Console Station you:

- Add the network name of the Console Station.
- Specify the number of Console Extension Stations.
- Set operator-based security.

- Specify update rates.
- Add the Console Station to a console.
- Specify startup/idle timeout action.
- Specify audible alarm/Station failure alarms.
- Specify printer assignment.
- Assign assets.
- Specify associated points with operator keyboard LED.
- Configure system alarms if required. This involves restricting the system alarms that are visible by selecting the minimum system alarm priority to be displayed.

To configure a Console Station click an empty row on the Console Station Configuration Summary display. The Console Station Configuration display appears.

For more information about configuring Console Stations, see the "Configuring a Console Station" section in the *Server and Client Configuration Guide*.

Configure Consoles

You configure Consoles from the Console Configuration Summary display in Configuration Studio.

For each console you:

- Name the console
- Add Console Stations to the console

To configure a console, click an empty row on the Console Configuration Summary display. The Console Configuration display opens.

For more information about configuring consoles, see the "Console Stations and consoles" section in the *Server and Client Configuration Guide*.

Configure server-wide Station settings

You configure settings for all Stations that are defined on a server from the Server Wide Settings display in Configuration Studio.

For all Stations, you can configure settings including:

- Startup page
- Timeouts
- Operator actions
- Point value error indication
- Faceplate options
- Load and performance measurement
- OPC server options
- Security options including the minimum level required to enable/disable hardware
- Summary display settings such as alarm summary options, event summary options, and minimum security level restrictions
- Operator keyboard LED settings

For more information about server-wide settings, see "Server wide settings" in the "Customizing Stations" section of the *Server and Client Configuration Guide*.

Printers

Related topics

“Build printers” on page 32

“Configure printers” on page 32

Build printers

You build printers using Quick Builder in Configuration Studio.

For each printer you can specify:

- The name of the printer, as defined in Windows.
- The character set for printing alarms/events.

Configure printers

You configure printer settings from the Printers display in Configuration Studio, which lists all printers built using Quick Builder.

For each printer you can:

- Enable and disable the printer
- Specify the font size for reports
- Specify alarm and event setup

Control Strategy

Related topics

“Equipment” on page 33

“Process Control Strategies” on page 33

“SCADA Control” on page 34

“Electronic Flow Measurement (EFM) Configuration” on page 34

“I/O and Network Maintenance” on page 35

“Help Topics” on page 36

Equipment

Build Equipment

You build Equipment using Quick Builder in Configuration Studio.

Experion uses the term *Equipment* to represent physical equipment in a plant, such as well heads, pumps, generators. Equipment typically has many associated items – points, channels, controllers – so templates have been created on which you can base new equipment, therefore making the task much quicker and simpler than creating everything individually.

For more information about equipment, see the Building equipment' section in the *Quick Builder User's Guide*.

Build Equipment Templates

You build Equipment Templates using the Equipment Template Builder in Configuration Studio.

Experion uses equipment templates to facilitate easy creation of equipment and associated items such as points, channels, and controllers.

For more information about creating templates, see the Building templates' section in the *Quick Builder User's Guide*. For more information about using templates to create equipment in Quick Builder, see the 'Building equipment' section in the *Quick Builder User's Guide*.

Process Control Strategies

Configure process control strategies

You configure process control strategies using Control Builder in Configuration Studio.

You use Control Builder to configure Process Controllers, which can handle control requirements, such as continuous processes, batch processes, discrete operations, and machine control needs.

A control strategy is an organized approach to define a specific process using detailed information to:

- Create control modules in an associated controlled environment.
- Configure function blocks to enable control applications.
- Run in a control software infrastructure.

Administer the control strategy database

You administer the control strategy database using the DbAdmin tool in Configuration Studio. Note that the DbAdmin task will only be displayed for the server on which you are physically running Configuration Studio. No other DbAdmins will be displayed.

With DbAdmin you can perform the following administration tasks:

- Display and clear locks left in the database after an abnormal termination of Control Builder.
- Check the consistency of the database.
- Reorganize data and index pages, and update statistics of the database.
- Create a backup of the current database.
- Expand the size of the database.
- Restore a backup of the database.
- Synchronize the control strategy database with the Qualification and Version Control System (QVCS) database.

If you have redundant servers, you can also do the following:

- Recover a primary or secondary database.
- Synchronize databases for replication.

SCADA Control

Build channels

You build SCADA channels using Quick Builder in Configuration Studio.

Channels are the communications link between controllers and the Experion server. There is a specific reference guide for each controller type that describes the settings applicable to your controller type.

For more information about building channels, see the *Quick Builder Guide* and the controller reference for your controller type.

Build controllers

You build SCADA controllers using Quick Builder in Configuration Studio.

Controllers are devices used to monitor and control processes and items of field equipment. A controller is linked to the Experion server by a channel. There is a specific reference guide for each controller type that describes the settings applicable to your controller type.

For more information about building controllers, see the *Quick Builder Guide* and the controller reference for your controller type.

Build points

You build standard (SCADA) points using Quick Builder in Configuration Studio.

Experion uses points to store information about field values or devices, for example, the state of a pump, a temperature sensor, or the process variable of a control loop.

For more information about points and point parameters, see the 'Understanding and configuring points' section in the *Server and Client Configuration Guide*. For more information about building standard points in Quick Builder, see the *Quick Builder Guide*.

Electronic Flow Measurement (EFM) Configuration

This topic describes the components that you build, manage, or define when configuring your system for Electronic Flow Measurement.

Build meters

You build meters using Quick Builder in Configuration Studio.

A meter is a logical representation of a physical EFM meter in the field.

For more information about building meters, see the *Quick Builder User's Guide* and the controller reference for your controller type.

Manage meter templates

You manage meter templates using Quick Builder in Configuration Studio.

Meter templates define the combination of:

- What EFM data can be collection for a flow meter connected to a *flow controller/RTU/flow computer* of a specific type and configuration.
- How that data is accessed through a specific controller type, using a specific addressing scheme, when the flow meter is attached to a specific run number on the controller/RTU/flow computer, and;
- The formats in which the EFM data collected can be exported.

For more information about managing meter templates, see the *Quick Builder User's Guide* and the controller reference for your controller type.

Define data export formats

You define export formats using Quick Builder in Configuration Studio.

You can export to CSV (comma separated value), TSV (tab separated value), CFX 5, and CFX 7 file formats. Data export formats contain mappings of the field names.

For more information about defining data export formats, see the *Quick Builder User's Guide*.

Manage schedules

You manage schedules using Quick Builder in Configuration Studio.

Schedules define when EFM data will be collected and exported. They contain information such as the repeat period, number of retries, and retry period. They define when the data will be collected and exported.

For more information about managing schedules, see the *Quick Builder User's Guide*.

I/O and Network Maintenance

Maintain control system firmware

You maintain the firmware in Process Controllers using NetworkTools (NTOOLS) in Configuration Studio.

With Network Tools you can check as well as upgrade the firmware of the following components:

- PC to ControlNet (PCIC) cards.
- Control Processor (CPM) modules.
- Fieldbus Interface (FIM) modules.
- IO Link Interface (IOLIM) modules.
- Serial Interface (SIM) modules.
- ControlNet Interface (CNI) modules.
- Redundancy (RM) modules.
- Ethernet Interface (ENet) modules.
- Input Output (IOM) modules.

Set options for maintaining control system firmware

You set the options for NetworkTools in Configuration Studio. The options that are available to you depend on your user security level and the type of network used.

Security Level	NetworkTools options
mng	Set updating of ControlNet parameters - NetworkTools can update the ControlNet parameters in the selected ControlNet Interface Module (CNI). You can also set the network update time (NUT).
	Set device firmware updating - NetworkTools can update firmware in the selected device. Firmware updates should not be done while the system is on-process.
	Allow setting ANY value of Network Update Time (NUT)

Network	NetworkTools options
Ethernet	Set log mode - Records in a text file the modules found in the last Network Tools scan.
	Set device firmware updating - NetworkTools can update firmware in the selected device. Firmware updates should not be done while the system is on-process.
CNet	Set log mode - Records in a text file the modules found in the last Network Tools scan.
	Set device firmware updating - NetworkTools can update firmware in the selected device. Firmware updates should not be done while the system is on-process.
	Set warning mode for lonely ControlNet modules - NetworkTools can display a warning message about lonely CNI conditions.
	Set updating of ControlNet parameters - NetworkTools can update the ControlNet parameters in the selected ControlNet Interface Module (CNI). You can also set the network update time (NUT).
	Allow setting ANY value of Network Update Time (NUT)

Maintain I/O modules

You maintain I/O modules using the I/O Maintenance Tool in Configuration Studio.

Using the I/O Maintenance Tool, you can perform the following maintenance tasks:

- Display I/O module information and status.
- Calibrate analog modules.
- Reset short or overload faults on diagnostic output modules.

Help Topics

Display Device Help content

Display help content for imported devices, such as Foundation Fieldbus devices.

Restore migrated Device Help content

Restore Dynamic Help from a previous Experion release that has been backed up on this node, and restore this help on the primary Experion server as device help.

Batch

Recipe Management

You manage recipes using Recipe Builder in Configuration Studio.

Recipe Builder provides a simplified environment for recipe building. It is intended to be used by formulators who may not have access to Control Builder.

Trends and Groups

Related topics

“Configure trends” on page 38

“Configure groups” on page 38

Configure trends

You configure trends from the Trends display. You can also add a point to a trend when you build the point in Quick Builder or Control Builder.

A trend displays historical data for point parameters that are being collected.

To configure a new trend, click an empty row on the Trend Configuration Summary display. The Trend Configuration display appears.

For more information about configuring trends, see the 'Configuring groups and trends' section in the *Server and Client Configuration Guide*.

Configure groups

You configure groups from the Groups display. You can also add a point to a group when you build the point in Quick Builder or Control Builder.

A group display enables you to view point data for up to eight points on a single display. A group display can contain a mixture of point types.

To configure a new group, click an empty row on the Group Configuration Summary display. The Group Configuration display appears.

For more information about configuring groups, see the 'Configuring groups and trends' section in the *Server and Client Configuration Guide*.

Displays

Related topics

“Create new Normal display” on page 39

“Create new Popup display” on page 39

“Create new Dynamic Shape display” on page 39

“Create new Shape Sequence display” on page 39

“Edit existing displays” on page 39

Create new Normal display

You create standard displays using HMIWeb Display Builder in Configuration Studio.

Create new Popup display

You create popup displays using HMIWeb Display Builder in Configuration Studio.

A popup is a secondary window that appears when a user clicks the object to which it is attached.

Create new Dynamic Shape display

You create dynamic shapes using HMIWeb Display Builder in Configuration Studio.

A dynamic shape is a 'custom object' used in displays to present complex dynamic data.

Create new Shape Sequence display

You create shape sequences using HMIWeb Display Builder in Configuration Studio.

A shape sequence is a 'custom object' that is used in displays as either a status indicator or as an animation.

Edit existing displays

You edit standard displays, popup displays, dynamic displays, and shape sequences using HMIWeb Display Builder in Configuration Studio.

System Access

Related topics

“Operator Security” on page 40

“Profiles” on page 41

Operator Security



Attention

Some displays may be unavailable to you in Configuration Studio as they are not configuration pages. If you attempt to view one of these pages, a warning dialog box will display. You can use Station to access pages which are not available in Configuration Studio.

Configure operators and Windows group accounts

You configure operator and Windows group accounts from the Operators display in Configuration Studio.

You can add new operator accounts, or you can modify, delete, or disable existing operator accounts.

If you use integrated security and you use Windows groups, you can create group accounts. By using a Windows group account on the Experion server, you can configure one account in Station for every Windows group, which enables members of the Windows group to log on to Station.

To enable integrated security, see the “*Administer operator signon*” task.

Administer operator signon

You configure passwords and integrated security from the Operators display in Configuration Studio.

The password settings include:

- Password expiry period.
- Password validation period.
- Operator configuration security level.
- Number of failed logins before logout.
- Lockout time.

You can also enable, or disable, single signon as part of the Integrated Security Policy.

Configure server wide security settings

You configure server-wide system access settings in the Server Wide Settings display in Configuration Studio.

The server-wide system access settings include:

- The level of operator security required to enable or disable hardware items.
- Operator and Station asset assignment required for all assets.
- User name and password required for downloading control strategies.

Configure electronic signature

You configure electronic signature details from the Electronic Signatures General display in Configuration Studio.

You can configure the electronic signature legal text and reasons set.

The legal text displayed in the Electronic Signatures dialog box can be customized to your site requirements. The legal text informs the operator that their electronic signature is the legally binding equivalent of their handwritten signature.

You can associate a set of reasons with a particular action so that when the operator performs an action and provides a signature, the operator can select from a list of pre-configured reasons.

Parameter Security

Configure Advanced Parameter Security

You configure advanced parameter security and parameter security levels in Configuration Studio.

Profiles

A profile consists of an asset list, containing one or more assets, and a time period. If you are using operator-based security, profiles provide:

- Additional security, through the ability to assign assets only for specified times.
- A method of giving an operator additional access at specified times. For example, after hours monitoring from a central location.
- A quick way of assigning assets to operators.

For more information about profiles, see the 'Configuring security and access' section of the *Server and Client Configuration Guide*.

Configure profiles

You configure profiles from the Profiles display in Configuration Studio.

To configure a profile, you must have already defined one or more asset lists and one or more time periods. In a profile, you can define up to 16 pairs of an asset list associated with a time period.

Configure asset lists

You configure asset lists from the Assets List display in Configuration Studio.

You define an asset list by giving it an intuitive name and then selecting the assets to include in the asset list.

Configure time periods

You configure asset time periods from the Time Periods display in Configuration Studio.

You define an asset time period by giving it an intuitive name, selecting the days, and then the start and stop time for the period. You also identify the asset that must be assigned to operators to give them permission to change this time period.

Alarm and Event Management

The Alarm and Event Management tasks in Configuration Studio enable you to configure the way in which alarms and events are displayed and managed.

Related topics

- “Configure alarm processing” on page 42
- “Configure alarm and alert notification settings” on page 42
- “Configure event archiving” on page 42
- “Configure alarm appearance” on page 43
- “Server-wide alarm and event options” on page 43
- “Configure alarm trackers” on page 43
- “Configure system alarm priorities” on page 43

Configure alarm processing

The **Configure alarm processing** task in Configuration Studio calls up the Alarm Processing display.

You can use this display to configure settings such as:

- The enabling of alarms on server-wide basis
- Page acknowledge and page clear settings for IKB and OEP keyboards
- The annunciation and silencing of alarms on Station
- How unanswered alarms are to be dealt with
- How alarms and messages are to be acknowledged
- Automatic message acknowledgement for confirmable messages.
- How the priority of unacknowledged alarms is to be handled

For more detailed information about using the settings on the Alarm Processing display, see the topic “Alarm Processing tab” in the *Server and Client Configuration Guide*.

Configure alarm and alert notification settings

The **Configure alarm and alert notification settings** task in Configuration Studio calls up the Alarm and Alert Paging display.

It is important to configure alarm and alert notification in the correct sequence. For example, a recipient must be set up before they can be nominated to receive messages.

The configuration sequence is as follows:

- Configure communication settings. This varies according to the alarm paging recipient.
- Configure and enable each recipient to be used with the system.
- Nominate the alarms and alerts to be sent, the recipient they are to be sent to, and any escalation.

Configure event archiving

The **Configure event archiving** in Configuration Studio calls up the Event Archiving display.

To configure event archiving, you identify the following:

- The period of time events are kept online before being deleted.
- The time of day to archive events on a daily, weekly, or monthly basis.
- Automatic archiving or to raise an alarm when archiving is due.

Configure alarm appearance

The **Configure alarm appearance** task in Configuration Studio calls up the Alarm Appearance display.

Experion has predefined colors for alarms in the alarm summary, the status bar indicators, and off-scan points. If these colors are not suitable for your site, you can use the Alarm Appearance display to customize these colors.

For more detailed information about using the settings on the Alarm Appearance display, see the topic “Alarm Appearance tab” in the *Server and Client Configuration Guide*.

Server-wide alarm and event options

The **Server-wide alarm and event options** task in Configuration Studio calls up the Summary Displays display.

You can use this display to configure alarm and event related options such as:

- The display of system alarms in the Alarm Summary display for process alarms
- Settings for the alarm line
- Event summary settings
- Alarm, Alert, Event, SOE, and Message summary restrictions
- Timeouts for event queries and event archiving
- Persistence
- Date and time formats
- The enabling of ToolTips

For more detailed information about the Summary Displays display, see the topic “Summary Displays tab, server wide settings” in the *Server and Client Configuration Guide*.

Configure alarm trackers

The **Configure alarm trackers** task in Configuration Studio calls up the **Alarm Trackers** display.

You use this display to configure alarm trackers that you can subsequently assign to operators (or Stations, Consoles, or Console Stations) in your server cluster.

Alarm trackers provide a graphical, time-based view of alarms on assets within an operator’s scope of responsibility. An alarm tracker is displayed in a pane on the Experion Alarm Summary and provides a convenient way of viewing “clusters” of alarms on individual assets. By grouping alarms in this way, an alarm tracker helps operators to respond more quickly to alarms in abnormal situations like alarm floods.

For information about configuring alarm trackers and assigning an alarm tracker to operators, Stations, Consoles, or Console Stations, see “Configuring alarm trackers” in the *Server and Client Configuration Guide*.

Configure system alarm priorities

The **Configure system alarm priorities** task in Configuration Studio calls up the Configure System Alarm Priorities display. You can use this display to modify the priority and sub-priority of system alarms. Additional features include the ability to import and export system alarm priority configurations and to compare current priorities with the Honeywell default settings.

For more detailed information about this display, see the topic “System Alarm Priorities display” in the *Server and Client Configuration Guide*.

History

The History options in Configuration Studio call up history collection displays that you can use to:

- Define standard, extended, fast, or exception history collection rates and gating points (that is, the conditions under which data is collected).
- Configure archiving for point parameters.

Note that you can also define history collection rates and gating points for point parameters when you configure your control strategy in Configuration Studio, using:

- Control Builder for process points (use the Server History tab).
- Quick Builder for status, analog, or accumulator points on other types of controllers (use the History tab).



Attention

Any changes that you make using either Control Builder or Quick Builder will overwrite configuration changes made via the History Collection displays unless you upload those changes before you next download to the server from Control Builder or Quick Builder.

Related topics

“Standard history collection” on page 44

“Extended history collection” on page 44

“Fast history collection” on page 44

“Exception history collection” on page 45

“Configure history archiving” on page 45

Standard history collection

Standard History stores snapshots and averages at regular intervals—called standard history intervals.

You can set a maximum of 8 collection rates for snapshots, choosing from the following defaults: 1, 2, 5, 10, and 30 minutes. Standard history averages are based on the standard collection rates. There are 4 default collection rates for averages: 6-minute, 1-hour, 8-hour, and 24-hour averages.

To assign standard history collection to point parameters you can use the Standard History Collection display in Configuration Studio. You can also assign history collection to point parameters in Control Builder and Quick Builder.

Extended history collection

Extended History stores 1-, 8-, and 24-hour snapshots.

To assign extended history collection to point parameters you can use the Extended History Collection display in Configuration Studio. You can also assign history collection to point parameters in Control Builder and Quick Builder.

Fast history collection

Fast History stores snapshots of a point parameter at short regular intervals.

You can choose from a maximum of 8 collection rates: 5 default rates (5, 10, 15, 20, and 30 seconds) and 3 additional rates that you can define on the server.

To assign standard history collection to point parameters you can use the Fast History Collection display in Configuration Studio. You can also assign history collection to point parameters in Control Builder and Quick Builder.

Exception history collection

Exception history collects parameter values at a specified rate configured for that parameter but only stores them if the value or quality of the parameter has changed since it was last stored for that parameter. Exception history only supports string values. The default collection rates for exception history are:

- 5, 10, 15, 30, and 60 seconds
- 5, 10, 15, 30, and 60 minutes
- 2, 4, 6, 8, 12, and 24 hours

You configure exception history collections from the Exception History Collection display in Configuration Studio.

Note that you can assign exception history collection for SCADA point parameters in Quick Builder.

Configure history archiving

You configure history archiving from the History Archiving display in Configuration Studio.

From the History Archiving display you can:

- Enable history archiving for each history type.
- Check the time of the last archive.
- Force an archive to be run.

Reports

Related topics

“Define reports” on page 46

“Server-wide report settings” on page 46

Define reports

You define reports from the Reports display in Configuration Studio.

When you define a report, you can configure the following:

- The report type.
- A unique name for the report.
- A report title to be shown on the report output and summary display.
- Identify an application program to be requested after the report is complete.
- The report destination.
- Enable Reporting on Request.
- Enable Periodic Reporting.
- Assign security so that only operators or Stations with a specific asset assigned can view or request the report.

For more information about reports, see the 'Configuring reports' section of the *Server and Client Configuration Guide*.

Server-wide report settings

You define server-wide report settings from the Server-Wide Report Configuration display.

Field widths

For reports that output event information, you can set the field sizes for certain fields in the report, on a server-wide basis. These settings do not apply to some report types. The field sizes you can configure are:

- Time
- Source
- Description
- Value
- Operator
- Condition

Report timeout

The report timeout setting allows you to define the maximum time a report is allowed to run. This setting does not apply to some report types.

Schedules

Related topics

“Configure point control schedules” on page 47

“Configure holidays” on page 47

“Configure shifts” on page 47

Configure point control schedules

You configure point control schedules from the Schedules display in Configuration Studio.

You can set the following attributes for each schedule:

- The time and date of the point control.
- The point and point parameter to be controlled.
- The value to control the point parameter to.
- The schedule action.

The schedule action can be one-shot, daily, work day, weekend, holiday, or a day of the week.

For more information about point control schedules, see the 'Configuring schedules' section of the *Server and Client Configuration Guide*.

Configure holidays

You configure holidays from the Schedules display in Configuration Studio.

In the Schedules display you identify the date of each holiday.

Configure shifts

You configure shifts from the Schedules display in Configuration Studio.

In the Schedules display you identify the start time and length of your work shifts.

System Interfaces

Related topics

“Configure system interfaces” on page 48

“View distributed servers” on page 48

“View redundant server configuration” on page 48

Configure system interfaces

You configure system interfaces from the System Interfaces display in Configuration Studio.

System interfaces are high-level Experion interfaces to exchange data with other applications or subsystems without the need to separately define points.

In the System Interfaces display you can configure interfaces such as OPC or TPS, and others.

For more information about the OPC interface, see the 'Configuring OPC' section in the *Server and Client Configuration Guide*.

For more information about TPS interface, see the *Integrated Experion-TPS User's Guide*.

View distributed servers

You view distributed servers from the Distributed Servers display in Configuration Studio. To add or remove a distributed server, see the “Server Tasks” on page 26 task.

View redundant server configuration

Clicking this task opens the **Redundant server advanced** display in Configuration Studio, where you can view redundant server configuration information. To configure redundant servers, you first need to add the redundant servers to the system.

For more information about configuring server redundancy, see the 'Configuring and monitoring a redundant server system' section of the *Server and Client Configuration Guide*.

Applications

Related topics

“Configure SCADA recipes” on page 49

Configure SCADA recipes

You configure recipes from the Recipes display in Configuration Studio.

Recipes are a simple way of downloading pre-configured values to multiple point parameters. These pre-configured values are known as ingredients.

In the Recipes display you can configure the recipe name, scale factor, and unit type the recipe can be downloaded to.

You also configure the ingredients, which includes the following:

- The point ID.
- The point parameter to be loaded.
- A description of the ingredient.
- The usual value for the ingredient.
- The minimum value for the ingredient.
- The maximum value for the ingredient.
- The value to be loaded.

Acronyms

An acronym describes the meaning of a parameter's state (or integer value). For example, the acronyms 'Stopped' and 'Running' are more meaningful in displays than the raw parameter values '0' and '1'.

Related topics

“Configure system acronyms” on page 50

“Configure TDC CL acronyms” on page 50

“Configure user acronyms” on page 50

Configure system acronyms

You configure system acronyms from the Acronyms display in Configuration Studio.

System acronyms are supplied with Experion. You can customize these acronyms to suit your requirements, for example, you can use phrases suited to your organization, or translate them to another language.

Configure TDC CL acronyms

You configure TDC CL acronyms from the Acronyms display in Configuration Studio.

TDC CL acronyms are for use with the Honeywell TDC 3000 Data Hiway interface.

Configure user acronyms

You configure user acronyms from the Acronyms display in Configuration Studio.

If the system acronyms are not sufficient for your requirements, you can create your own acronyms.

Application Development

Related topics

- “User developed applications” on page 51
- “Application point lists” on page 51
- “System sinewave” on page 51
- “Task timers” on page 51
- “Watchdog timers” on page 51
- “User-defined data formats” on page 52

User developed applications

You configure application startup from the Applications display in Configuration Studio.

In the Applications display you can configure the following:

- A meaningful description of the application.
- The name of the executable file.
- The LRN for the task.
- Identify database resources.

Application point lists

You define application point lists from the Applications display in Configuration Studio.

Point lists are defined by applications that need to simultaneously read or write to several point parameters. Applications do this by making calls to application programming library routines GETLST and GIVLST.

In the Applications display, you can configure and modify the point IDs and parameters within the point lists.

For more information about application point lists, see the 'Accessing server data' section of the *Application Development Guide*. For more information about the GETLST and GIVLST library routines, see the 'Application Library for C and C++' section of the *Application Development Guide*.

System sinewave

You configure the system sinewave from the Applications display in Configuration Studio.

Task timers

You view task timers from the Applications display in Configuration Studio.

Task timers are started by applications making a call to the application programming library routine TMSTRT.

In the Applications display, you can view applications that have started a task timer.

For more information about the TMSTRT library routines, see the 'Application Library for C and C++' chapter in the *Application Development Guide*.

Watchdog timers

You view watchdog timers from the Applications display in Configuration Studio.

Watchdog timers are started by applications making a call to the application programming library routine WDSTRT. Your application periodically resets the countdown timer by making a call to the application programming library routine WDON.

In the Applications display you can view applications that have started watchdog timer, the action set on failure, and the current timer.

For more information about the WDSTRT and WDON library routines, see the 'Application Library for C and C++' chapter in the *Application Development Guide*.

User-defined data formats

You configure user-defined data formats from the **User-defined Data Formats** display in Configuration Studio.

Data formats convert field values to scaled or unscaled values that are more useful, or meaningful, for operators or other applications.

In the **User-defined Data Formats** display, you can create and modify both scaled and unscaled data formats. For scaled data formats, you identify the minimum and maximum field values and the corresponding minimum and maximum converted values. For unscaled data formats, you set the minimum and maximum values and node values that define the conversion curve.

For more information about user-defined data formats, see the section titled "About user-defined data formats" in the *Server and Client Configuration Guide*.

Server Scripting

Related topics

“Configure script engines” on page 53

“Configure server scripts” on page 53

“View point scripts” on page 53

Configure script engines

You configure script engines from the Script Engines display in Configuration Studio.

When you write a script, the server initially assigns it to an automatic script engine. In the Script Engines display, you can re-assign scripts to a manual script engine for testing or server performance reasons. You can also view the status of each script engine.

For more information, see the *Server Scripting Reference*.

Configure server scripts

You configure server scripts from the Server Scripting - Server, Periodic, and Library Scripts display in Configuration Studio.

In the Server Scripting - Server, Periodic, and Library Scripts display, you can write server, library, and periodic scripts.

For more information, see the *Server Scripting Reference*.

View point scripts

You view point scripts from the Server Scripting - Point Script display in Configuration Studio.

You write and modify scripts for flexible points in Control Builder and Quick Builder.

For more information, see the *Server Scripting Reference*.

File Replication

Related topics

“Configure file replication” on page 54

Configure file replication

You configure file replication from the File Replication display in Configuration Studio.

The File Replication display shows a list of files that have been set up for replication. You can modify, delete, or configure new replications.

Files can be manually replicated, scheduled to run at a specific time, or automatically replicated whenever file changes occur.

IEC61850

Experion supports an enhanced interface to the IEC 61850 networks configuration. The following features are now available.

- Bulk configuration using cloning option
- Offline configuration support using import/export feature
- Automated upgrade support
- Enhanced user experience for the following options
 - Multiple views for configuration
 - Alarm and SOE configuration for the same status point

Configuring IEC61850

Using the Configuration Studio, you can configure IEC61850 system interface in Experion.

For more information, see the *IEC61850 SCADA Configuration Reference*.

Network

The following network tasks are only available if you are connected to a system. If you selected server as your connection type during the Configuration Studio log on, you cannot access these tasks.

Related topics

“Network Tasks” on page 56

“Computer Tasks” on page 56

“Devices Tasks” on page 57

Network Tasks

Load network 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.

Export network definitions

You can export a network definition created on one computer for import to another computer. Typically, this would be used when creating the network definition offline and then transporting this definition to an online system at a customer site.

Import network definitions

Note that importing a network definition is a one-time activity. Importing an existing network definition is allowed only if you do NOT already have a network definition for the current site. If a network definition for a site already exists, you must delete the existing network definition before importing a new one.

Assign monitoring servers

You use this task to nominate the server that will monitor system performance.

Assign associated asset

You can assign an associated asset to computers on the network.

Refresh

You can rebuild the network tree from the EMDB and Experion point database.

Computer Tasks

Add or remove computers

You use this task to add or remove computers from the system.

Assign monitoring servers

You use this task to nominate the server that will monitor system performance.

Assign associated asset

You can assign an associated asset to computers on the network.

Multicast/Heartbeat & Synchronized Repository Settings

You use this task to configure:

- The IP multicast group and other heartbeat community parameters.
- Communication between synchronized repository nodes.

Devices Tasks**Define FTE communities**

Use this task to define an FTE community name and to add or remove FTE devices.

Add control firewall to the network tree

Use this task to add a control firewall to the network tree.

Add switch to the network tree

Use this task to add a switch to the network tree.

Assign monitoring servers

You use this task to nominate the server that will monitor system performance.

Assign associated asset

You can assign an associated asset to computers on the network.

Launch FTE switch configuration tool

Use this task to:

- Configure supported Cisco switches.
- Create switch configuration files.
- Load the switch configuration files into qualified Cisco switches by setting up a serial or telnet connection with the switches.

For more information, see the *Switch Configuration Tool User's Guide*.

Notices

Trademarks

Experion®, PlantScape®, SafeBrowse®, TotalPlant®, and TDC 3000® are registered trademarks of Honeywell International, Inc.

OneWireless™ is a trademark of Honeywell International, Inc.

Other trademarks

Microsoft and SQL Server are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Trademarks that appear in this document are used only to the benefit of the trademark owner, with no intention of trademark infringement.

Third-party licenses

This product may contain or be derived from materials, including software, of third parties. The third party materials may be subject to licenses, notices, restrictions and obligations imposed by the licensor. The licenses, notices, restrictions and obligations, if any, may be found in the materials accompanying the product, in the documents or files accompanying such third party materials, in a file named third_party_licenses on the media containing the product, or at <http://www.honeywell.com/ps/thirdpartylicenses>.

Documentation feedback

You can find the most up-to-date documents on the Honeywell Process Solutions support website at:

<http://www.honeywellprocess.com/support>

If you have comments about Honeywell Process Solutions documentation, send your feedback to:

hpsdocs@honeywell.com

Use this email address to provide feedback, or to report errors and omissions in the documentation. For immediate help with a technical problem, 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.

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>.

Index

A

- alarm suppression
 - configuring 20
- alarm trackers
 - Configuration Studio task 43
 - configuring 43
- alarms
 - Dynamic Alarm Suppression 20
 - suppression 20

C

- CFX files 34
- Configuration Studio
 - configure alarm suppression 20
 - manage secure communications 21, 27
- CSV files 34

D

- data
 - exporting EFM data 34
- data formats
 - user-defined 52
- Dynamic Alarm Suppression
 - configuring 20

E

- Electronic Flow Measurement (EFM)
 - CFX files 34
 - CSV files 34
 - data export 34
 - exporting data 34
 - logs 34
 - meter templates 34
 - meters 34
 - schedules 34
 - TSV files 34
- exception history 44, 45
- exporting
 - CFX files 34
 - CSV files 34
 - EFM data 34

- TSV files 34
- extended history 44

F

- fast history 44
- flow meters 34

H

- history
 - collection 44
 - exception history 44, 45
 - extended history 44
 - fast history 44
 - standard history 44

L

- log files
 - Electronic Flow Measurement (EFM) 34

M

- meters
 - flow meters 34
 - meter templates 34
 - templates 34

S

- schedules
 - EFM schedules 34
- secure communications
 - managing 21, 27
- standard history 44

T

- TSV files 34

U

- user-defined data formats 52

