DISTECH CONTROLS™

EC-*gfx*Program

Getting Started Guide

Connecting People with
Intelligent Building Solutions

EC-gfxProgram Getting Started_UG_13_EN

TABLE OF CONTENTS

CHAPTER 1

CHAPTER 2

CHAPTER 3

CHAPTER 4

CHAPTER 1
Introduction

This chapter introduces the Graphical Programming Interface of EC-*gfx*Program, summarizes its features, and provides an overview of the user guide.

Topics

About this User Guide

Purpose of this user guide

This user guide is intended to provide information and instruct a user to install and configure EC-*gfx*Program in the context of these controllers being managed by an LNS-based network management tool or EC-Net platform-based software. This guide is not designed to instruct the user on how to use the network management tool software or programmable controller itself and therefore it is assumed that the user already has prior knowledge of said software and controllers.

Intended audience

This user guide is intended for system designers, integrators, and field technicians who have experience with control systems. It is recommended that anyone installing and configuring the devices specified in this user guide have prior training in the usage of these devices.

CHAPTER 2

Getting Started on EC-Net for ECP & ECL Series Controllers

This chapter provides a detailed explanation of how to configure an EC-BOS as a building controller with EC-Net installed on your PC. This includes installing the EC-*gfx*Program, adding a device to a network database, and launching EC-*gfx*Program.

Topics

NOTE: For detailed information on connecting to the internal points of a controller, refer to *EC-Net Platform Support Package Features for ECP & ECL Series Controllers* in the EC-*gfx*Program User Guide.

Pre-Configuration and Configuration Overview

EC-*gfx*Program requires that the EC-BOS, EC-Net Pro, and EC-Net be licensed for version 3.5 or higher.

Pre-configuration steps

Before installing EC-*gfx*Program, adding a device to a network database, and launching EC-*gfx*Program, the following steps must first be carried out to allow EC-Net to support the controllers:

1. Install EC-Net Pro on your computer.
2. Install the latest version of the Distech Controls EC-Net Support Package on your computer. The EC-Net Support Package installs many jar files required in EC-Net such as **distechControls.jar**, which contains the required services and Distech Controls devices. The latest Support Package can be installed by using the Distech Controls SmartInstaller software, which can be downloaded from the Distech Controls website at *www.distech-controls.com*.

   If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the WizardService, RestService, and RadiusService. See *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
3. Connect to an EC-BOS or EC-Net Pro station. If the IP address is unknown for an EC-BOS, use the System Shell procedure in *Recovery Tips* in the EC-BOS Install and Startup Guide, which can be downloaded from the Distech Controls website at *www.distechcontrols.com*.

Configuration steps

The following steps are detailed in procedures on the following pages.

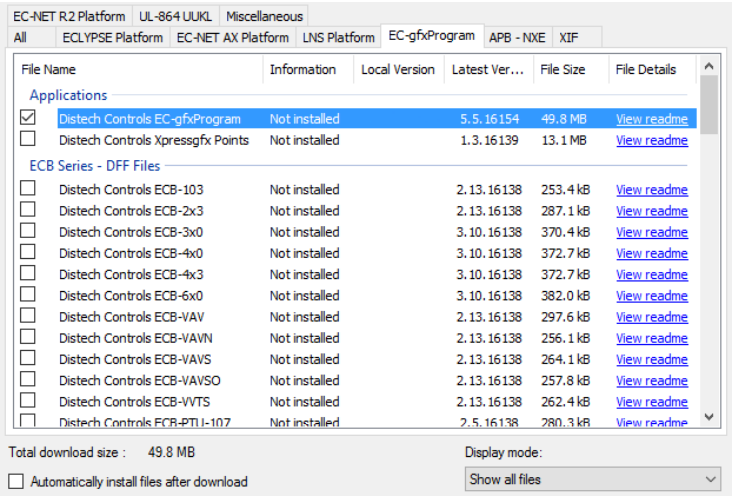
1. Install EC-*gfx*Program.
2. Install the Distech Controls EC-BOS distribution file through the platform Distribution File Installer.
3. Connect to the station.
4. Install and configure the LONWORKS Network
5. Add the WizardService to the Station.
6. Configure the WizardService.
7. Add a device to the network database.
8. Commission the device.
9. Discover an existing network where one already exists (if necessary).
10. Match devices where the LONWORKS Network database is already established in EC-Net (if necessary).
11. Launch device wizards to run EC-*gfx*Program.

NOTE: When first logging in to the platform, the default platform username is **distech** and the default password is **controls**.

Installing EC-*gfx*Program

To program a controller, the EC-*gfx*Program application must be installed. This application has its own setup file and requires its own installation. To install the EC-*gfx*Program application:

1. Close any programs that are running on the PC.
2. Go to the Software Center, which can be downloaded from the Distech Controls website at *www.distech-controls.com*.
3. In the **EC-gfxProgram** tab, select **Distech Controls EC-gfxProgram**.

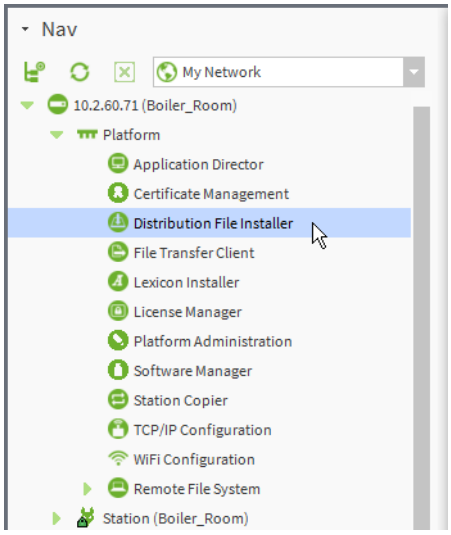


4. Run the Setup file and follow the installation instructions.

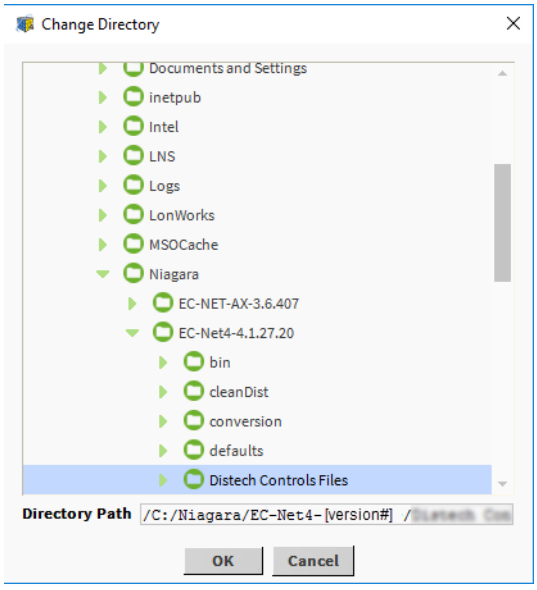
Installing the Distech Controls Distribution Files on the EC-BOS

Install the Distech Controls distribution file onto the EC-BOS to ensure all of therequired modules and files are correctly installed.

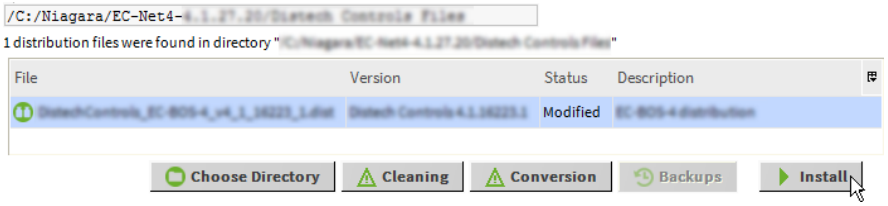
1. Expand the platform tree in the *Nav* side bar and double-click **Distribution File Installer**. This will open the *Distribution File Installer* in the View Pane.



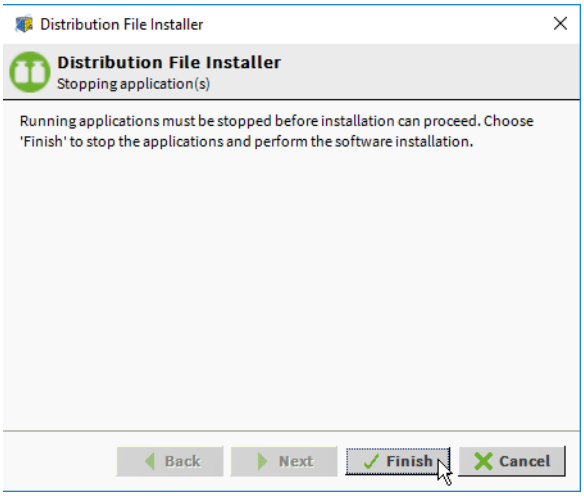
2. Click on Choose Directory at the bottom of the page and navigate to the location of the Support Package. These files are usually found in the **/Niagara/EC-NET[Version#]/Distech Controls Files/** directory on the C:drive. Click **OK**.



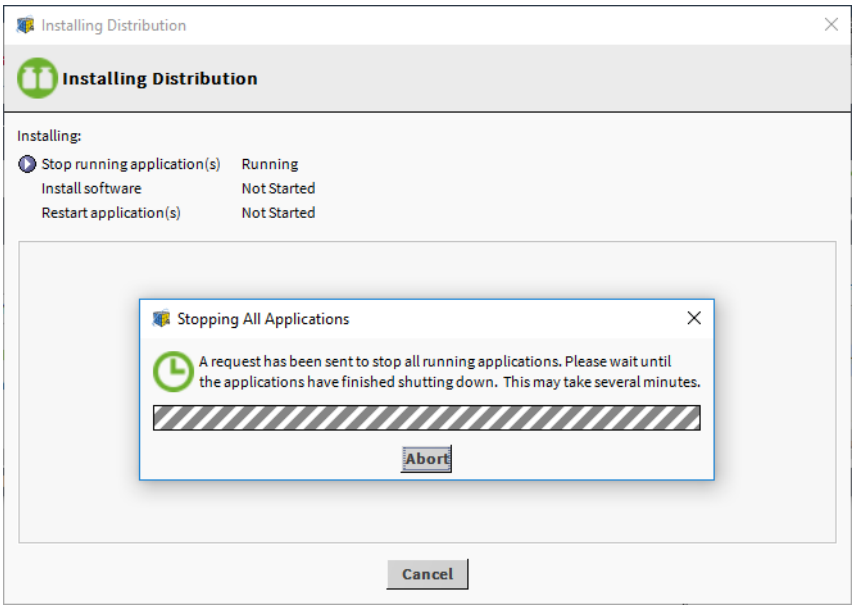
3. Install the *DistechControls_EC-BOS* distribution file through the platform *Distribution File Installer*. Select the distribution file and click **Install**.



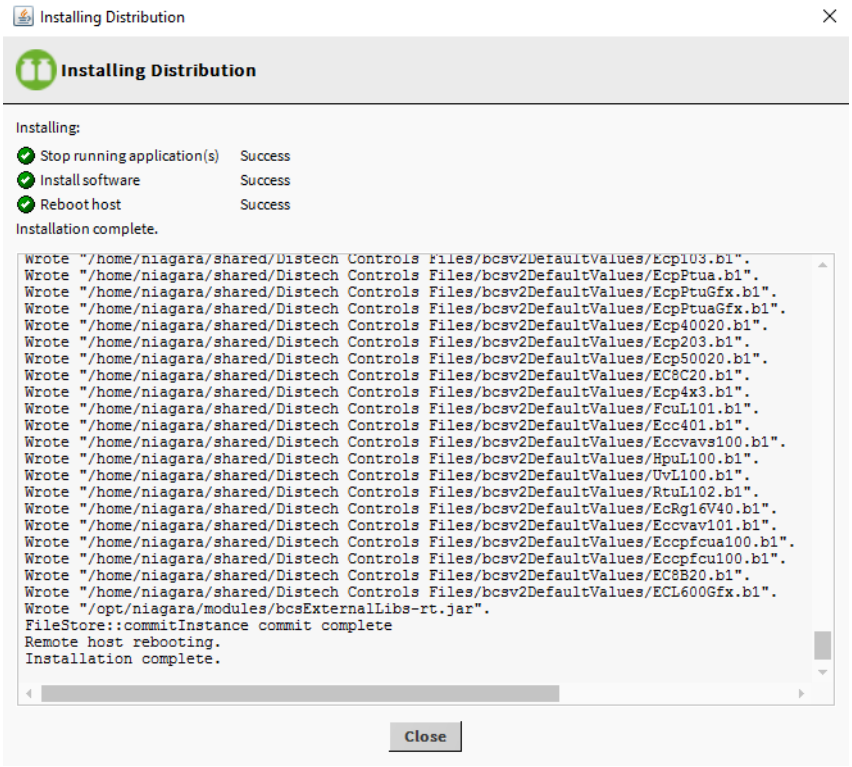
4. EC-Net will then inform you that any running station(s) must be closed in order to continue. Click **Finish**.



5. If any application needs to be stopped, allow the platform to stop them.



6. The *Installing Distribution* window will appear to display the progress of the distribution files installation. Click **Close** when done and allow some time for the EC-BOS to reboot.

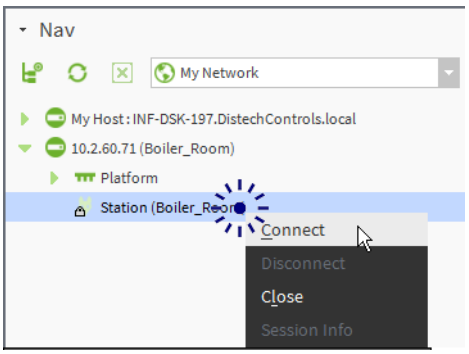

Installing Distribution
Installing Distribution
Installing:
Stop running application(s) Success
Install software Success
Reboot host Success
Installation complete.
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Ecp103.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/EcpPtua.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/EcpPtuGfx.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/EcpPtuaGfx.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Ecp40020.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Ecp203.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Ecp50020.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/EC8C20.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Ecp4x3.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/FcuL101.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Ecc401.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Eccvavs100.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/HpuL100.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/UvL100.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/RtuL102.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/EcRg16V40.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Eccvav101.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Eccpfcua100.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/Eccpfcu100.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/EC8B20.b1".
Wrote "/home/niagara/shared/Distech Controls Files/bcsv2DefaultValues/ECL600Gfx.b1".
Wrote "/opt/niagara/modules/bcsExternalLibs-rt.jar".
FileStore::commitInstance commit complete
Remote host rebooting.
Installation complete.
Close

Installing a LONWORKS Network

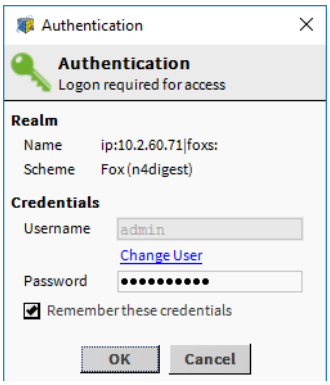
In the following procedure, you add a **Bcp Lon Network** driver to the station to allow EC-*gfx*Program to connect to your devices.

1. Connect to the station on the EC-Net platform. Right-click the station and select Connect.

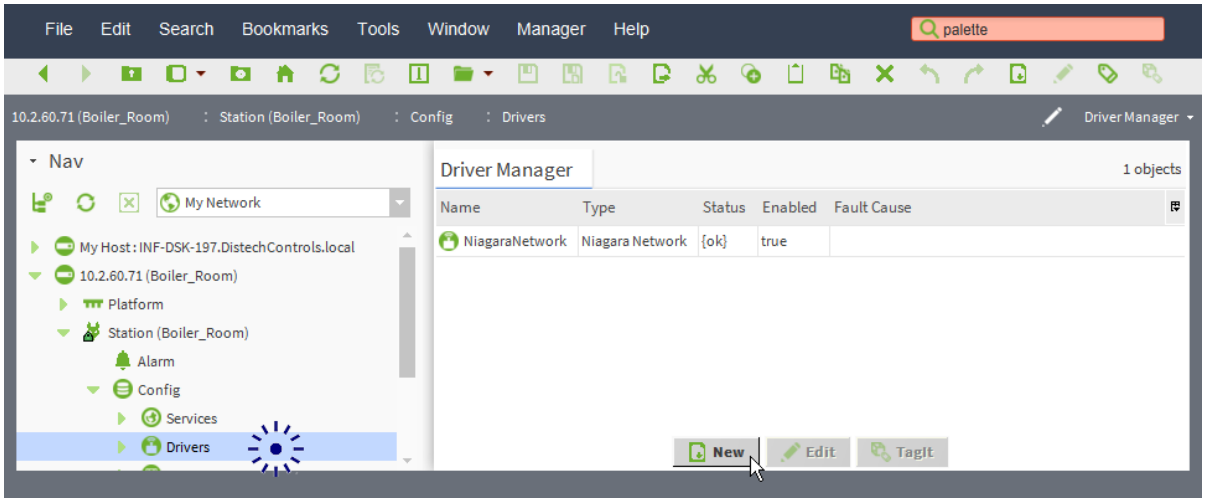
NOTE: If this is the first time that the station is accessed, by default, the station will not be displayed. Click **File→Open→Open** Station (or press **Ctrl+Shift+O** from your keyboard) to open the *Open Station* window. Proceed to step 2.



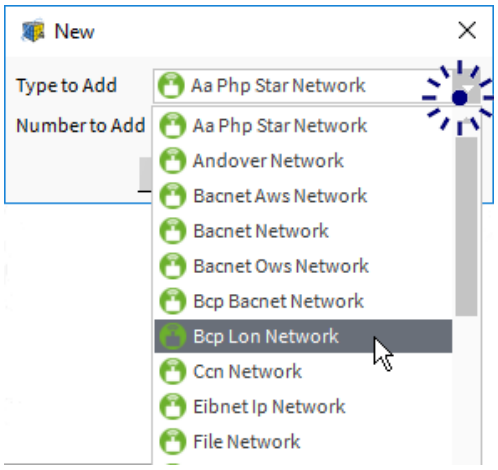
2. Enter the required **Username** and **Password** to access the station.



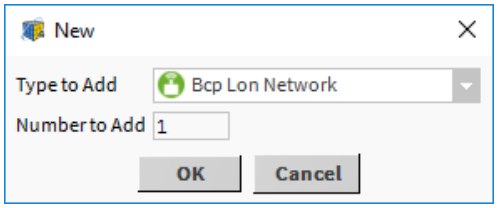
3. Install the **Bcp Lon Network**: Double-click Drivers under **Station > Config** in the Nav tree for your station and click **New**.



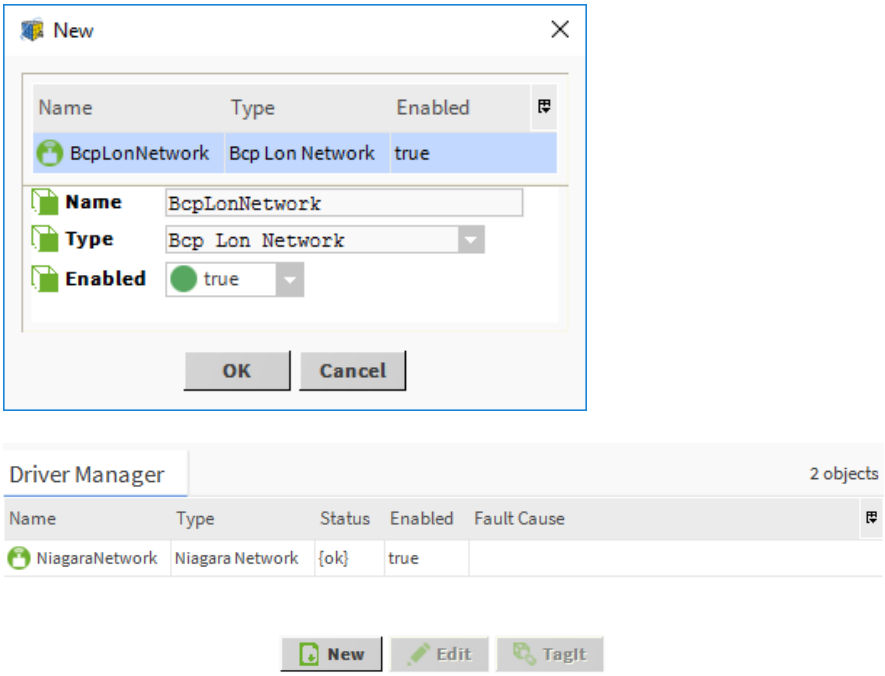
4. From the **Type to Add** drop-down list, select **Bcp Lon Network**.



5. Add one (1) Bcp Lon Network in **Number to Add**. Click **OK**.



6. Accept the default settings: Click **OK**. The **Local Lon Device** driver is automatically created under the **Bcp Lon Network** in the Nav tree.


New
Name
Type
Enabled
BcpLonNetwork
Bcp Lon Network
true
Name
BcpLonNetwork
Type
Bcp Lon Network
Enabled
true
OK
Cancel
Driver Manager
2 objects
Name
Type
Status
Enabled
Fault Cause
NiagaraNetwork
Niagara Network
{ok}
true
New
Edit
TagIt

Configuring the LONWORKS BcpLonNetwork

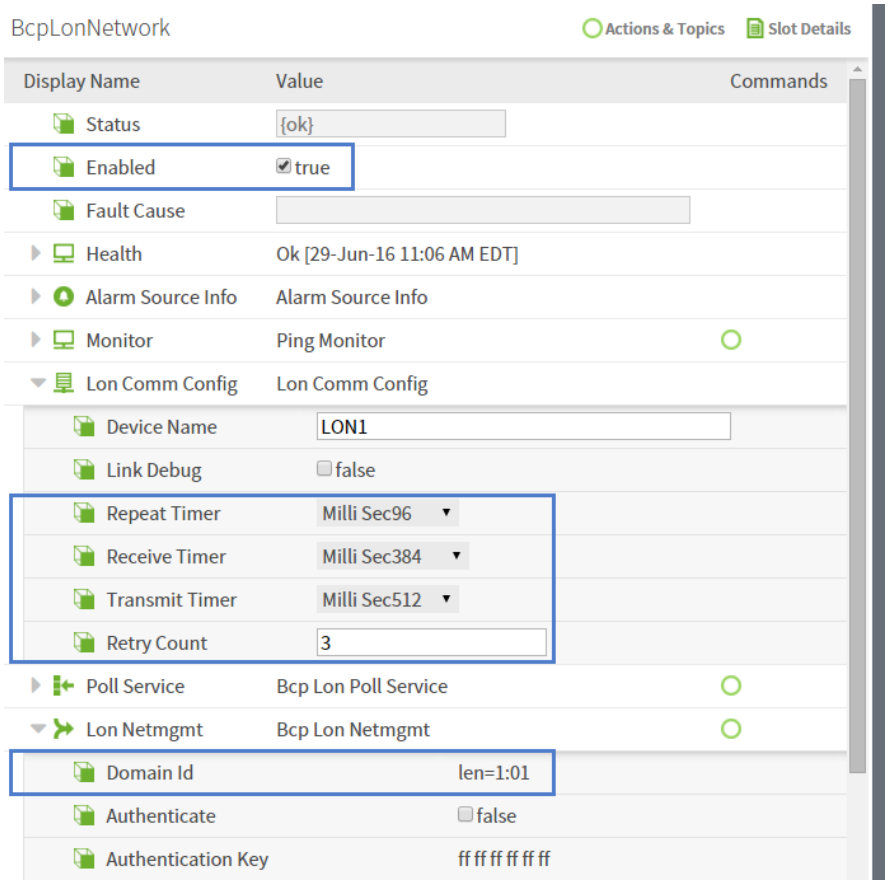
Before adding devices to the LONWORKS Network it must be configured correctly. Set both the **WizardService Comm Config** properties (see *Setting the WizardService Comm Config Properties*) and the **BcpLonNetwork** properties as follows.

Setting the BcpLonNetwrok Properties

You can access the **BcpLonNetwork** driver's property sheet:

- From the Nav side bar, right-click **BcpLonNetwork**, select Views and then Property Sheet.
- From the Nav side bar, select **BcpLonNetwork**, click the *View Selector* and select Property Sheet.

1. Make sure that the **Enabled** field is checked off as true.



2. Expand the **Lon Comm Config** field. Ensure the **Repeat Timer** dropdown is set to **Milli Sec96**. Ensure the **Receive Timer** dropdown is set to **Milli Sec384**. Ensure the **Transmit Timer** dropdown is set to **Milli Sec512**. Ensure the **Retry Count** field is set to **3**.

NOTE: These settings will be automatically overwritten when the Auto Update option in the **WizardService** is set to *True*. See *Configuring the WizardService* and see *Setting the WizardService Comm Config Properties*.

3. Expand the **Lon Netmgmt** field. Set the **Domain Id** field to a length of **1** and the ID to **01**.

NOTE: If the configuration of the LONWORKS Network has already been made, then the Domain Id may be set to another number. Verify that the Domain Ids of the network and devices match. However, it is recommended that the Domain Id be set to a length of **1** and an ID of **01** whenever possible.

4. Click **Save** in the Property Sheet menu to accept the changes.

Adding the WizardService to the Station

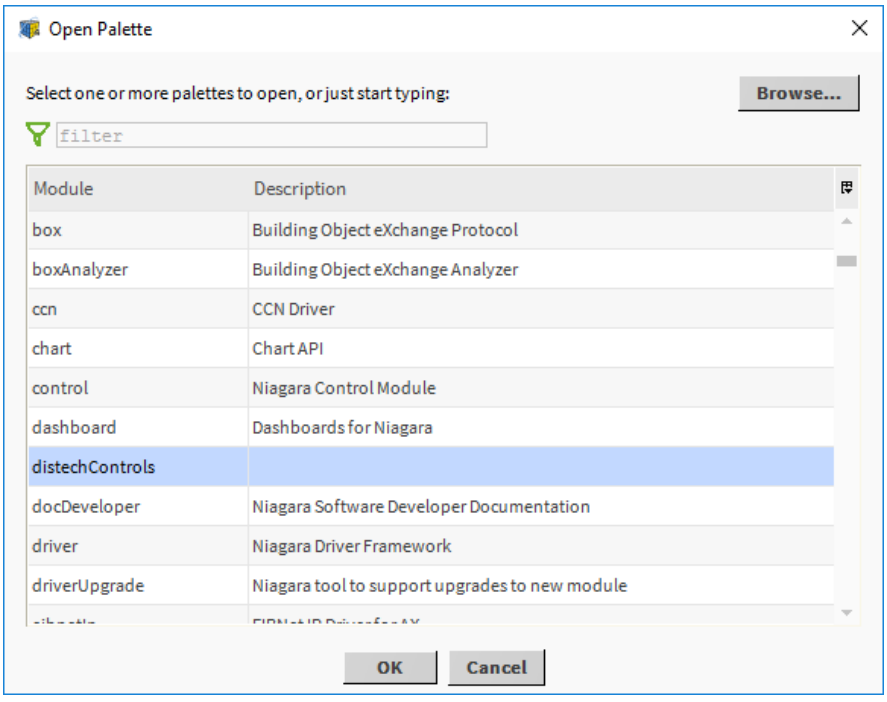
The WizardService allows EC-*gfx*Program to connect to the EC-BOS. This step is optional: If the **WizardService** has not been installed as shown below, it will automatically be installed when you add a device to the station. However you will still need to configure the **WizardService** service as shown in *Configuring the WizardService*.

Optionally you can manually install the **WizardService** on the station as follows.

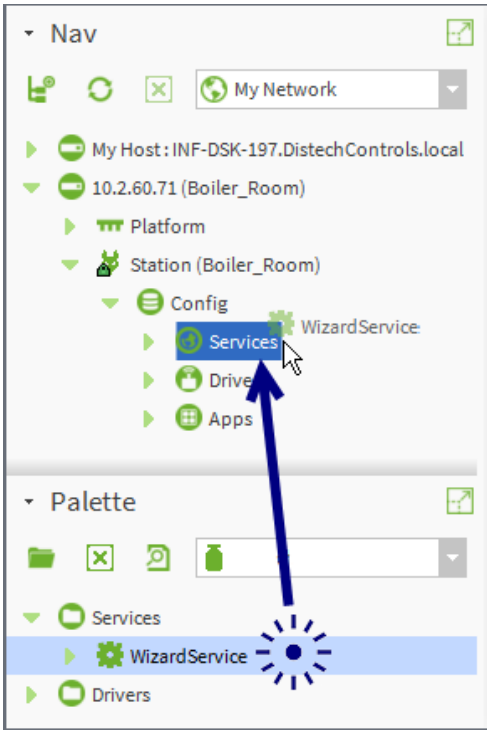
1. Click the Open Palette button in the Palette side bar to open the Open Palette selection window.

If the Palette side bar is not open in the Side Bar Pane, click **Windows→Side Bars→ Palette** to add the Palette side bar.

2. Select **distechControls** from the *Open Palette* selection window and click **OK**. This will add the **distechControls** palette to your Palette side bar.

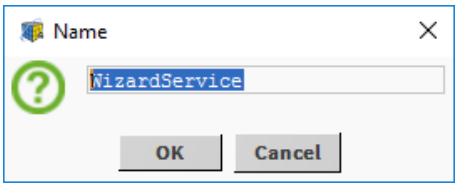


3. Install the WizardService: Drag and drop the **WizardService** from the **distechControls** Palette into the Station's **Services** tree.



NOTE: The *Services* tree is found within the *Config* tree of the station.

4. Click **OK** to add the **WizardService** on the station.

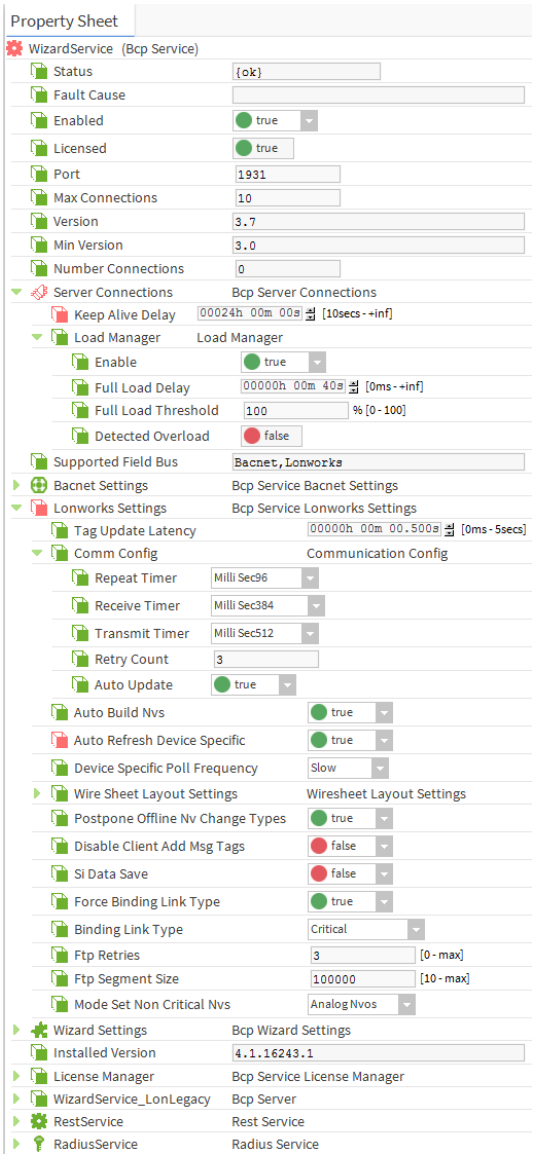


Configuring the WizardService

If the **WizardService** has not been installed, it will automatically be installed when you add a device to the station. However you will still need to configure the **WizardService** service as shown below.

The **WizardService** must be configured by defining parameters such as the communication port and/or the number of simultaneous connections. The *WizardService* property sheet can be accessed:

- From the Nav side bar, double-click **WizardService** in the *Services* tree of the station.
- From the Nav side bar, right-click **WizardService**, select *Views* and then Property Sheet.



Parameter	Description
Status (read only)	This field displays the status of the BCP Server. If the server is enabled (the Enabled field set to True), an {ok} status will be displayed. If the server is disabled (the Enabled field set to False), an {disabled} status will be displayed.
Fault Cause (read only)	If there is a problem with the **WizardService**, this field will list the possible cause of the problem.
Enabled	This field enables or disables the **WizardService**. Enable the server by setting this field to True. Likewise, the server can be disabled by setting this field to False.
Licensed	This is **true** when the **WizardService** is licenced on this station and is available. When using Distech Controls controllers with a Distech Controls EC-Net station, these services are available by default. If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the **WizardService**, RestService, and RadiusService. See *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
Port	Enter the port that the station is using to communicate with EC-Net here. The default port is 1931. If application specific or line by line LONWORKS devices are being accessed, the LonLegacy Tcp/IP port must also be configured.
Max Connections	This is the maximum number of connections (wizards) that can be simultaneously running. The default is 5.
Version (read only)	This field displays the current version of the Wizard Service communication protocol.
Min Version (read only)	The minimum required version of the Wizard Service communication protocol that is required for this service to operate.
Number Connections (read only)	Number of clients (wizards) currently running and using the **WizardService**. See *Server Connections*.
Server Connections - Keep Alive Delay - Load Manager - Connection	Sets the server connection parameters. See *Server Connections*. The number of supported connections is set in **Max Connections**.
Supported Field Bus	List the network types supported by the **WizardService**.
Bacnet Settings	Not applicable to LONWORKS controllers.
Lonworks Settings - TagUpdate Latency	Time during which device message tags are buffered before being sent to EC-*gfx*Program. The default is 500 msec.

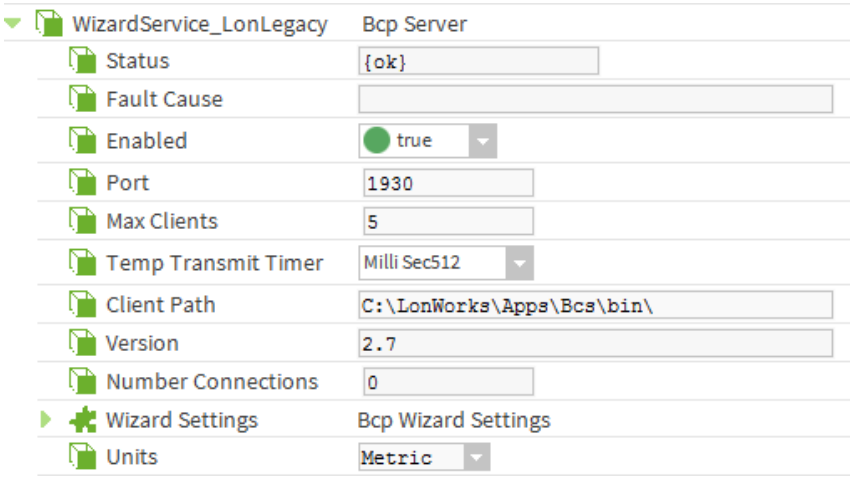
Parameter	Description
Lonworks Settings - Comm Config	See *Setting the WizardService Comm Config Properties*. For supported controllers, the following settings are strongly recommended: Ensure the **Repeat Timer** dropdown is set to **Milli Sec96**. Ensure the **Receive Timer** dropdown is set to **Milli Sec384**. Ensure the **Transmit Timer** dropdown is set to **Milli Sec512**. Ensure the **Retry Count** field is set to **3**. Sometimes, certain LONWORKS devices may process LONWORKS messages "slower than normal," resulting in errors when you do commissioning or binding operations – where the commission or bind reports as failed. You can confirm such problems by using the Lon Utilities Manager (afterwards) and running a verify report. The verify report will list the inconsistencies between the bindings on the devices, and the list of bindings that EC-Net's LON network management determines that they should have. Under these conditions, it may be necessary to raise the **Transmit Timer** setting upwards to **Milli Sec1024**.
Lonworks Settings - Comm Config, Auto Update	If set to **true**, this pushes the **Comm Config** settings above to the **Lon Comm Config** on all LONWORKS **BcpLonNetworks** (see *Configuring the LONWORKS BcpLonNetwork*) when: • The EC-BOS is rebooted • A wizard connection is made (see Launching EC-gfxProgram on page 53) • The settings on this page are saved. If set to **false**, the settings of the individual LONWORKS **BcpLonNetworks** are preserved.
Lonworks Settings - Auto Build Nvs	If set to **true**, this auto-builds NVs when a device is added to the station. If set to **false**, this adds only the minimum NVs required to run EC-*gfx*Program. You can automatically create the NVs and CPs if necessary by using the **Build** function. To minimize EC-Net memory usage, it is important to remove unused points by using the **Trim** function. See *Linking, Building and Trimming LonWorks Component objects in EC-Net* in the EC-*gfx*Program User Guide for how to use the **Build** and **Trim** functions.
Lonworks Settings - Auto Refresh Device Specific	If set to **true**, this enables values to be automatically read from the device when an nci proxy enters a subscribed state. This refreshes values in EC-Net, when the value is modified in the controller, for example, by a ComSensor.
Lonworks Settings - Device Specific Poll Frequency	This sets the LONWORKS network's tuning policies which affects the status of the driver's proxy points. Choose a poll frequency group to use for evaluating both *write requests* (e.g., to writable proxy points) as well as the acceptable "freshness" of *read requests* from polling (Slow, Normal, Fast).

Parameter	Description
Lonworks Settings - Wire Sheet Layout Settings	This controls LONMARK object layout on the property sheet for specific device types.
Lonworks Settings - Postpone Offline Nv Change Types	If set to **true**, this postpones change type requests made by EC-*gfx*Program while the device is offline. The change type is done when the device returns online and is in a commissioned state.
Lonworks Settings - Disable Client Add Msg Tags	If set to **true**, message tags are not used. If set to **false**, nodes can declare bi-directional message tags that can be used to both send and receive messages. If message tags bindings are used, the Lon Link Manager displays their status in a fashion similar to that used to display network variable bindings.
Lonworks Settings - Si Data Save	If set to **true**, this maintains compatibility for controllers operating with LNS versions less than or equal to 3.0. If set to **false**, this accelerates nv change types.
Lonworks Settings - Force Binding Link Type	If set to **true**, a binding must use a binding link type. If set to **false**, a binding does not have to use a binding link type.
Lonworks Settings - Binding Link Type	Link type to use: Unknown, Standard, Reliable, Critical, Authenticated, or Poll Only.
Lonworks Settings - Ftp Retries	Number of LonWorks FTP protocol retries.
Lonworks Settings - Ftp Segment Size	Number of bytes per LonWorks FTP protocol packet.
Lonworks Settings - Mode Set Non Critical Nvs	Network Variables category to exclude from the Data Recovery Service management.
Wizard Settings - Default Numeric Point Precision	Numeric precision for floating point numbers displayed by the proxy points created with the **Create Points** device action.
Wizard Settings - Create Proxy Point Description	Uses the EC-*gfx*Program block property description to be created as a description property under proxy points created with the **Create Points** device action. This description can ultimately be used to provide descriptive information on a Px Graphic Page.
Installed Version	The currently installed **WizardService** version. This version number corresponds to the currently installed support package version.

Parameter	Description
License Manager - Wizard Service Licensed - Radius Service Licensed - Rest Service Licensed	Shows the license status for the Distech Controls Support Package services (WizardService, RestService, and RadiusService) on the current station. This is true when the service is licenced on this station and is available. When using Distech Controls controllers with a Distech Controls EC-Net station, these services are available by default. If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the WizardService, RestService, and RadiusService. See *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
WizardService_LonLegacy	A Wizard service extension to manage the application-specific and line by line programmable LONWORKS controllers. See *WizardService LonLegacy*.
RestService	Not applicable to LONWORKS controllers.
RadiusService	Not applicable to LONWORKS controllers.
Refresh	Click to reset the fields to the last saved values of the **WizardService**.
Save	Click to save any changes made to the fields of the **WizardService**.

WizardService LonLegacy

If there is a LONWORKS service that was installed prior to version 3.2 on the Station, it will automatically be migrated under the *WizardService_LonLegacy* part of the property sheet where the previous configuration parameters are preserved.

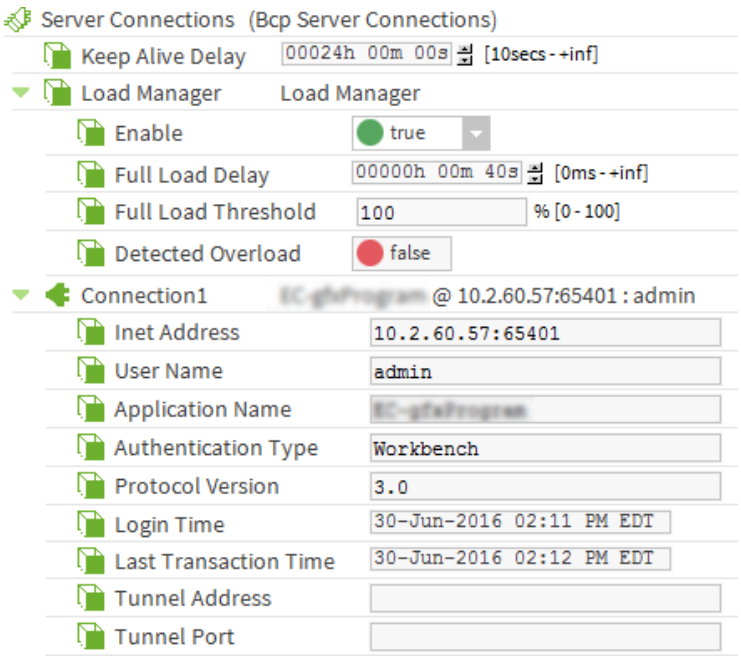


Parameter	Description
Status (read only)	This field displays the status of the BCP Server. If the server is enabled (the **Enabled** field set to True), an {ok} status will be displayed. If the server is disabled (the **Enabled** field set to False), an {disabled} status will be displayed.

Parameter	Description
Fault Cause (read only)	If there is a problem with the **WizardService**, this field will list the possible cause of the problem.
Enabled	This field enables or disables the WizardService_LonLeagacy. Enable the server by setting this field to **True**. Likewise, the server can be disabled by setting this field to **False**.
Port	Set the port that the station is use to communicate with EC-Net. The default port is 1930.
Max Clients	This is the maximum number of clients (wizards) that can be simultaneously running. The default is 5.
Temp Transmit Timer	Sometimes, certain LONWORKS devices may process LONWORKS messages "slower than normal," resulting in errors when you do commissioning or binding operations – where the commission or bind reports as failed. You can confirm such problems by using the Lon Utilities Manager (afterwards) and running a verify report. The verify report will list the inconsistencies between the bindings on the devices, and the list of bindings that EC-Net's LON network management determines that they should have. Under these conditions, it may be necessary to raise the transmit timer setting upwards to **Milli Sec1024**.
Client Path	This is the client path where the application to launch the EC-Net Wizards is found. It is recommended that this field not be modified.
Version (read only)	This field displays the current version of the legacy Wizard Service communication protocol.
Number Connections (read only)	Number of clients (wizards) currently running and using the WizardService.
Wizard Settings	Stubs container that allows the reuse of EC-Net categories for managing access rights to these applications.
Units	This field determines the default unit of measurement when a wizard is launched.

Server Connections

The server connection parameters can be viewed as shown below.



Parameter	Description
Server Connections - Keep Alive Delay	Set the delay after which an idle connection is disconnected. This is calculated from the **Last Transaction Time** shown below in the connection.
Server Connections - Load Manager	The load manager disrupts BACnet and LONWORKS EC-*gfx*Program debugging sessions for heavily loaded stations in order to avoid watchdog resets. **Enable**: Enable the load manager. **Detected Overload** becomes **true** when the platform CPU (%) remains above the **Full load Threashold** for a duration at least equal to the **Full load delay**. EC-*gfx*Program debugging will be disrupted when the **Detected Overload** flag becomes **true**. The flag is reset with the reset action available on the **Load Manager**: right-click **Load Manager** and select **Reset**.

Parameter	Description
Server Connections - Connection1 - Connection2 …	**Inet Address**: The Station name or IP address of the PC or Client Application making this connection. **User Name**: The user name from the Workbench or EC-*gfx*Program used to connect to the EC-Net. **Application Name**: The name of the connected application. **Authentication Type**: How the application connected. **Workbench** or **Digest** (launch from desktop). **Protocol Version**: The bcp protocol version. **Login Time**: The time the connection was established. **Last Transaction Time**: The time of the last transaction.

Setting the WizardService Comm Config Properties

If **Auto Update** is set to **True**, the current **Comm Config** properties from the **WizardService** define the master LONWORKS network settings that will overwrite the **Lon Comm Config** settings of all **BcpLonNetwork** property sheets when:

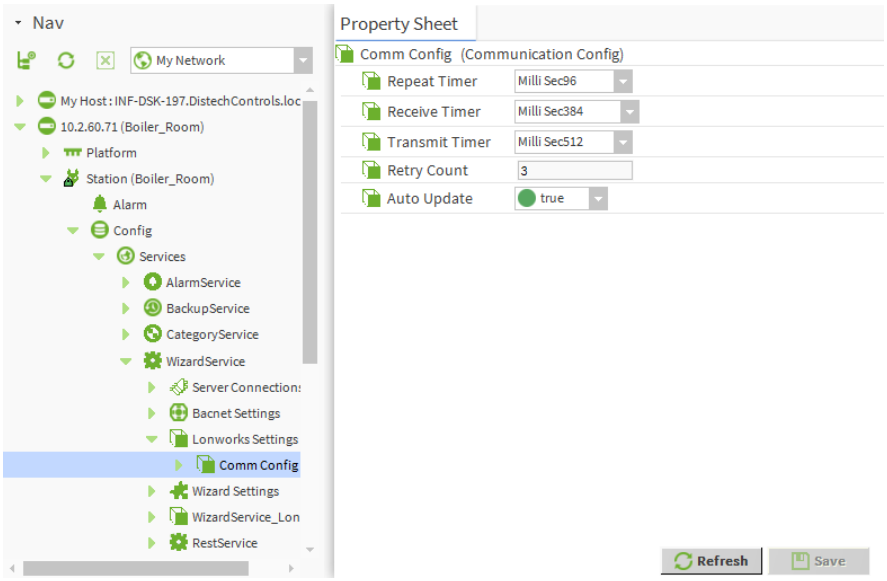
- The EC-BOS is rebooted
- A wizard connection is made (see *Launching EC-gfxProgram*)
- The settings on this page are saved
- By right-clicking **Comm Config** and selecting **Actions** > **Update Networks**.

For a LONWORKS network to best be able to handle the traffic while configuring and debugging Distech Controls controllers, it is important to use the following settings: Ensure the **Repeat Timer** dropdown is set to **Milli Sec96**. Ensure the **Receive Timer** dropdown is set to **Milli Sec384**. Ensure the **Transmit Timer** dropdown is set to **Milli Sec512**. Ensure the **Retry Count** field is set to **3**. The **Comm Config** settings can be applied to all **BcpLonNetwork** property sheets by right-clicking **Comm Config** and selecting **Actions** > **Set To Default**.

Sometimes, certain LONWORKS devices may process LONWORKS messages "slower than normal," resulting in errors when you do commissioning or binding operations – where the commission or bind reports as failed. You can confirm such problems by using the Lon Utilities Manager (afterwards) and running a verify report. The verify report will list the inconsistencies between the bindings on the devices, and the list of bindings that EC-Net's LON network management determines that they should have.

Under these conditions, it may be necessary to raise the transmit timer setting (shown as **Temp Transmit Timer**) upwards to **Milli Sec1024**.

If the EC-BOS operates with one or more LONWORKS networks that have other requirements for the **Comm Config** setting, then it is very important to set **Auto Update** to **False**. This prevents the **Lon Comm Config** settings of all **BcpLonNetwork** property sheets from being overwritten when the EC-BOS reboots or when EC-*gfx*Program is started.



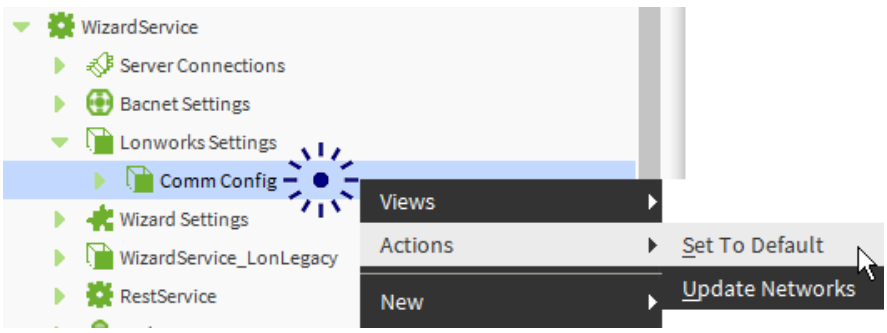
You can access the **Comm Config** property sheet:

- From the Nav side bar, right-click **Comm Config**, select **Views** > **Property Sheet**.
- From the Nav side bar, select **Comm Config**, click the *View Selector* and select **Property Sheet**.

1. If all LONWORKS networks can use the same communication settings shown above, set **Auto Update** to **True**.

   Otherwise set **Auto Update** to **False** and click **Save**. Skip to *Setting the BcpLonNetwrok Properties*.

2. Right-click **Comm Config** and select **Actions** > **Set To Default**. This sets the appropriate values necessary for use with Distech Controls controllers.
3. Click **Save** to accept the changes.

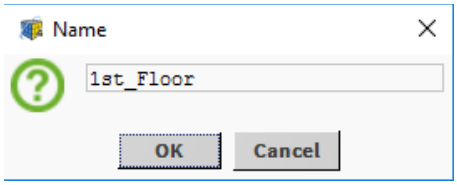


Parameter	Description
Set To Default	This sets the default values recommended by Distech Controls for **Repeat Timer**, **Receive Timer**, **Transmit Timer**, and **Retry Count**.
Update Networks	This pushes the current **Comm Config** properties from the **WizardService** to overwrite the **Lon Comm Config** settings of all **BcpLonNetwork** property sheets.

Organizing devices in Device Folders

Use a device folder to group similar devices together (for example, by floor). Create these folders first and then add the controllers directly into the appropriate folder.

1. Double-click the **BcpLonNetwork** driver in the Nav Side Bar. This will display the LONWORKS Network database in the View Pane. Click **New Folder**.



2. Name the new folder and click **OK**.
3. Double-click the folder to go into it.
4. When adding a controller, add it directly into the folder.

Adding a Device to the Network Database

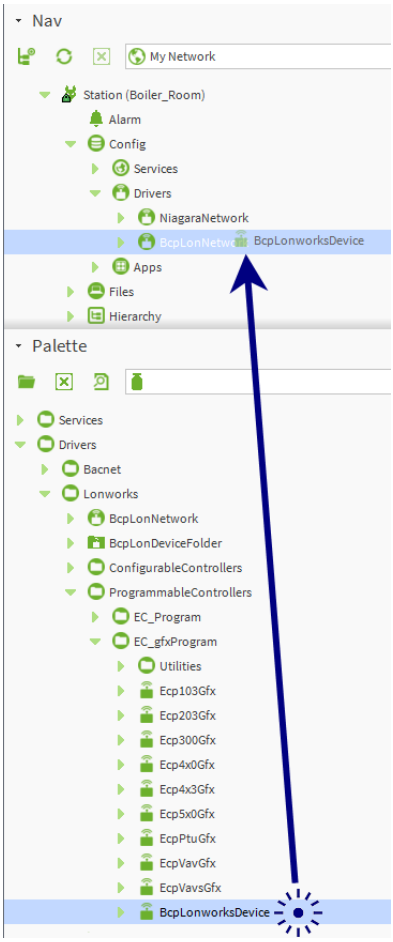
NOTE: In order to add, configure, and/or monitor LONWORKS devices, there must be a LONWORKS Network already established in the station. See *Installing a LONWORKS Network* and *Configuring the LONWORKS BcpLonNetwork*.

Once the LONWORKS Network has been configured, devices can be added to the LONWORKS Network that is running from the EC-BOS station.

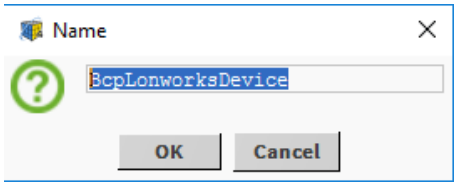
If the **WizardService** has not been installed, it will automatically be installed when you add a device to the station. However you will still need to configure the **WizardService** service. See *Configuring the WizardService*.

To add devices to the LONWORKS Network:

1. From the **distechControls** palette, install the device driver: Expand the *Drivers* folder and drag and drop the **BcpLonworksDevice** driver from the **distechControls** palette onto the **BcpLonNetwork** tree.

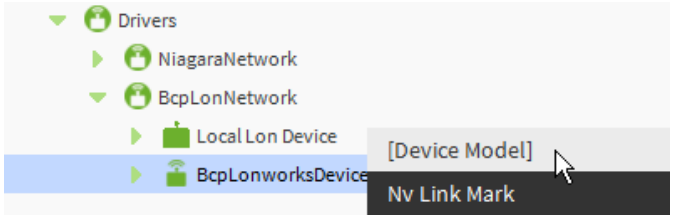


2. Give the device a descriptive name. Click **OK** to add the device driver on the station.

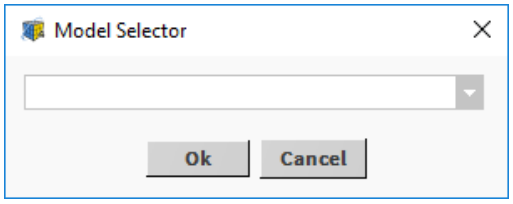


The driver will appear below **BcpLonNetwork** in both the Nav Side Bar and the View Pane. In the View Pane the device will be highlighted in yellow. This means that the device has yet to be commissioned.

3. Right-click the device and select [Device Model] and set the controller's model.



4. In the **Model Selector** popup, select the controller's model type from the list and click **OK**.



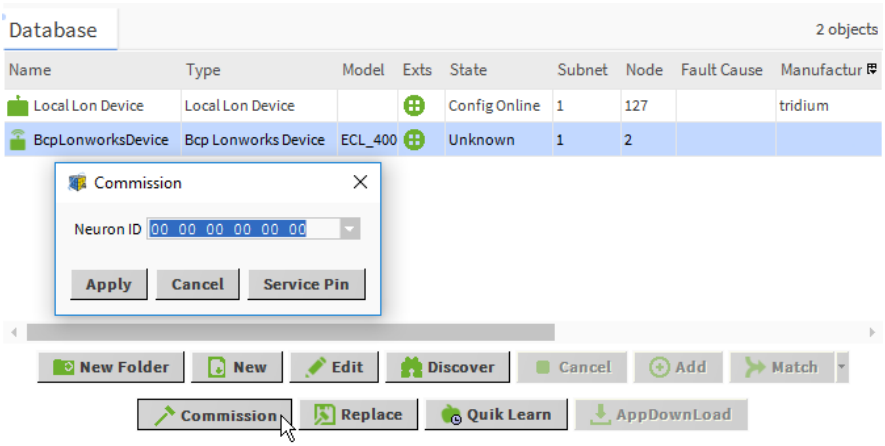
5. Wait for a *Build Success* message from EC-Net. When the controller's points are built, the Commission button becomes available in the **BcpLonNetwork** commissioning screen. See *Commissioning the device*.

Commissioning the device

Once a device has been added to the LONWORKS Network it must be commissioned. The device can be commissioned using two methods; via the device's service pin or by manually entering the device's Neuron ID number.

Commissioning the Device via the Service Pin

1. Double-click **BcpLonNetwork** under the Station then select the device (highlighted in yellow) and click Commission. The Commission window will appear.



2. Click **Service Pin** and then press the Service pin button on the device.

   Wait for the **Lon Commission** progress bar to complete. The device is now ready to be configured. Notice that the state of the device changed from *Unknown to Config Online*.

3. Wait for a *Lon Commission Success* message from EC-Net.

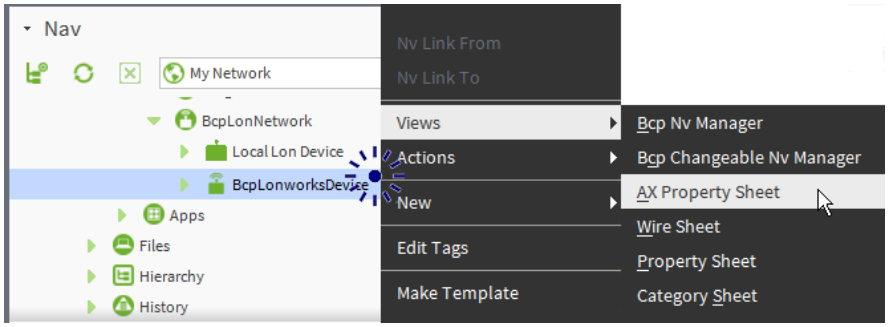
4. In the device's property sheet, the **Commissioned** property is **true**. This means the device is properly commissioned (domain, subnet, and node in the database are the same as those in the device).

5. Upload the transient (nvs) and persistent (ncis and cps) data from the device. See *Device Upload*.

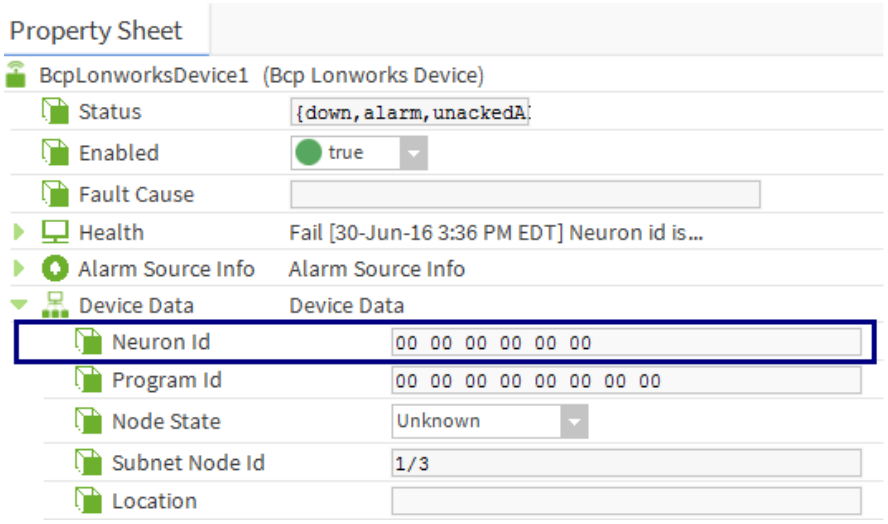
Commissioning the Device Manually

To commission a device with its Neuron ID, the device must be online. When the network is offline, you can assign Neuron IDs to devices. When the network becomes online, continue with step 3.

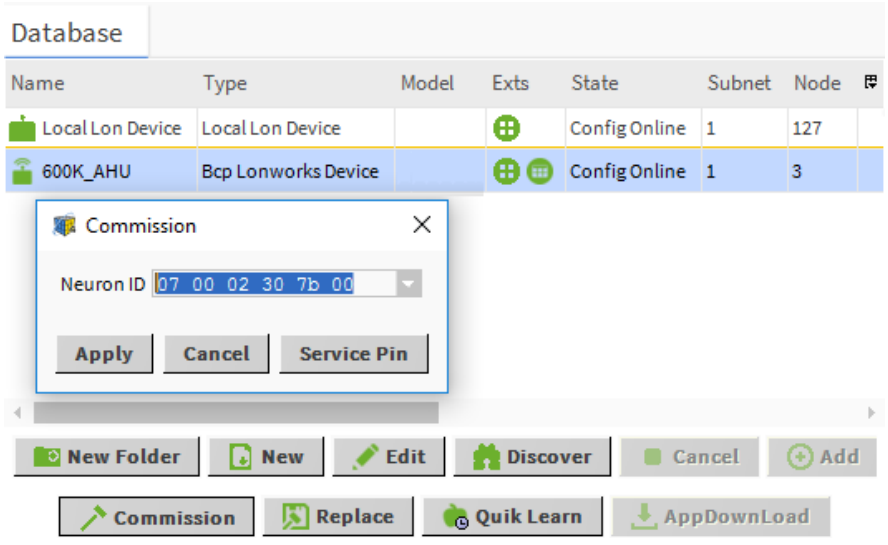
1. Right-click the **BcpLonworksDevice** either in the Nav Side Bar or in the View Pane, select **Views** > **AX Property Sheet**. This will open the device's property sheet in the View Pane.



2. Expand the **Device Data** tree and enter the device's Neuron ID number in the **Neuron ID** field. Click **Save** when finished.



3. Once the network is available, go to the LONWORKS Network database (by double-clicking on the **BcpLonNetwork** entry in the Nav Side Bar). Select the device and click **Commission**.



4. In the **Commission** window, the device's Neuron ID number is shown in the **Neuron ID** field. Click **Apply**.

The device is now ready to be configured. Notice that the state of the device changed from *Unknown* to *Config Online*.

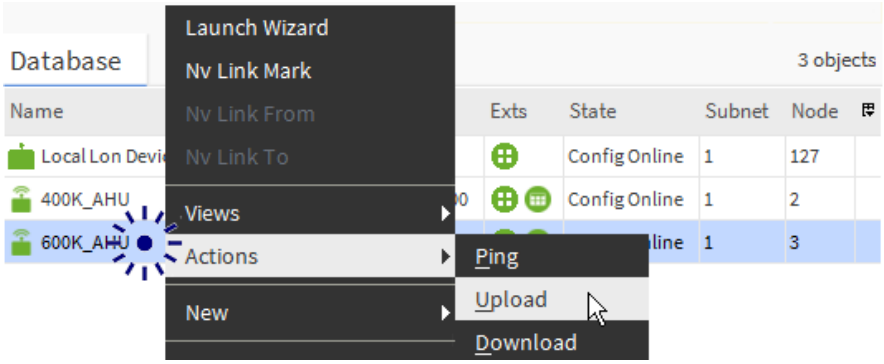
5. Wait for a *Lon Commission Success* message from EC-Net.
6. In the device's property sheet, the **Commissioned** property is **true**. This means the device is properly commissioned (domain, subnet, and node in the database are the same as those in the device).
7. Upload the transient (nvs) and persistent (ncis and cps) data from the device. See *Device Upload*.

EC-Net Device Upload and Download

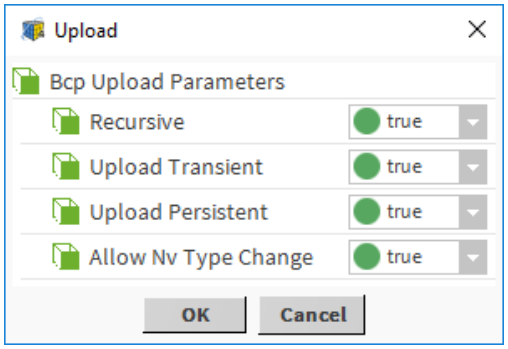
Device Upload

Upload reads transient (nvs) and persistent (ncis and cps) data from the device and writes to the station's database (Lon device). This is necessary when adding a new device to the EC-Net database. Proceed as follows.

1. Right-click the device and select **Actions** > **Upload**.



2. An *Upload* dialog box allows you to select the type of data. Typically, you leave dialog parameters at their default settings (**true**)—recursive is always recommended. Click **OK**.

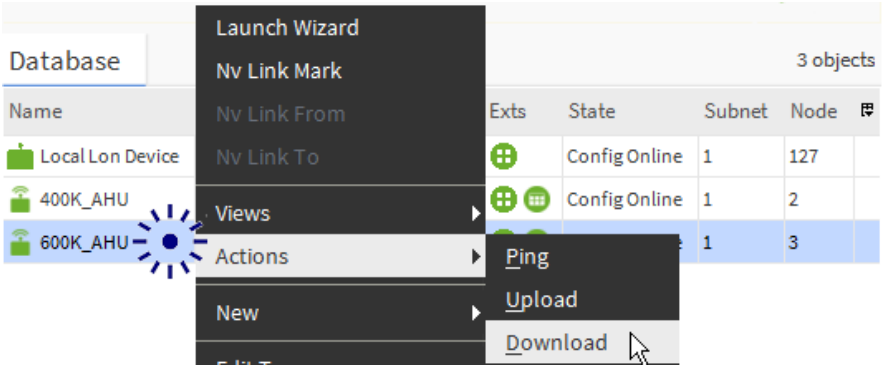


NOTE: An **Upload** action is also available at the **BcpLonNetwork** level—with the same Upload dialog selections as shown in the figure above. This provides a "global upload" from all Lon devices.

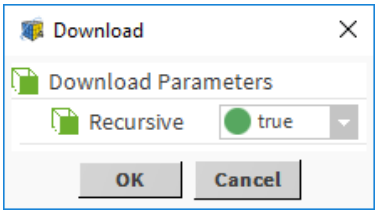
Device Download

Download writes persistent data (ncis and cps) to the device from values in the station's database (Lon device). This is necessary when you add or modify blocks in your code that are available as network variables while the controller is offline. Proceed as follows.

1. Right-click the device and select **Actions** > **Download**.



2. A **Download** dialog box allows you to select recursive writes. Typically, you leave recursive at default (**true**), to write to all child data items. Use Download to restore nci and cp values to “known good” values, as previously saved in the station. Click **OK**.

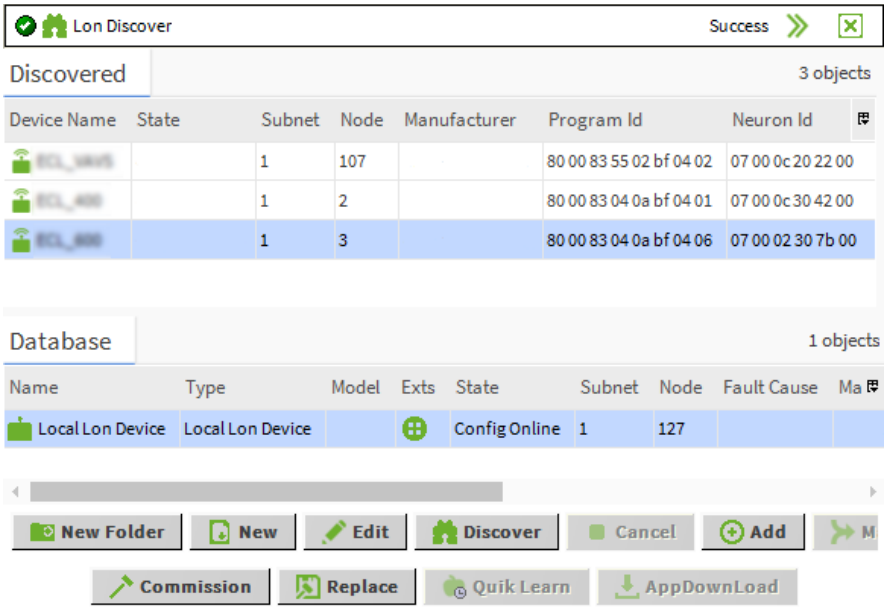


NOTE: A **Download** action is also available at the **BcpLonNetwork** level—with the same Download dialog selections as shown in the figure above. This provides a “global download” from all Lon devices.

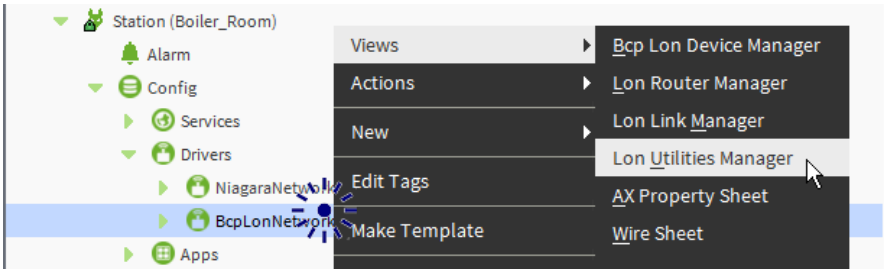
Discovering an Existing Network

There are instances where a LONWORKS Network will be created in EC-Net at a site that already has one created. This requires that the existing network be “discovered” and then added to the LONWORKS Network being created in EC-Net.

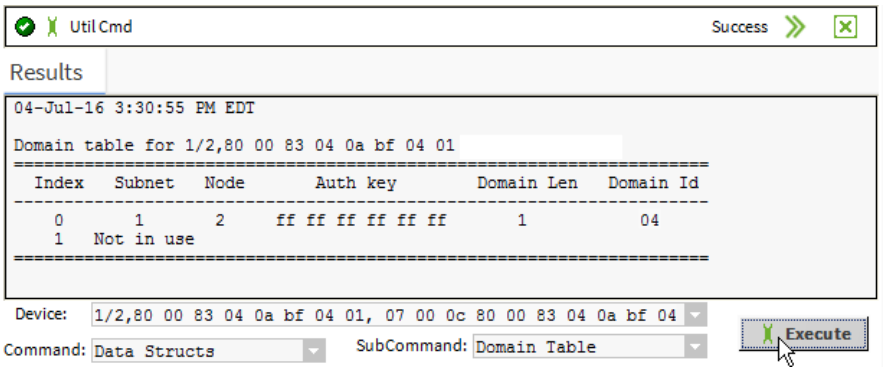
1. Double-click the **BcpLonNetwork** driver in the Nav Side Bar. This will display the LONWORKS Network database in the View Pane. Click **Discover**. The View Pane will become divided into two sections; one listing the LONWORKS Network database and the other listing all discovered devices.



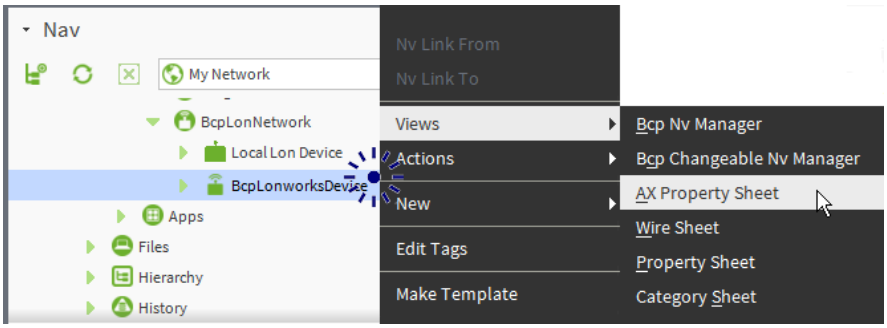
2. If the controllers are discovered, skip to *step 12*. If the controllers are not discovered, the controllers may have been previously commissioned with another **Domain Id**. For example, ECC-VAVs and EC-Displays are factory commissioned with a **Domain Id Length = 6** and **Id = fb 58 b2 40 f1 3f**. The solution is to:
   a. Change the **Domain Id** of the **BcpLonNetwork** to that of the controller.
   b. Add the controller to the database.
   c. If necessary, change the **Domain Id** of the **BcpLonNetwork** back to the original number (EC-Net updates the **Domain Id** of all devices in the database).
   d. Commission the device to update the **Domain Id** of all devices in the database.
3. Press the **Service Pin** on the device. The device appears in the **Discovered** devices list. Note the device **Name**.
4. Right-click the **BcpLonNetwork** in the Nav Side Bar, select **Views** and then **Lon Utilities Manager**.



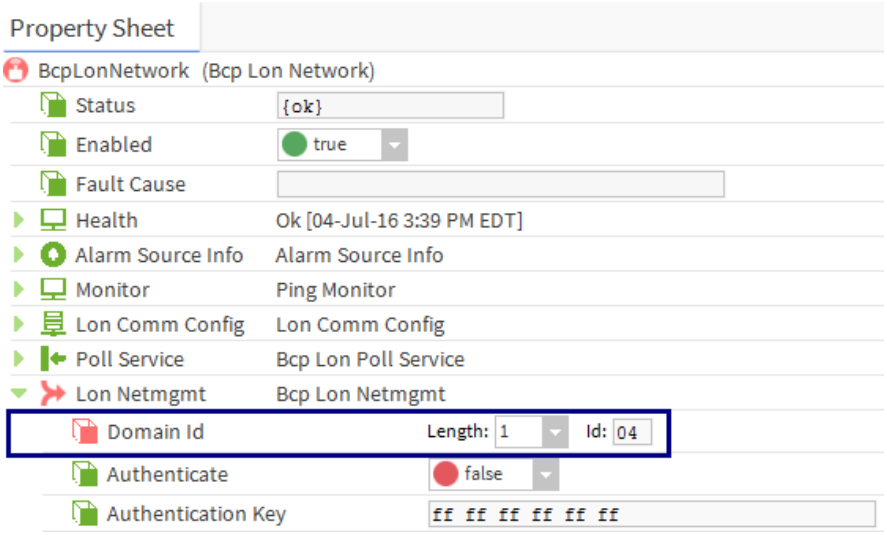
5. In the **Device** drop-down list, select the device that was found with the **Service Pin**. Set **Command** to **Data Structs** and **SubCommand** to **Domain Table**. Click **Execute**.



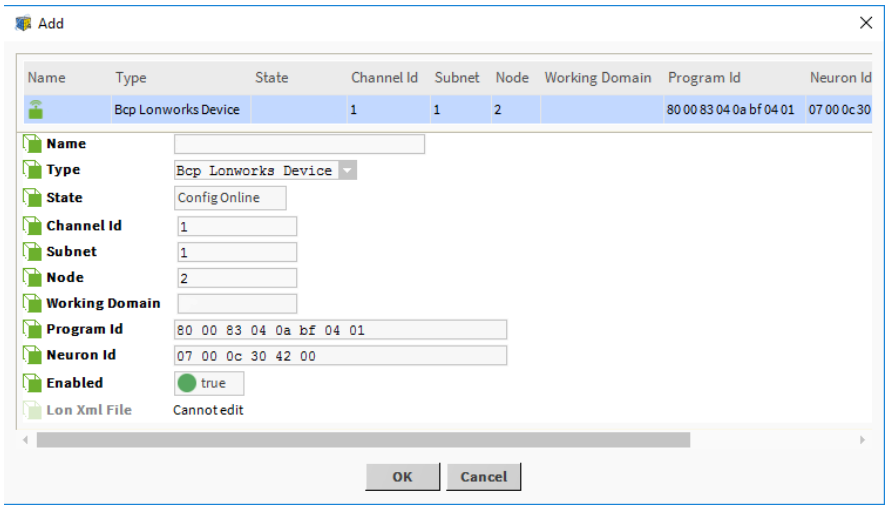
6. If the domain length and domain ID are the same as the **BcpLonNetwork** properties, skip forward to *step 11*.
7. Note the **Domain Length** and **Domain ID** for this device.
8. Right-click the **BcpLonNetwork** in the Nav Side Bar, select **Views** and then **AX Property Sheet**.



9. Set the **Domain Length** and **Domain ID** to that of the Device.

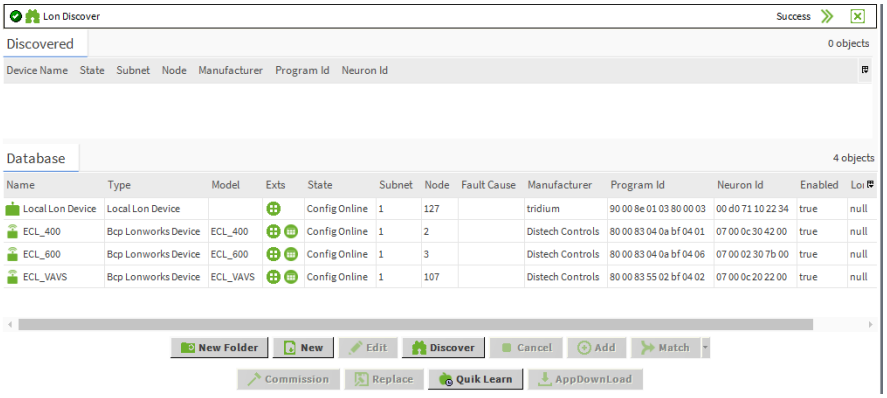


10. Click **Save**.
11. Double-click the **BcpLonNetwork** driver in the Nav Side Bar. This will display the LONWORKS Network database in the View Pane. Click **Discover**. The View Pane will become divided into two sections; one listing the LONWORKS Network database and the other listing all discovered devices.
12. To add the discovered devices, select them, and click **Add**. The *Add* window will appear. Click **OK**.

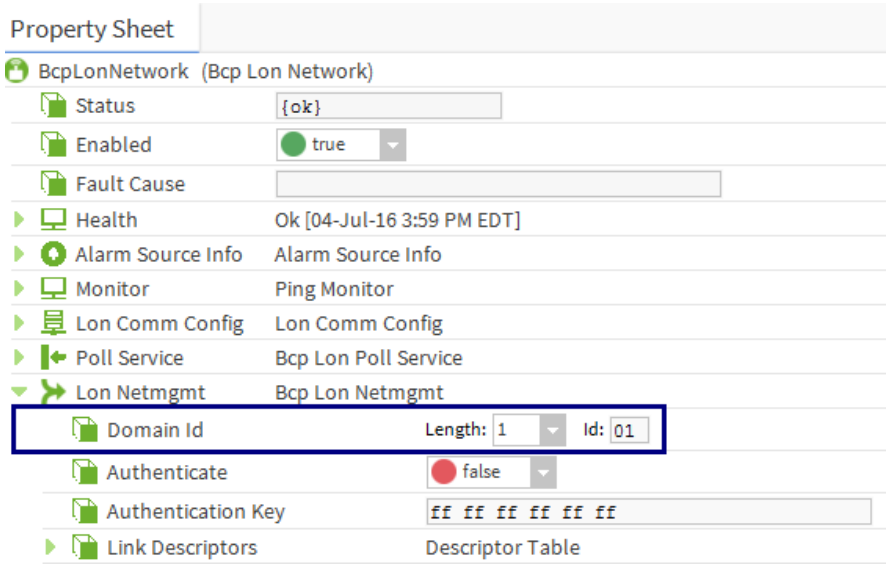


Multiple controllers can be added to the network at the same time. Hold the **Ctrl** key and select all the devices to be added to the network then click **Add**.

13. The discovered devices have been added to the LONWORKS Network database.



14. If necessary, set the **Domain Length** and **Domain ID** to the one you want all network devices to operate on. Right-click the **BcpLonNetwork** in the Nav Side Bar, select **Views** and then **AX Property Sheet**.



NOTE: It is recommended that the Domain Id be set to a length of 1 and an id of 01 whenever possible.

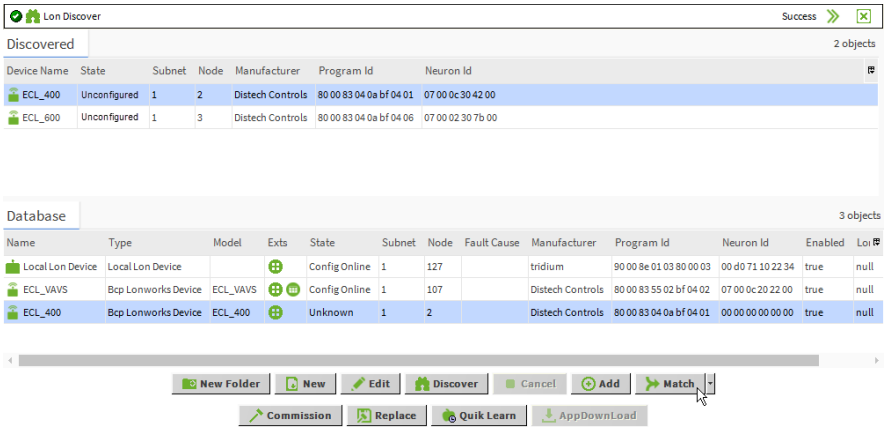
15. Click **Save.**

16. Commission the devices. See *Commissioning the device*.

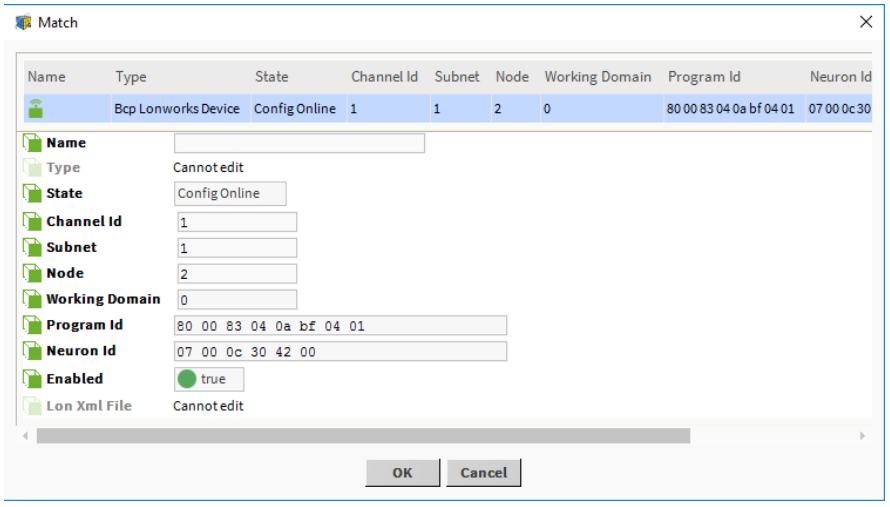
Matching Devices

There are instances when a site has an existing LONWORKS Network and there is a LONWORKS Network database already established in EC-Net for that site. In this instance it would be necessary to match the devices from the site to the devices in the LONWORKS Network database. To match devices:

1. Double-click the **BcpLonNetwork** driver in the Nav Side Bar. This will display the LONWORKS Network database in the View Pane. Click **Discover**. The View Pane will become divided into two sections; one listing the LONWORKS Network database and the other listing all discovered devices.
2. Select the device from the *Discovered* section and the device it is to be matched to from the Database section and click **Match**.



3. The *Match* window will appear. Click **OK** to match the devices.



The devices are now matched and added to the LONWORKS Network database.

Launching EC-*gfx*Program

EC-*gfx*Program allows the user to program and/or configure an EC-*gfx*Program compatible device through the EC-Net platform.

NOTE: The EC-*gfx*Program application must be installed on the PC running EC-Net before it can be launched.

Use any of the following methods to open EC-*gfx*Program:

- *Running the EC-gfxProgram Application*.
- *Running EC-gfxProgram from your PC's Desktop* (or from Microsoft Windows' All Programs).
- *Launching EC-gfxProgram through an EC-BOS or EC-Net Pro*.

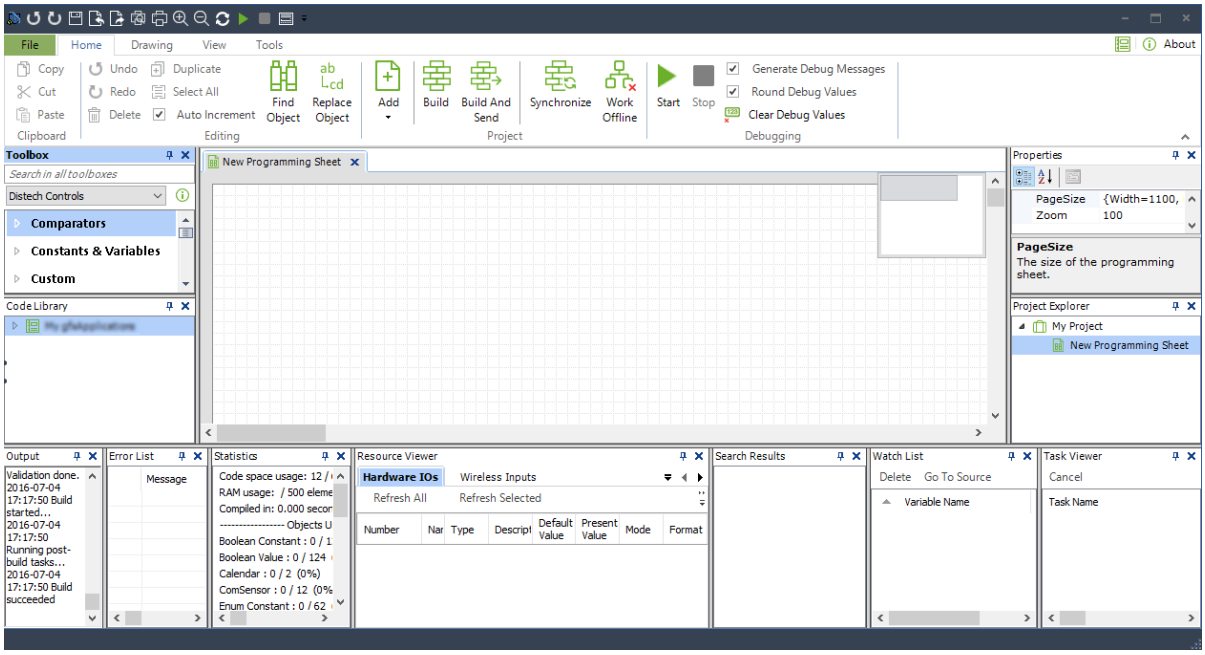
EC-*gfx*Program can also be launched from a Px Page. See *Launching EC-gfxProgram from a Px Page using a LaunchButton Widget*.

NOTE: A device's EC-Net EC-gfxProgram application can only be used from one location at a time. For example, if one user at one PC has a particular EC-gfxProgram application open, another user at another PC cannot access that same EC-gfxProgram application.

Running the EC-*gfx*Program Application

An EC-Net Wizard allows the user to program and/or configure an EC-*gfx*Program compatible device through the EC-Net platform. Those familiar with LNS networks would recognize these wizards as plug-ins. The look and functionality of the wizards are just like LNS Plug-ins.

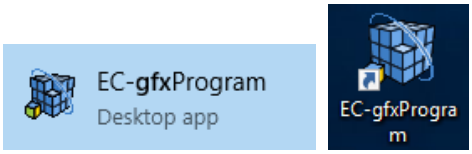
1. Open EC-*gfx*Program by right-clicking the device in the Nav Side Bar, and selecting Launch Wizard. The EC-*gfx*Program splash screen appears.



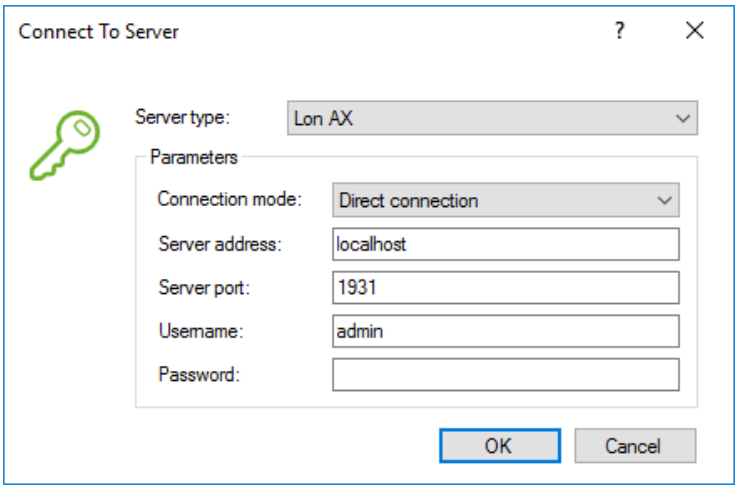
Running EC-*gfx*Program from your PC's Desktop

Run EC-*gfx*Program from your PC's desktop (or from Microsoft Windows' All Programs) as follows.

1. Click / double click either EC-*gfx*Program icon in the Start menu (left) or on the desktop (right).

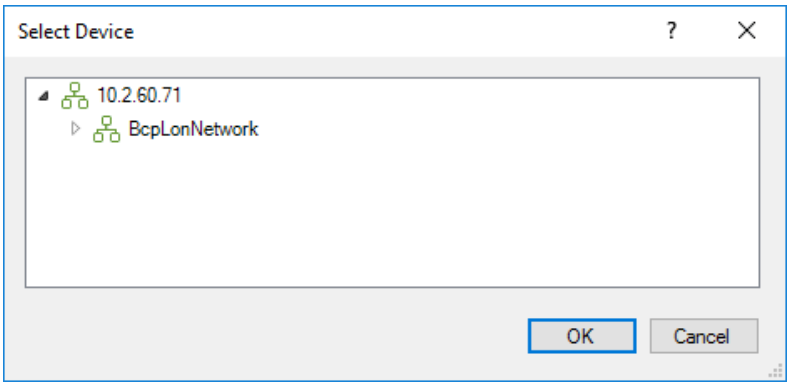


2. Enter the connection information to the building controller and click **OK**.



Parameter	Description
Server type	To connect to a LONWORKS network through EC-Net, set the **Server type** to **Lon AX**.
Connection Mode	Select **Direct connection** when the IP address of the EC-BOS or EC-Net Pro building controller is directly accessible from your PC (the address of which is set in **Server address**).
Server address	The building controller's (or Target Host's) IP address. If the IP address is unknown for an EC-BOS, use the System Shell procedure documented under Recovery Tips in the EC-BOS Install and Startup Guide. This document can be downloaded from the Distech Controls website at *www.distech-controls.com*.
Server port	By default, this is **1931**.
Username	Enter your username for the EC-Net station's (or Target Host's) Station.
Password	Enter your password for the EC-Net station's (or Target Host's) Station.

3. Click **OK**. The *Select Devices* window appears.
4. Select the device to open in EC-*gfx*Program and click **OK**.

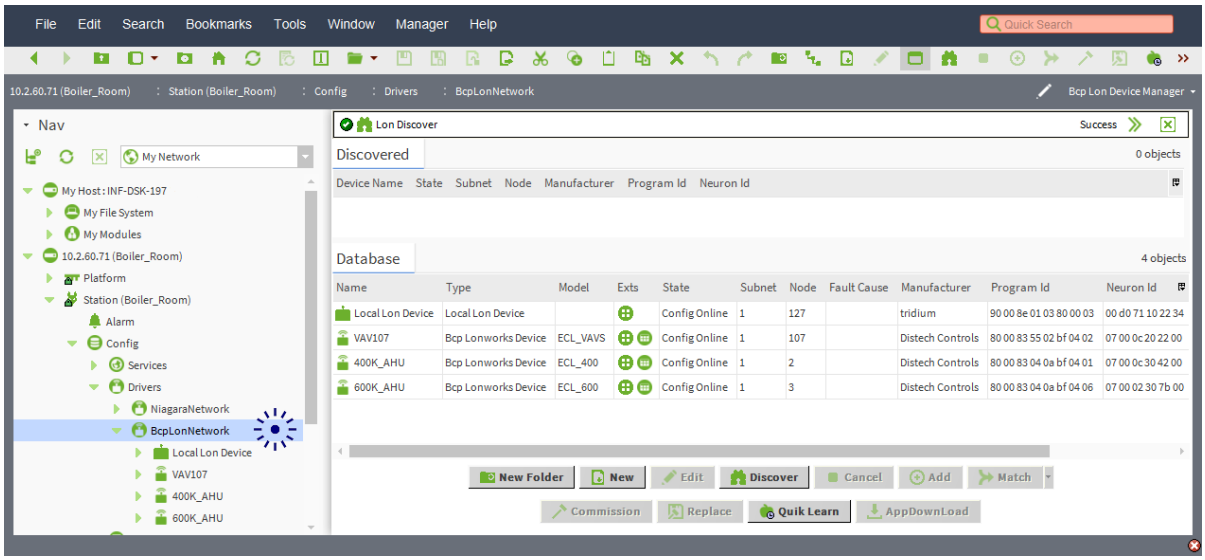


5. The device's EC-*gfx*Program code appears.

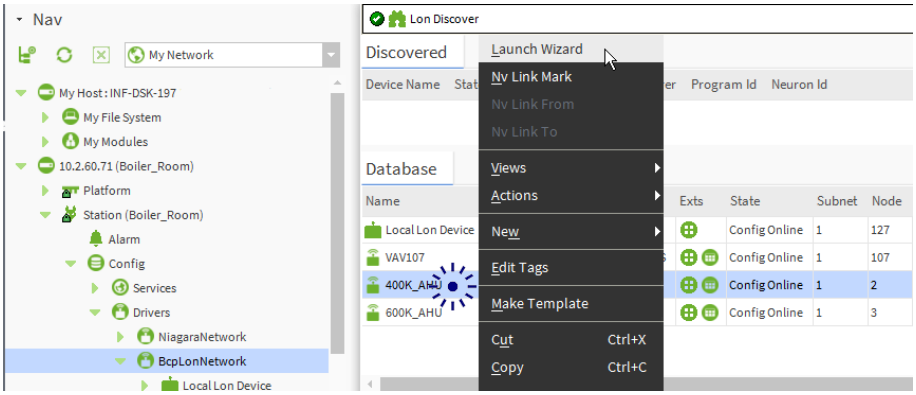
Launching EC-gfxProgram through an EC-BOS or EC-Net Pro

When logged in to an EC-BOS or EC-Net Pro station, launch EC-*gfx*Program as follows.

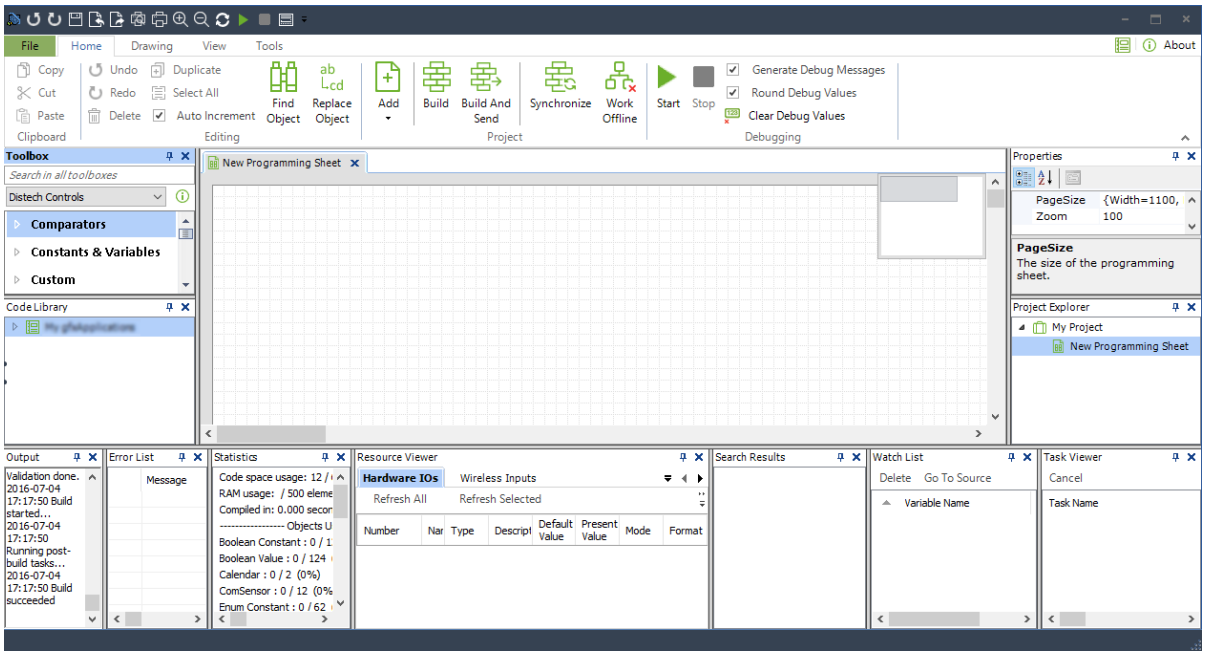
1. Double-click **BcpLonNetwork** in the tree and then click **Discover** to find the available devices on the network.



2. The discovered devices for the network are listed.
3. Launch the EC-*gfx*Program application by right-clicking the device and select **Launch Wizard**.



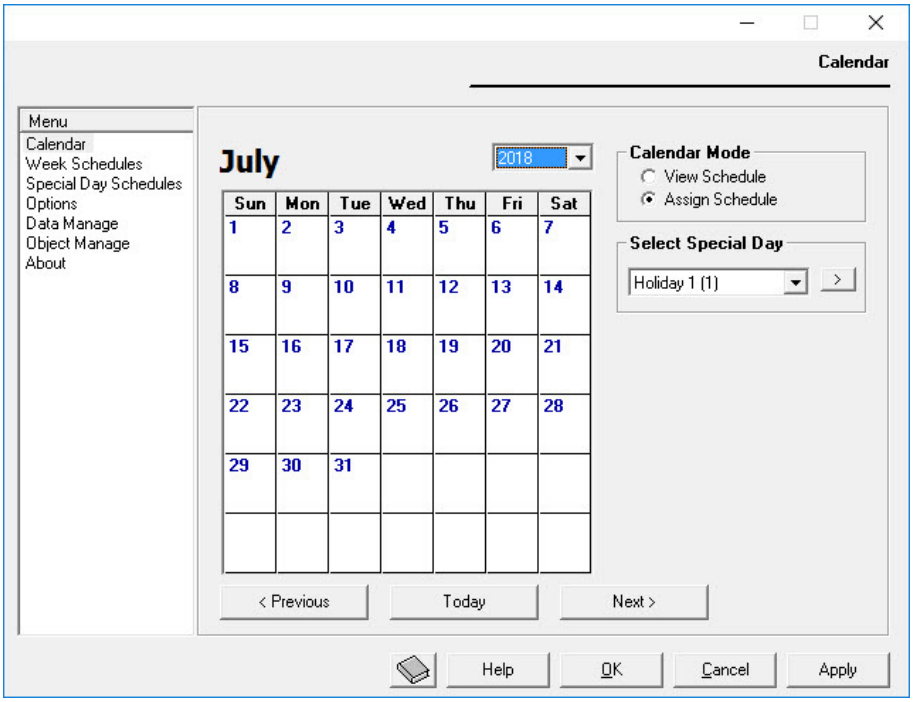
4. The device's EC-*gfx*Program appears.



Launching the Scheduler Configuration Wizard (ECP Series)

For controllers that support schedules, launch the scheduler wizard as follows:

1. Launch the Scheduler Configuration Wizard by right-clicking the device. Select **Wizards** and from the list select a **Schedule**.

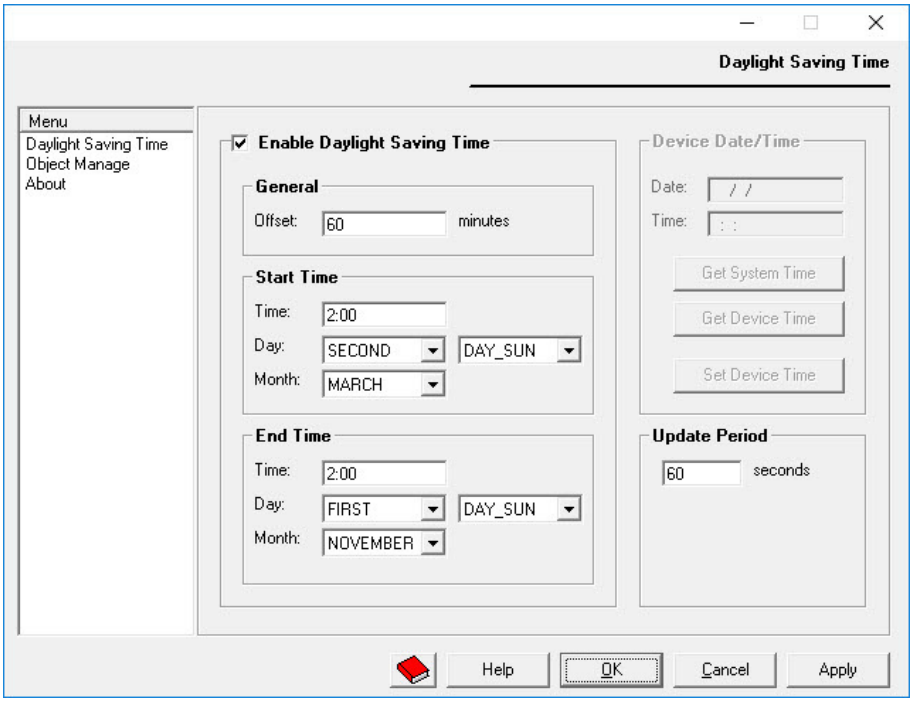


2. To configure the Scheduler Configuration Wizard (for ECP Series controllers only), see *Scheduler Configuration Tool* in the EC-*gfx*Program User Guide.

Launching the Real-Time Clock Configuration Wizard (ECP Sereis Controllers)

For controllers that have a real time clock, launch the RTC plug-in as follows:

1. Launch the Real-Time Clock Configuration Wizard by right-clicking the device. Select **Wizards** and from the list select **Rtc**.

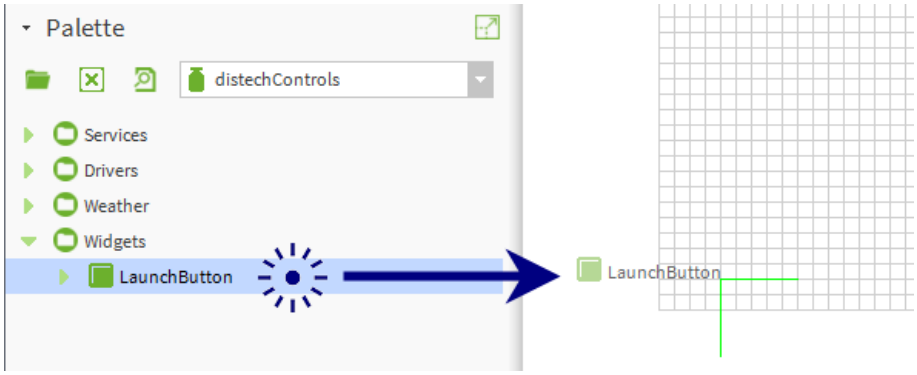


2. To configure the RTC Configuration Wizard (for ECP Series controllers only), see *Real Time Clock Configuration Tool* in the EC-*gfx*Program User Guide.

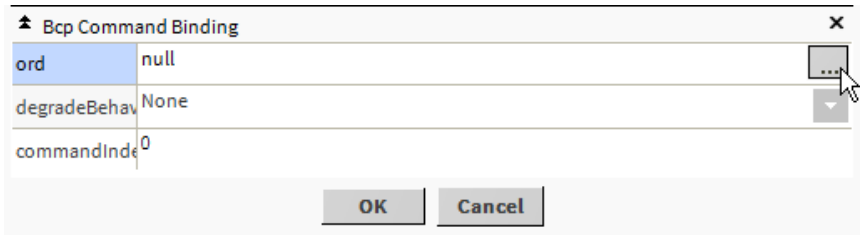
Launching EC-gfxProgram from a Px Page using a LaunchButton Widget

By adding a LaunchButton widget to a Px Page, a user can launch any action found by right-clicking the device and selecting **Wizards**. This includes launching EC-*gfx*Program. The Px page must be displayed through one of the WbWeb profiles to work. Add a LaunchButton to a Px Page as follows:

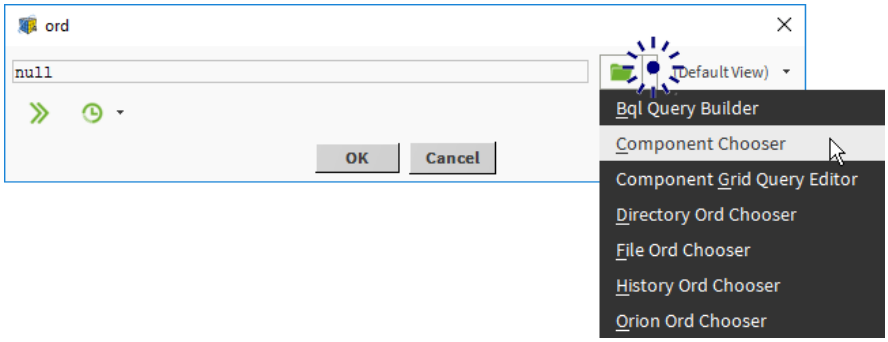
1. Expand the *Widgets* folder and drag and drop the **LaunchButton** widget from the **distechControls** palette onto the Px Page.



2. Double click the **Launch** button on the Px Page to open the Properties window. Configure the button's look and behavior in the **Image Button** section.
3. Under the **Bcp Command Binding**, click **...** in **Ord**.

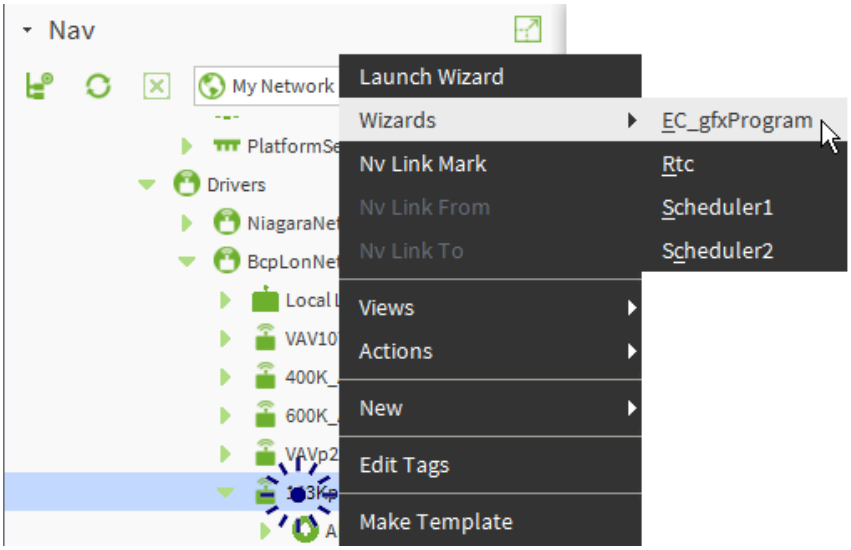


4. Select the device for the LaunchButton wizard action: select **Component Chooser** from the Ord dropdown list.



5. In the *Select Ord* window, select the device for the LaunchButton wizard action under **Drivers**, **BcpLonNetwork**. Set the type to **Slot**. Click **OK**.
6. Set the button behavior when the service is unavailable in **degradeBehavior**.
7. Set the Wizard to launch in the **commandIndex**. This number corresponds to the list of wizards shown when you right-click the device selected above for the LaunchButton wizard action and select **Wizards**.

   For example, by right-clicking the device and selecting **Wizards**, the following options are shown (**EC_gfxProgram**, **Rtc**, **Scheduler 1**, and **Scheduler 2**). For the LaunchButton wizard to launch the first item (**EC_gfxProgram** (EC-*gfx*Program), set the **commandIndex** to **0**. To launch the second item (Rtc), set the **commandIndex** to **1**. To launch the third item (**Scheduler 1**), set the **commandIndex** to **2**. To launch the fourth item (**Scheduler 2**), set the **commandIndex** to **3**.



If there is only a **Launch Wizard** and no **Wizards** selection, there is only one wizard available for this device. Set the commandIndex to 0 to launch this wizard.

8. Click **Save**.
9. Click  to toggle the view/edit mode to View. Click the LaunchButton widget to test its behavior.

CHAPTER 3

Getting Started on EC-Net for ECB and ECY Series Controllers

This chapter provides a detailed explanation of how to configure an EC-BOS as a building controller with EC-Net installed on your PC. This includes installing EC-*gfx*Program, adding a device to a network database, and launching EC-*gfx*Program.

Topics

Pre-Configuration Checklist and Configuration Overview

EC-*gfx*Program requires that the EC-BOS, EC-Net Pro, and EC-Net be licensed for version 3.5 or higher. Furthermore, ECY Series controllers require that in Platform Administration, the Java Virtual Machine should be **oracle-jre-qnx-ppc**.

Pre-Configuration Steps

Before installing EC-*gfx*Program, adding a device to a network database, and launching EC-*gfx*Program, the following steps must first be carried out to allow EC-Net to support the controllers:

1. Install EC-Net Pro on your computer.
2. Install the latest version of the Distech Controls EC-Net Support Package on your computer. The EC-Net Support Package installs many jar files required in EC-Net such as **distechControls.jar**, which contains the required services and Distech Controls devices. The latest Support Package can be installed by using the Distech Controls SmartInstaller software. The Distech Controls SmartInstaller software can be downloaded from the Distech Controls website at *www.distech-controls.com*.

   If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the WizardService, RestService, and RadiusService. See *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
3. Connect to an EC-BOS or EC-Net Pro station. If the IP address is unknown for an EC-BOS, use the System Shell procedure documented under *Recovery Tips* in the EC-BOS Install and Startup Guide. This document can be downloaded from the Distech Controls website at *www.distech-controls.com*.

Configuration Steps

The following steps are detailed in procedures on the following pages.

1. Install EC-*gfx*Program.
2. Install the Distech Controls EC-BOS distribution file through the platform Distribution File Installer.
3. Add the **WizardService** to the station.
4. Configure the **WizardService**.
5. Add a **BcpBACnet** Network to the station.
6. Add a BACnet MS/TP Communication Port, a BACnet IP Communication Port, or both to the **BcpBacnet** Network.
7. Tune the proxy point Policies.
8. To support ECY Series controllers, configure the REST and Radius services.
9. Create device folders into which controllers will be organized.
10. Discover BACnet Devices.

11. Set the Max Master and Max Info Frames on all MS/TP Devices.

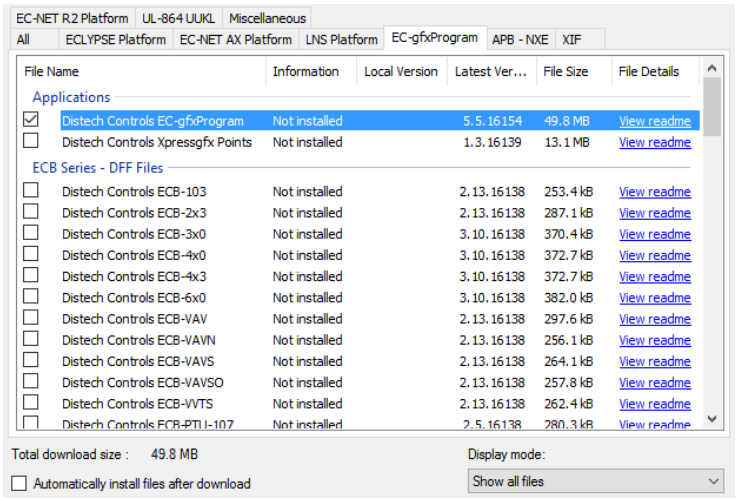
12. Launch device wizards to run EC-*gfx*Program.

NOTE: When first logging in to the platform, the default platform username is **distech** and the default password is **controls**.

Installing EC-*gfx*Program

To program a controller, the EC-*gfx*Program application must be installed. This application has its own setup file and requires its own installation. EC-*gfx*Program must be installed as follows:

1. Close any programs that are running on the PC.
2. Go to the Software Center, which can be downloaded from the Distech Controls website at *www.distech-controls.com*.
3. In the **EC-gfxProgram** tab, select **Distech Controls EC-gfxProgram**.



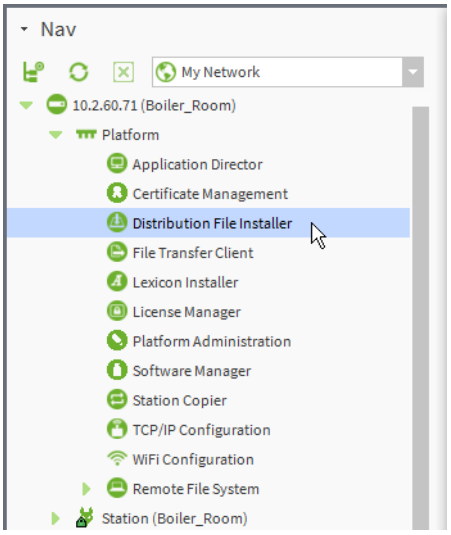
4. Run the Setup file and follow the installation instructions.

NOTE: When installing EC-*gfx*Program and your PC does not have the Bonjour service installed, a link to install the Bonjour service is provided. The Bonjour service must be installed on your PC to allow your PC to discover ECY Series controllers by their hostname.

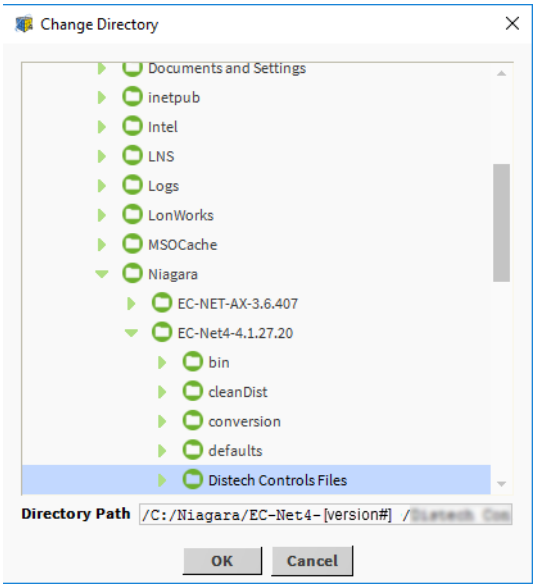
Installing the Distech Controls Distribution File on the EC-BOS

Install the Distech Controls distribution file onto the EC-BOS to ensure all of the required modules and files are correctly installed.

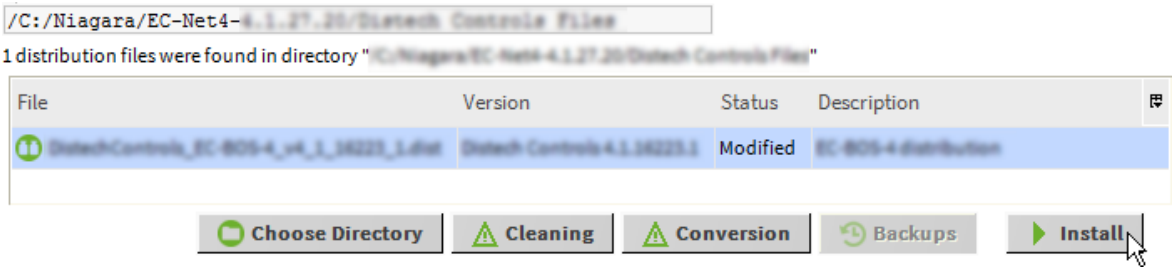
1. Expand the platform tree in the Nav side bar and double-click **Distribution File Installer**. This will open the *Distribution File Installer* in the View Pane.



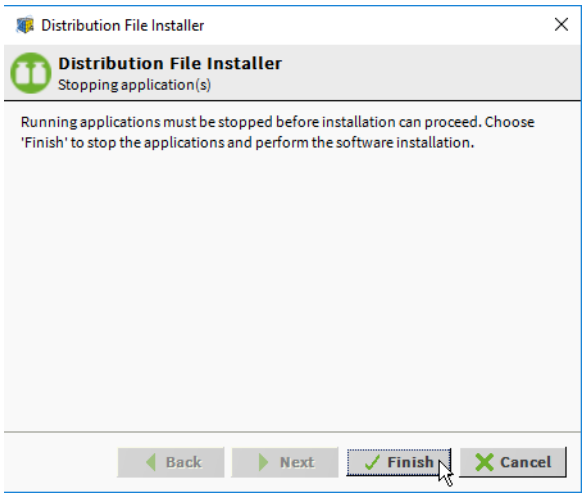
2. Click on **Choose Directory** at the bottom of the page and navigate to the location of the Support Package. These files are usually found in the **/Niagara/EC-NET[Version#]/Distech Controls Files/** directory on the **C:** drive. Click **OK**.



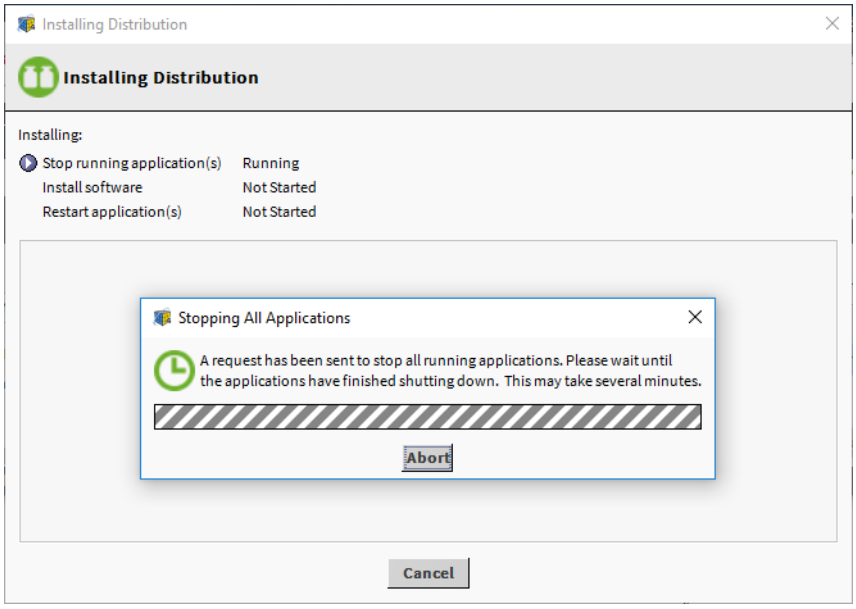
3. Install the *DistechControls_EC-BOS* distribution file through the platform *Distribution File Installer*. Select the distribution file and click **Install**.



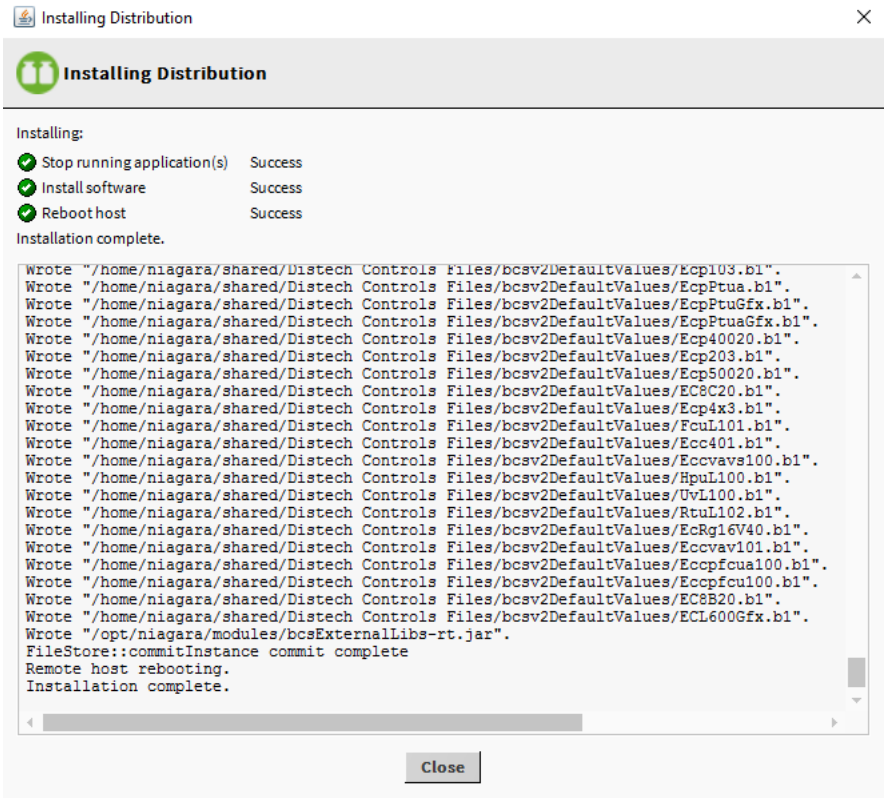
4. EC-Net will then inform you that any running station(s) must be closed in order to continue. Click **Finish**.



5. If any application needs to be stopped, allow the platform to stop them.



6. The *Installing Distribution* window will appear to display the progress of the distribution files installation. Click **Close** when done and allow some time for the EC-BOS to reboot.



Adding the Wizard Service to the Station

Install the WizardService on the station to allow EC-*gfx*Program to connect to the EC-BOS.

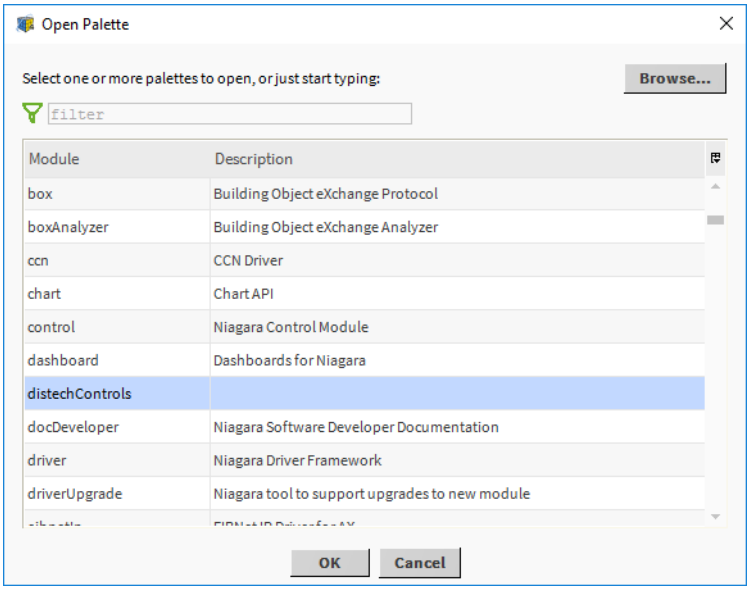
1. Connect to the station on the EC-Net platform. Right-click the station and select **Connect**.

NOTE: If this is the first time that the station is accessed, by default, the station will not be displayed. Click **File > Open > Open** Station (or by pressing **Ctrl+Shift+O** from your keyboard) to open the Open Station window. Proceed to step 2.

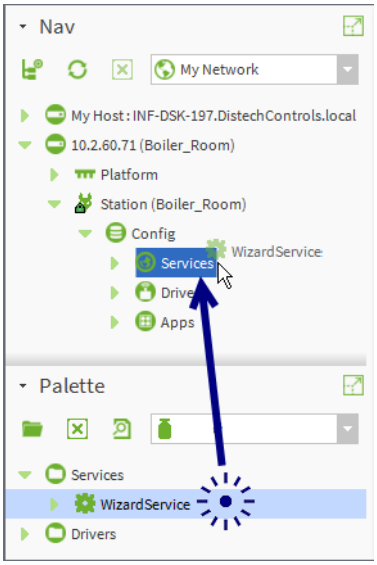
2. Enter the required **Username** and **Password** to access the station.
3. Click the **Open Palette** button in the Palette side bar to open the *Open Palette* selection window.

NOTE: If the Palette side bar is not open in the Side Bar Pane, click **Windows > Side Bars > Palette** to add the Palette side bar.

4. Select **distechControls** from the *Open Palette* selection window and click **OK**. This will add the **distechControls** palette to your Palette side bar.

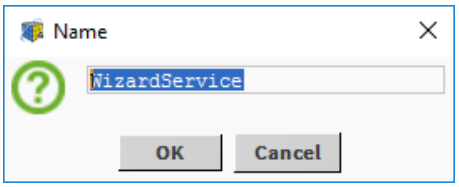


5. Install the WizardService: Drag and drop the **WizardService** from the **distechControls** Palette into the Station's **Services** tree.



NOTE: The *Services* tree is found within the *Config* tree of the station.

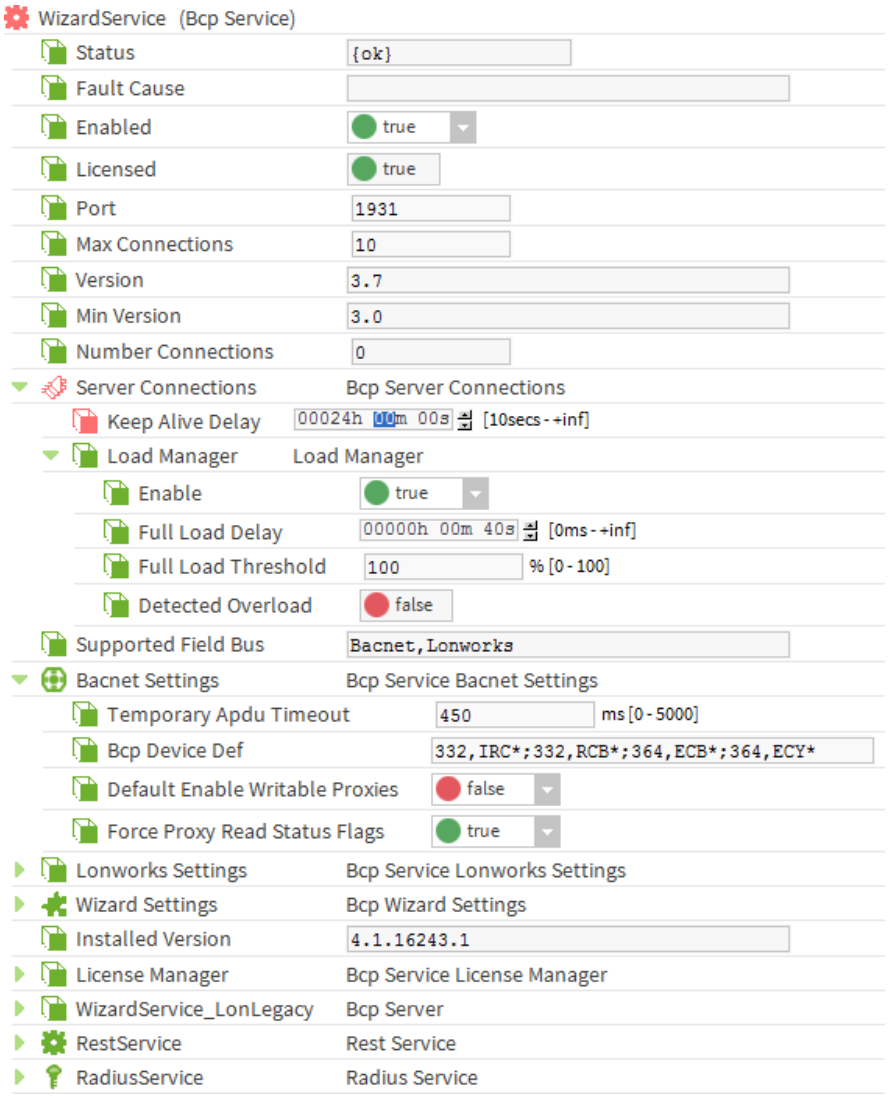
6. Click **OK** to add the WizardService on the station.



Configuring the WizardService

The WizardService must be configured by defining parameters such as the communication port and/or the number of simultaneous connections. The *WizardService* property sheet can be accessed:

- From the Nav side bar, double-click **WizardService** in the *Services* tree of the station.
- From the Nav side bar, right-click **WizardService**, select **Views > Property Sheet**.

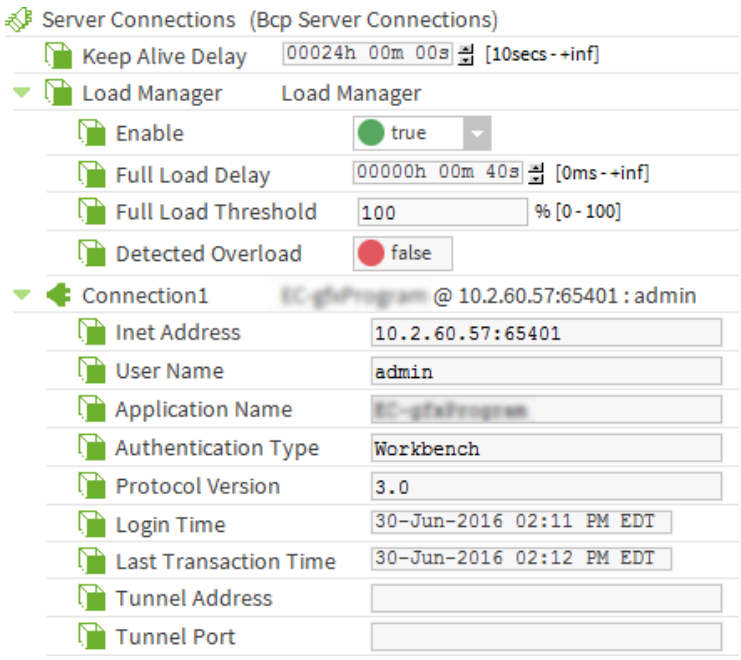


Parameter	Description
Status (read only)	This field displays the status of the BCP Server. If the server is enabled (the Enabled field set to True), an {ok} status will be displayed. If the server is disabled (the Enabled field set to False), an {disabled} status will be displayed.
Fault Cause (read only)	If there is a problem with the WizardService, this field will list the possible cause of the problem.
Enabled	This field enables or disables the WizardService. Enable the server by setting this field to **True**. Likewise, the server can be disabled by setting this field to **False**.
Licensed	This is **true** when the WizardService is licenced on this station and is available. When using Distech Controls controllers with a Distech Controls EC-Net station, these services are available by default. If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the WizardService, RestService, and RadiusService. See *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
Port	Set the port that the station is use to communicate with EC-Net. The default port is 1931.
Max Connections	This is the maximum number of connections (wizards) that can be simultaneously running. The default is 5.
Version (read only)	This field displays the current version of the Wizard Service communication protocol.
Min Version (read only)	The minimum required version of the Wizard Service communication protocol that is required for this service to operate.
Number Connections (read only)	Number of clients (wizards) currently running and using the WizardService. See *Server Connections*.
Server Connections - Keep Alive Delay - Load Manager - Connection	Sets the server connection parameters. See *Server Connections*. The number of supported connections is set in **Max Connections**.
Supported Field Bus	List the network types supported by the WizardService.
Bacnet Settings - Temporary APDU Timeout	BACnet transaction timeout used by the wizards.
Bacnet Settings - Bcp Device Def	This defines the device manufacturer's models which are recognized as a compatible BACnet device.

Parameter	Description
Bacnet Settings - Default Enable Writable Proxies	Enable writable proxies when created with point manager.
Bacnet Settings - Force Proxy Read Status Flags	Read status flag for proxy points.
LonWorks Settings	Not applicable to BACnet controllers.
Wizard Settings - Default Numeric Point Precision	Numeric precision for floating point numbers displayed by the proxy points created with the **Create Points** device action.
Wizard Settings - Create Proxy Point Description	Uses the EC-gfxProgram block property description to be created as a description property under proxy points created with the **Create Points** device action. This description can ultimately be used to provide descriptive information on a Px Graphic Page.
Installed Version	The currently installed WizardService version. This version number corresponds to the currently installed support package version.
License Manager - Wizard Service Licensed - Radius Service Licensed - Rest Service Licensed	Shows the license status for the Distech Controls Support Package services (WizardService, RestService, and RadiusService) on the current station. This is **true** when the service is licenced on this station and is available. When using Distech Controls controllers with a Distech Controls EC-Net station, these services are available by default. If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the WizardService, RestService, and RadiusService. See *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
WizardService_LonLegacy	Not applicable to BACnet controllers.
RestService	It may be necessary to configure these services to support advanced ECY Series controller features. See *Configure the REST and Radius Services (for ECY Series controllers)*.
RadiusService	
Refresh	Click to reset the fields to the last saved values of the WizardService.
Save	Click to save any changes made to the fields of the WizardService.

Server Connections

The server connection parameters can be viewed as shown below.



Parameter	Description
Server Connections - Keep Alive Delay	Set the delay after which an idle connection is disconnected. This is calculated from the **Last Transaction Time** shown below in the connection.
Server Connections - Load Manager	The load manager disrupts BACnet and LONWORKS EC-*gfx*Program debugging sessions for heavily loaded stations in order to avoid watchdog resets. **Enable**: Enable the load manager. **Detected Overload** becomes **true** when the platform CPU (%) remains above the **Full load Threashold** for a duration at least equal to the **Full load delay**. EC-*gfx*Program debugging will be disrupted when the **Detected Overload** flag becomes **true**. The flag is reset with the reset action available on the **Load Manager**: right-click **Load Manager** and select **Reset**.

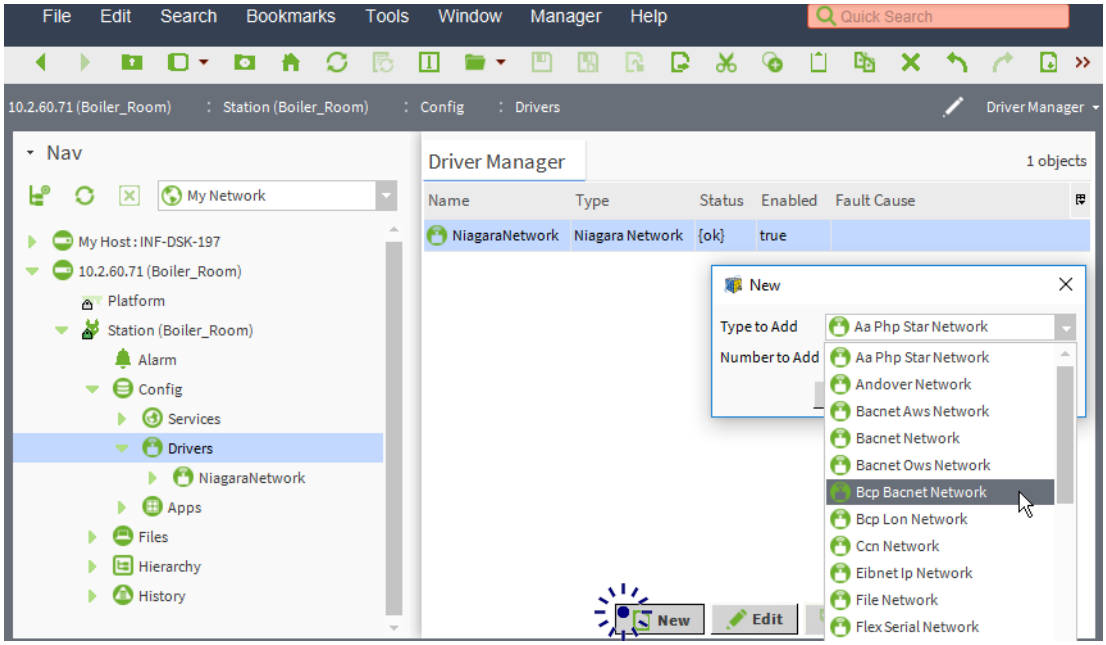
Parameter	Description
Server Connections - Connection1 - Connection2 …	**Inet Address**: The Station name or IP address of the PC or Client Application making this connection. **User Name**: The user name from the Workbench or EC-*gfx*Program used to connect to the EC-Net. **Application Name**: The name of the connected application. **Authentication Type**: How the application connected. **Workbench** or **Digest** (launch from desktop). **Protocol Version**: The bcp protocol version. **Login Time**: The time the connection was established. **Last Transaction Time**: The time of the last transaction.

Installing a Bcp BACnet Network

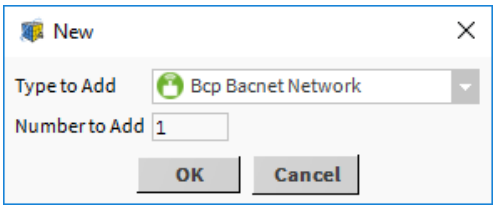
In the following procedure, you will add a Bcp BACnet Network; assign the network number and Device ID for the BACnet IP network. It is useful to have an organized numbering scheme that makes it easier to keep track of a device's MAC Address, Instance Number, and Network Number that is assigned to it. See the Network Guide for an example of such a numbering Scheme.

NOTE: The Bcp BACnet Network provides extended functionality to the standard BACnet Network for enhanced support for Distech Controls controllers in EC-Net. Third party BACnet devices can be added to the Bcp BACnet Network and used as they would in the standard BACnet Network.

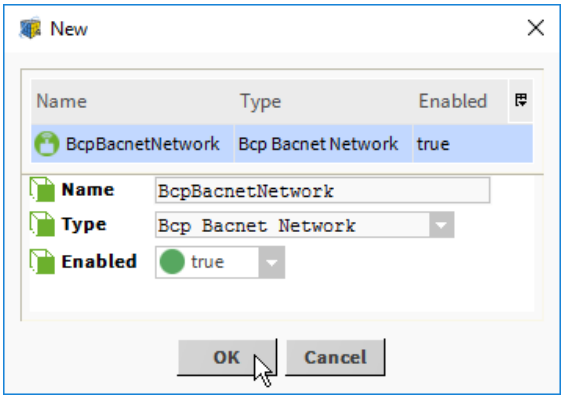
1. Install the BACnet Network: Double-click **Drivers** in the **Nav** tree for your station and click **New**.



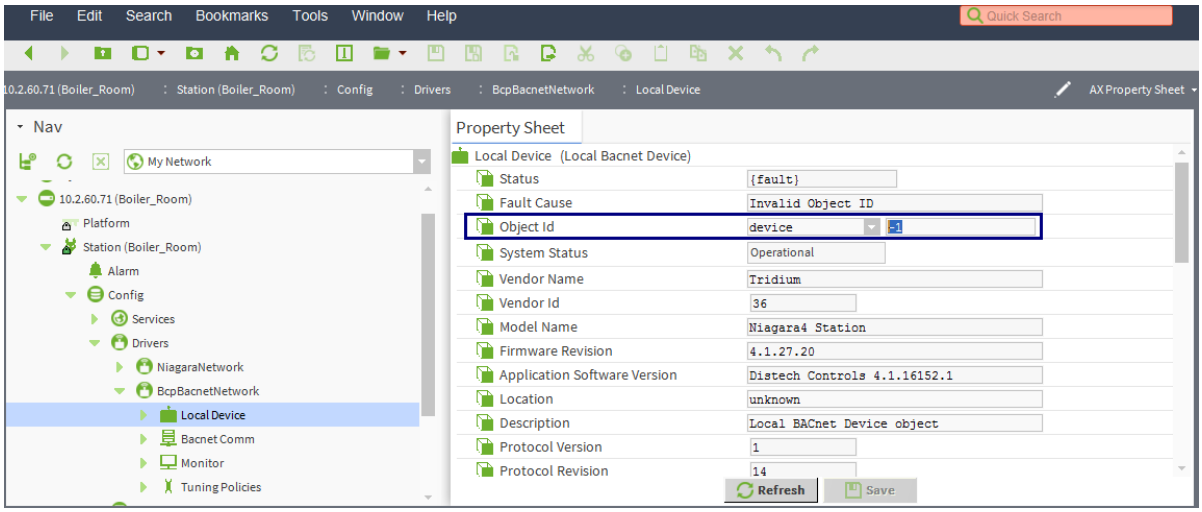
2. From the **Type to Add** drop-down list, select **Bcp Bacnet Network**. Add one (1) BACnet networks in **Number to Add**.



3. Accept the default settings: Click **OK**.



4. Double-click Local Device found under the BACnet driver and set the Device ID (shown as **Object ID**). This must be a unique number for this device in the entire BACnet network internetwork. The valid range is 0 to 4194302. Click **Save**.



5. If you have other devices to communicate with BACnet IP, for example, an ECY Series controller, expand **Bacnet Comm** in the **Nav** tree, and then double-click **Network**. Expand **IP Port** and set the **Network Number** (1 to 65534). Expand **Link** and set the **Adapter** and **IP Device Type**. Click **Save**.

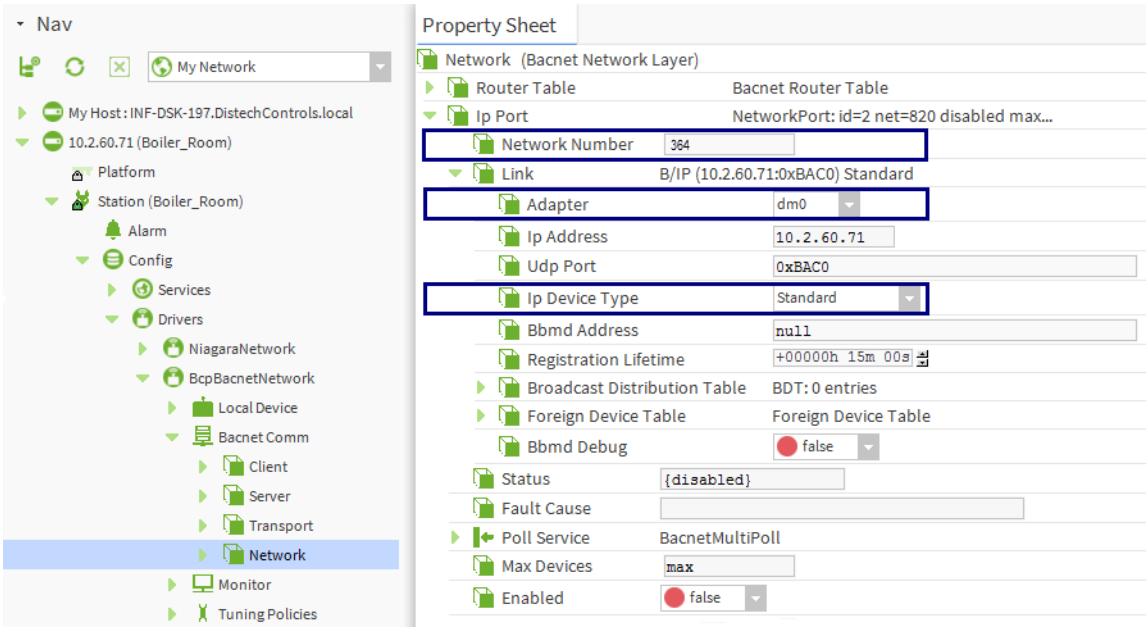
   For an EC-Net Pro, select the PC's Ethernet card to be used for the BACnet network. For an EC-BOS, select the **Onboard Ethernet Adaptor en0** when using the LAN1 (pri) LAN connector for this BACnet network connection and select the **Onboard Ethernet Adaptor en1** when using the LAN2 (sec) LAN connector for this BACnet network connection.

   The **IP Device Type** options are as follows:

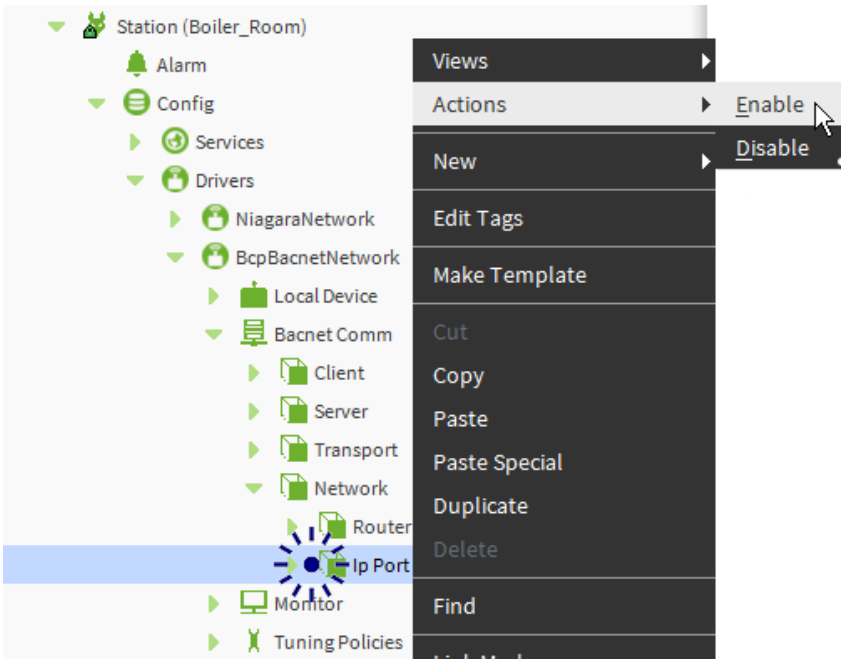
   - **Standard**: Select this when connected to a LAN; however an Internet WAN connection (through an IP router) is not required for BACnet intranetworking.
   - **Foreign Device**: Not applicable.

- **Bbmd**: Select this when connected to a LAN and an Internet WAN connection is required for BACnet intranetworking using BACnet/IP Broadcast Management Device protocol. This allows BACnet communications to pass through standard IP routers, along with proper routing configuration.

The **BACnet BBMD Address** is the internet network address when BBMD is enabled for remote connectivity. The valid rage is 1 to 65534.



6. Enable the IP port: Expand **Network** and right-click **IpPort**, select **Actions > Enable**.



Installing the BACnet Communication Port(s)

BACnet communication ports need to be added to the BcpBacnet Network according to the type of BACnet controller you will be connecting to:

- For ECB Series controllers, add a BACnet MS/TP Communication Port. See *Installing the BACnet MS/TP Communication Port*.
- For ECY Series controllers, Configure the IP communication network port on the EC-BOS and add a BACnet IP Communication Port. See *Installing the BACnet IP Port*.

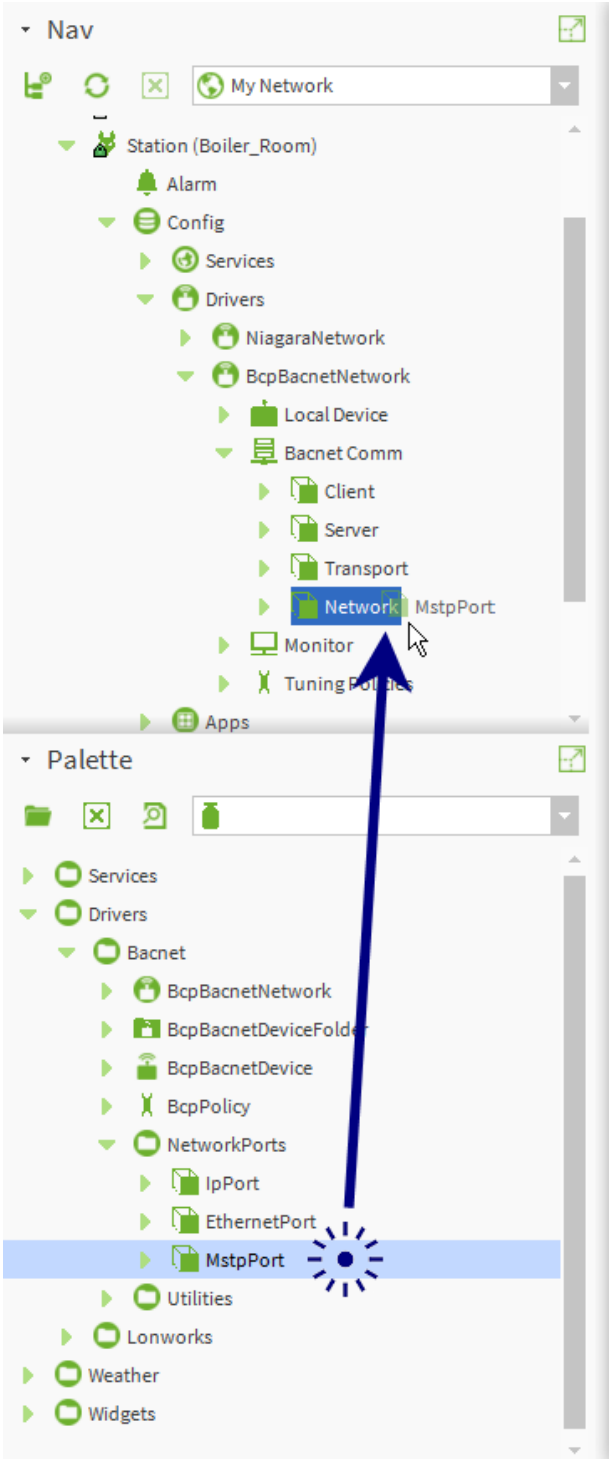
If both ECB Series controllers and ECY Series controllers are going to be used, add a BACnet MS/TP Communication Port and a BACnet IP Communication Port to the BcpBacnet Network.

Installing the BACnet MS/TP Communication Port

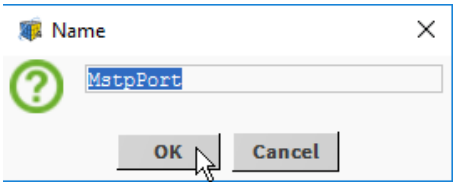
In the following procedure, you will assign the network number and MAC Address to the BACnet MS/TP network. It is useful to have an organized numbering scheme that makes it easier to keep track of a device's MAC Address, Instance Number, and Network Number that is assigned to it. See the Network Guide for an example of such a numbering scheme.

To communicate with BACnet MS/TP devices, install the BACnet MS/TP driver.

1. Install the BACnet MS/TP port to the communication port of the BACnet Network: Expand **NetworkPorts** found under **Drivers > Bacnet** in the **distechControls** palette, and Drag and drop **MstpPort** from the Palette to the **Network** tree.



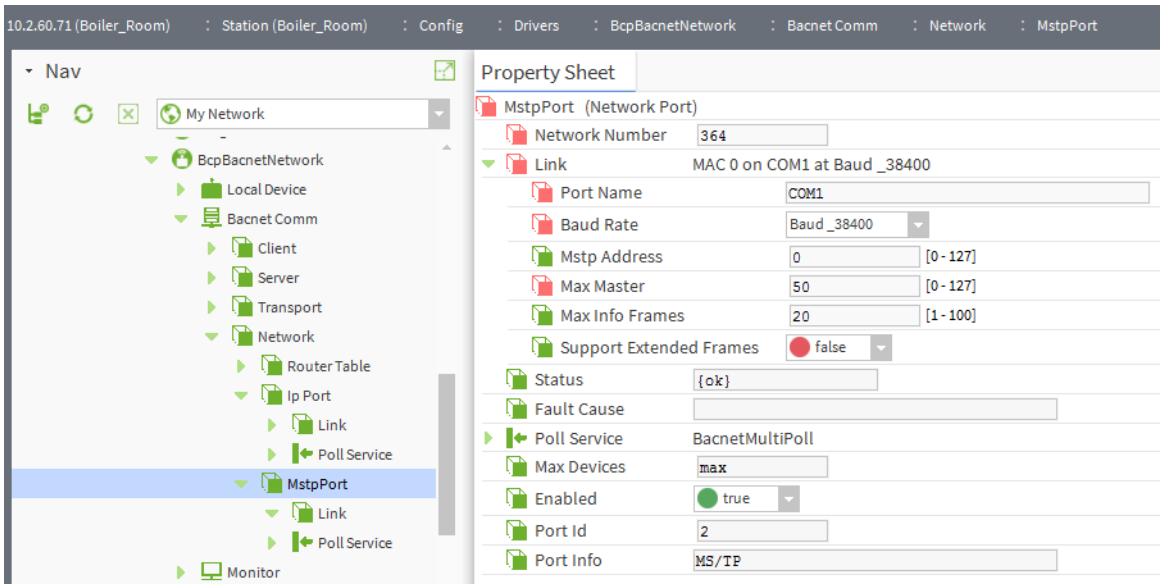
2. Give the BACnet MS/TP port a name and click **OK**.



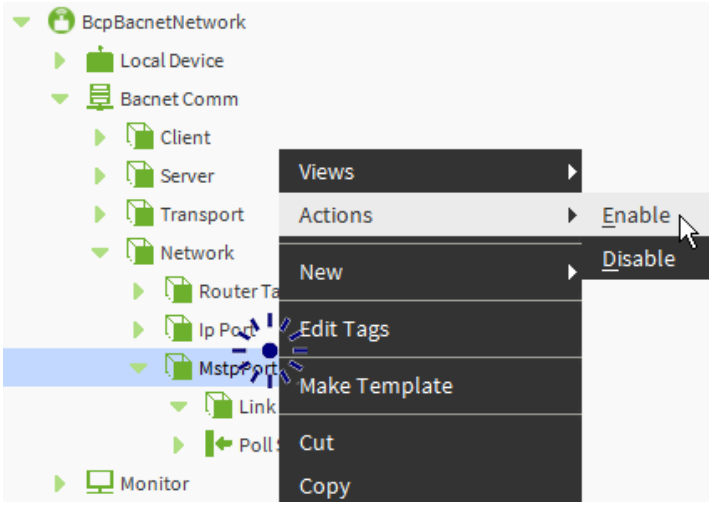
3. Double-click the **MstpPort** in the tree and give this BACnet MS/TP network its unique **Network Number**.

4. Expand **Link** and set the **Port Name** to **COM1** or **COM2** as labelled on the EC-BOS' nameplate), set the **Baud Rate** to **Baud_38400** (recommended), set the **Mstp Address** to **0** (this is the MAC Address of the EC-BOS on the BACnet MS/TP network – it must be 0), set the **Max Master**, and click **Save**.

NOTE: When commissioning a BACnet MS/TP Data Bus, it is useful to start with the **Max Master** set to 127 so as to be able to discover all devices connected to the data bus. Then, once all devices have been discovered and the MAC Addressing is finalized by eliminating any gaps in the address range, set the **Max Master** (maximum MAC Address) in the EC-BOS (Building Controller) to the highest Master device's MAC Address number to optimize the efficiency of the data bus. See *Setting the Max Master and Max Info Frames on all MS/TP Devices (ECB Series)*.



5. Enable the BACnet MS/TP port: Right-click **MstpPort** and select **Actions > Enable.**



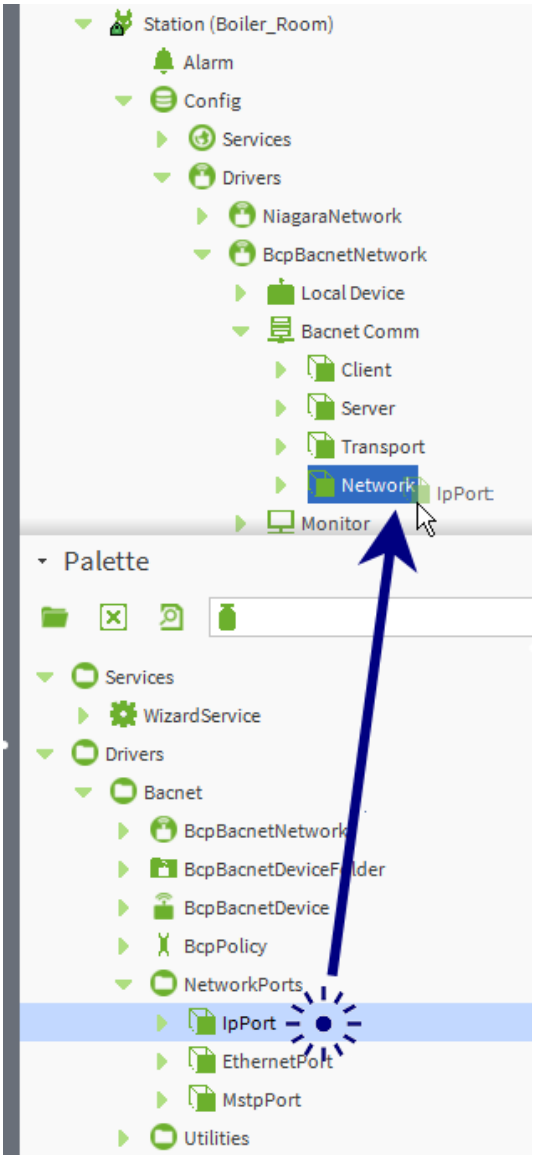
Installing the BACnet IP Port

You must connect to the configuration Web interface of a new ECY Series controller to change its IP address according to your network planning documentation. See the ECLYPSE User Guide for more information.

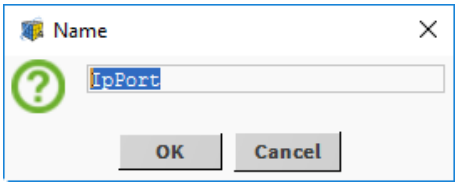
In the following procedures, you will install the BACnet IP port and assign the network number to the BACnet IP network. It is useful to have an organized numbering scheme that makes it easier to keep track of a device's MAC Address, Instance Number, and Network Number that is assigned to it. See the Network Guide for an example of such a numbering scheme.

To communicate with BACnet IP devices, install the BACnet IP port.

1. Install the BACnet IP port into the BACnet communications network: Expand **NetworkPorts** found under **Drivers > Bacnet** in the **distech-Controls** palette, and Drag and drop **IpPort** from the Palette to the **Network** tree.

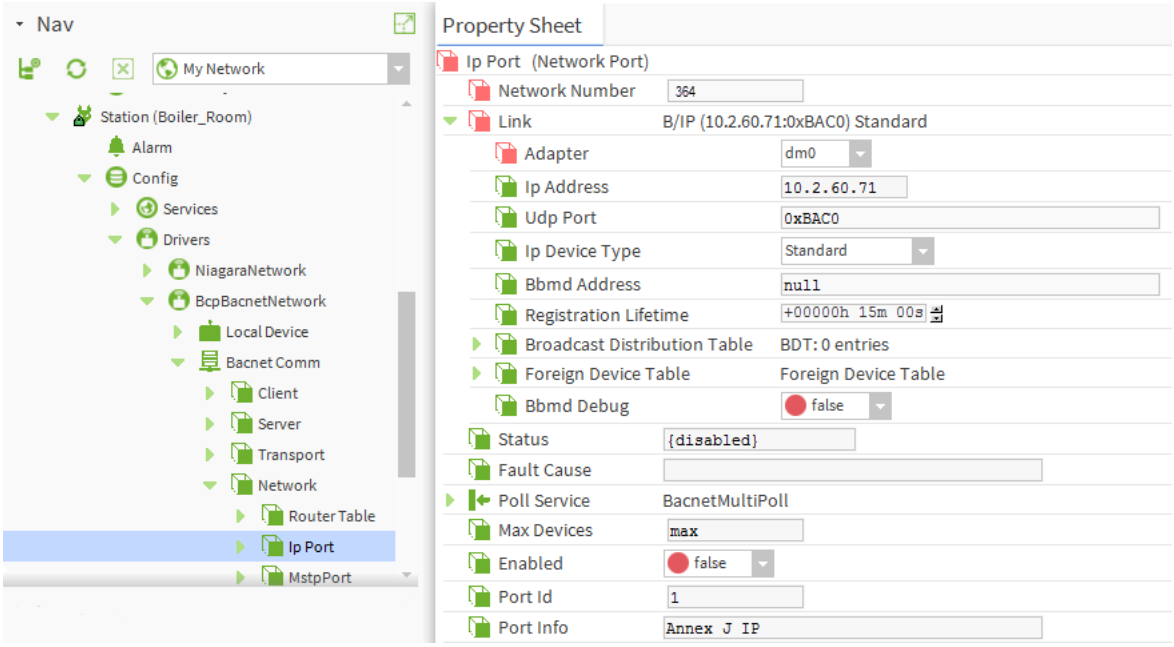


2. Give the BACnet IP port a name and click **OK**.

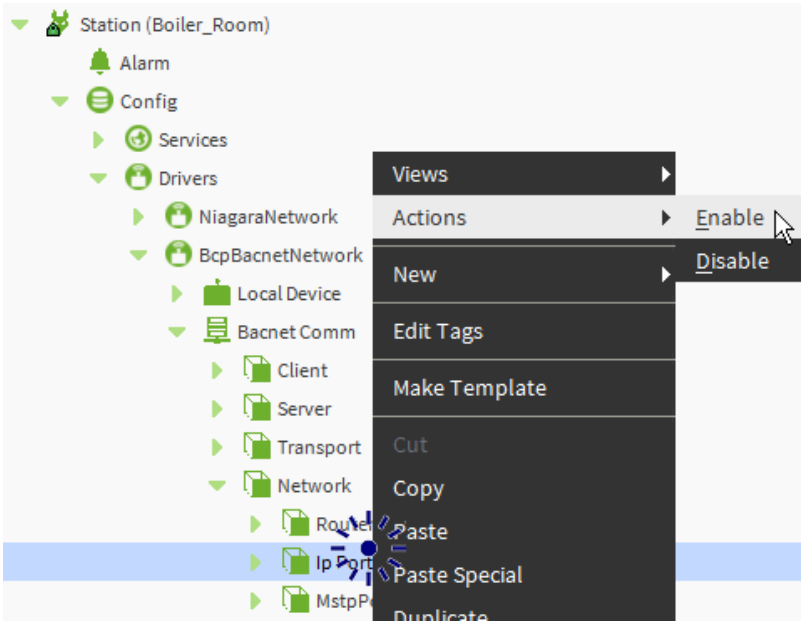


3. Double-click the **IpPort** in the tree and give this BACnet IP network its unique **Network Number**.

4. Expand **Link** and set the Ethernet port to use in Adapter. If you connected the ECY Series controller(s) to the **LAN2** Ethernet port, then select **DM1**.



5. Enable the BACnet IP port: Right-click **IpPort** and select **Actions > Enable**.



Tuning the Proxy Point Policies

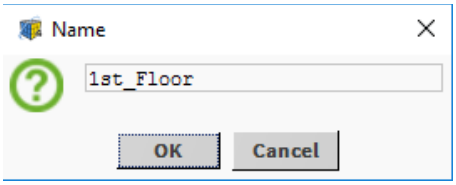
By using the **Bcp Bacnet Network** driver, an EC-BOS or EC-Net Pro has Tuning Policies set by default to not write values in the controllers when the EC-BOS or EC-Net Pro starts up or reboots due to its use of the **BcpPolicy** tuning policy. This is the behavior most often required by users. The **BcpPolicy** tuning policy is used as the default policy during proxy point generation.

NOTE: Under certain circumstances, it may be necessary to write values to the controllers when the EC-BOS or EC-Net Pro startup or reboot. For a complete description the station's proxy point tuning policies for BACnet network devices, or to create exceptions for network variables that must be overwritten by the station, refer to the EC-Net Drivers Guide. See 'About Tuning Policies'.

Organizing Controllers in the Device Folder

Use a device folder to group similar devices together (for example, by floor). Create these folders first and then add the controllers directly into the appropriate folder.

1. Double-click the **BcpBacnetNetwork** driver in the Nav Side Bar. This will display the BACnet Network database in the View Pane. Click **New Folder**.



2. Name the new folder and click **OK**.
3. Double-click the folder to go into it.
4. When adding a controller, add it directly into the folder.

Creating Station Users

User access rights ensure secure access to the BMS by authorized users only. In EC-Net users are managed under the UserService. The service pack adds the **Radius User Config** and **Mobile Web Profile** to each user's profile.

An EC-Net station can be used as a RADIUS server for one or more ECY Series controllers. This centralizes user access management to all ECY Series controllers across the BMS. This is configured under a user's profile in **RadiusConfig**.

Software applications are available that allow remote connection to connected controllers. This is configured under a user's profile in **Mobile Web Profile**.

Add users to the station and configure their profile as follows.

1. Add all users to the station that will authenticate themselves when accessing an ECY Series controller. Double-click **UserService** under **Station > Config > Services** and click **New**.
2. Create a user with a username and password.
3. Click **OK**.
4. Double-click the new user.
5. Under **Wizard Service Config**, set **Enable Write** to **false** to prevent a user from writing to the controller from a mobile application. If this user is allowed to remotely change controller parameters, set **Enable Write** to **true**.
6. To enable this user to authenticate themselves when accessing an ECY Series controller, set their access rights in **RadiusConfig** options. Click **Save**.

Parameter	Description
Admin	Allows user access to the ENVYSION studio and viewer. The user can also view and modify all configuration interface parameters and program the controller with EC-gfxProgram.
Operator	Allows user access to the ENVYSION interface in viewing mode as well as gives partial access to the ECLYPSE Web Configuration Interface. Certain configuration interface screens are unavailable such as User Management, Viewer Information, etc.
Viewer	Allows user access to the ENVYSION interface in Viewing mode. The user is not allowed to access the ECLYPSE Web Configuration Interface.

Parameter	Description
Rest	Allows a user to program an ECY Series controller with EC-*gfx*Program. To program one or more ECY Series controllers with EC-*gfx*Program through this EC-Net station: **1.** A 'REST user' must be created such that this REST user's login and password can be authenticated on those ECLYPSE controllers. This REST user must have the REST user access rights option enabled. **2.** The RestService must be configured on the EC-Net station with this REST user's login and password. See *Configuring the REST Service* for more information about this option. This user does not have access to the ECLYPSE Web Configuration Interface or ENVYSION.

Configure the REST and Radius Services (for ECY Series controllers)

From Service Pack V3.9, new REST and Radius services were added to the EC-Net Station under **Station > Config > Services > WizardService**. Both these services must be configured to support advanced ECY Series controller features.

Configuring the REST Service

The REST service allows EC-gfxProgram to pass-through an EC-Net station to communicate with ECY Series controllers. EC-gfxProgram connects to EC-Net through the WebService and EC-Net connects to an ECY Series controller through the RestService.

For this, all ECY Series controllers operating under EC-Net need to be configured in their ECLYPSE Web interface under **Server Settings** to use the corresponding settings for HTTP / HTTPS parameters set in the procedure below.

The RestService uses a 'REST user' credential (username and password) to connect to an ECY Series controller. This credential is required in the procedure below. As such, all ECY Series controllers must be configured in their ECLYPSE Web interface under **User Management** to be able to authenticate this REST user. If an ECY Series controller is using:

- This EC-Net station as its **Remote Radius Server**, then a new REST user profile needs to be created under **Station > Config > Services > UserService** of this station (see *Adding a REST User to the UserService*). This REST service user profile must have **Rest** enabled under **RadiusConfig**. In the ECY Series controller's Web Configuration Interface **User Management** screen, set it to use this EC-Net station as its RADIUS server for remote authentication. The ECY Series controller then authenticates the REST user login using this EC-Net station's Radius server.
- A remote RADIUS server to authenticate user access (another ECY Series controller or Microsoft Windows Domain Active Directory server for example), then a new REST user profile needs to be created on that RADIUS server. In the ECY Series controller's Web Configuration Interface **User Management** screen, set it to use this remote RADIUS server for authentication.
- Local user management, then a new REST user profile needs to be created on each ECY Series controller that EC-Net will be connecting to. In the ECY Series controller's Web Configuration Interface **User Management** screen, add a REST user to the Local User Management.

The **User Management** screen of each ECY Series controller must be individually configured.

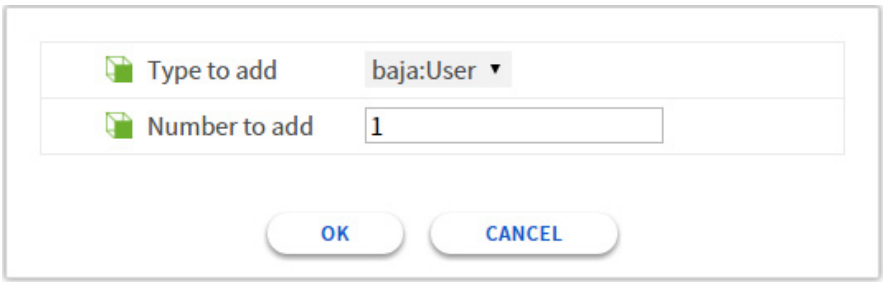
Use an uncommon username for this service for the REST user's credential, such as **Rest67service** or **RestServiceUser29**, for example. Avoid the use of the default **admin** user, where this commonly-known username is one half of a username / password combination, the use of which would facilitate an attack. For both the WebService and RestService, it is strongly recommended to use HTTPS to encrypt communication channels to keep passwords secure by preventing eavesdropping.

If the RestService credential cannot be authenticated, a user can still launch EC-*gfx*Program, however the controller will be offline.

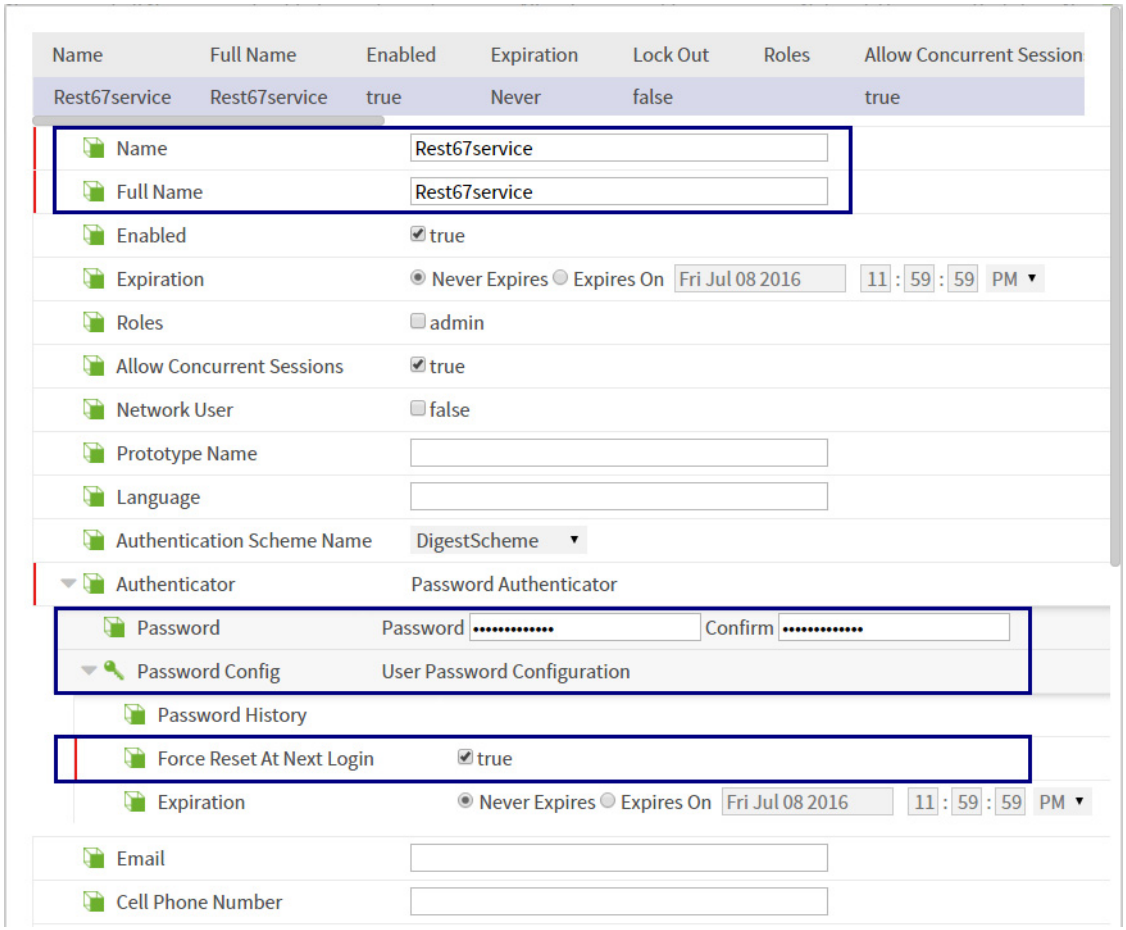
Adding a REST User to the UserService

If this EC-Net station is going to be used as the remote RADIUS server to one or more ECY Series controllers, then a new REST user profile needs to be added.

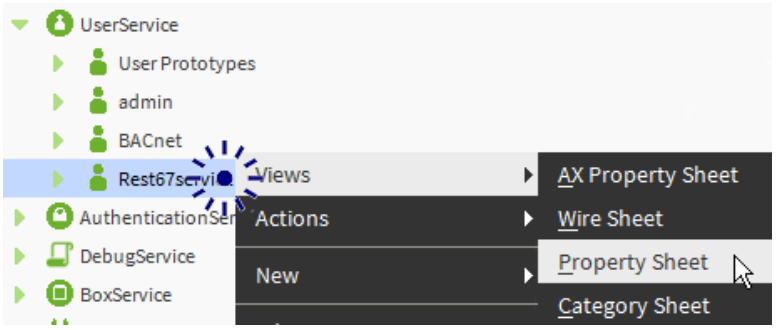
1. Double-click **UserService** under **Station > Config > Services**.
2. Click **New**.



3. Set **1** in **Number to Add**. Click **OK**.



4. Create a REST user with an uncommon username.
5. Create a strong password for the REST user profile.
6. Clear **Force Password Reset**.
7. Click **OK**.
8. Right-click the REST user profile and select **View > Property Sheet**.

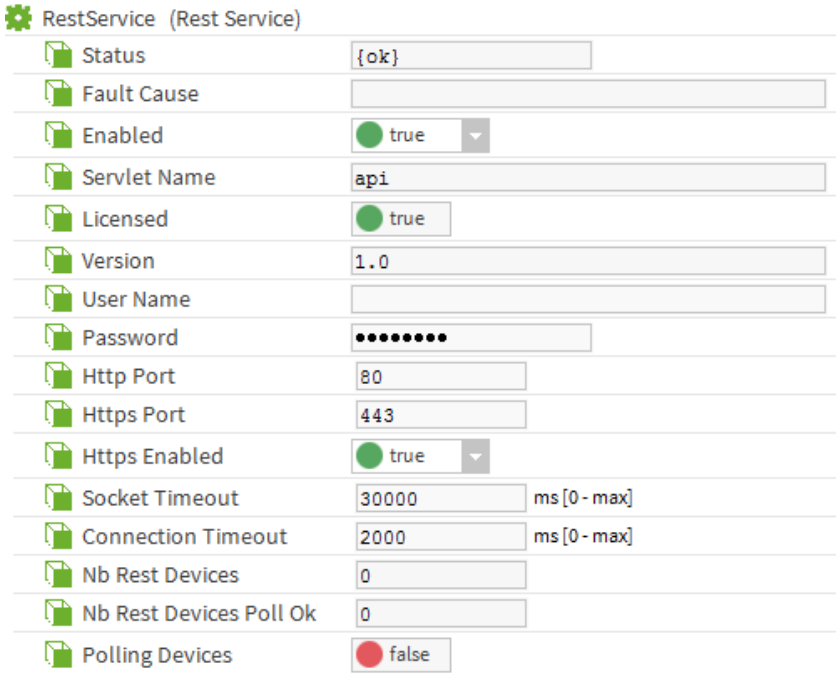


9. Under **Wizard Service Config**, clear **Enable Write**.
10. Enable only the **Rest** option in **RadiusConfig** options. <

Configuring the REST Service Connection

The RestService needs to be able to connect to an ECY Series controller as a user. To allow a secure connection between EC-*gfx*Program and EC-Net, HTTPS needs to be enabled in the WebService. Configure these connections as follows.

1. Configure the **RestService** under **Station > Config > Services > WizardService**.



Parameter	Description
Status	This field displays the status of the RestService Server. If the server is enabled (the Enabled field set to True), an {ok} status will be displayed. If the server is disabled (the Enabled field set to False), an {disabled} status will be displayed.
Fault Cause	If there is a problem with the RestService, this field will list the possible cause of the problem.
Enabled	This field enables or disables the RestService. Enable the RestService server by setting this field to **True**. Likewise, the server can be disabled by setting this field to **False**.
Licensed	This is **true** when the RestService is licenced on this station and is available. For more information about support pack licensing, see *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
Servlet Name	The RestService servlet name.
Version	This field displays the current version of the RestService communication protocol.

Parameter	Description
User Name	The username that REST service will use to logon to an ECY Series controller. The ECY Series controller must be able to authenticate this REST user either locally or through a remote RADIUS server.
Password	This is the REST user password.
Http Port	The ECY Series controller device port number for the unencrypted REST service when **Https Enabled** is set to false. The same value must be copied to the **Port Number** parameter (under **Use HTTP**) in the **Server Setting** screen of the ECY Series Web configuration interface.
Https Port	The ECY Series controller device port number for the encrypted REST service when **Https Enabled** is set to true. The same value must be copied to the **Port Number** parameter (under **Use HTTPS**) in the **Server Setting** screen of the ECY Series Web configuration interface.
Https Enabled	Selects if communications with the REST service is to be encrypted or not. This changes which port number the service will be available on as set above. If set to **false**, disable **Use HTTPS** and enable **Use HTTP** in the **Server Setting screen** of the ECY Series Web configuration interface. If set to **true**, enable **Use HTTPS** and disable **Use HTTP** in the Server Setting screen of the ECY Series Web configuration interface. This is the preferred setting.
Socket Timeout	Timeout while waiting for a response for a transaction with the ECY Series controller.
Connection Timeout	Timeout while establishing a REST connection with the ECY Series controller.
Nb Rest Devices	This shows the number of ECY Series controllers connected to the REST service.
Nb Rest Devices Poll Ok	When you click **Save** to save changes to a parameter, **Polling Devices** becomes **true**; this shows the connection progress of ECY Series controllers connected to the REST service. The number of **Nb Rest Devices Poll Ok** should equal the number of **Nb Rest Devices** once **Polling Devices** returns to **false**.
Polling Devices	When you change the User Name / Password, **Polling Devices** becomes **true** as it searches for ECY Series controllers to connect to the REST service.

2. Click **OK**.
3. In the **WebService**, set **Https Enabled** to **true**. Click **Save**. If this is unavailable, ensure that the **platCrypto** service is installed in the **Software Manager**.

Configuring the Radius Service

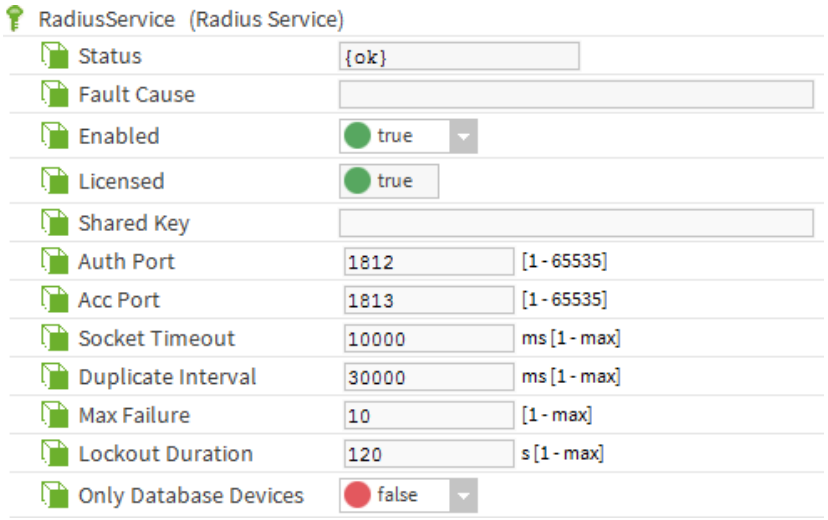
A RADIUS server uses a challenge/response mechanism to authenticate a user's logon credentials (username and password). When one or more ECY Series controllers subscribe to a RADIUS server, this RADIUS server provides centralized user management to control which users have access to any of these ECY Series controllers.

The RadiusService on an EC-Net station is a RADIUS server that relies on user profiles created in the station's UserService to authenticate a user's logon credentials. From Service Pack V3.9, new options have been added to UserService to control user access rights to one or more ECY Series controllers. To add and configure EC-Net station users, see *Creating Station Users*.

The RadiusService is compatible with ECY Series controllers only; authentication requests from other devices systematically receive an 'access denied' response.

All ECY Series controllers that are going to use this EC-Net station as a RADIUS server need to be configured in their ECLYPSE Web interface under **User Management** to use this EC-Net station as their RADIUS server. Both the RadiusService and all subscribed ECY Series controllers use a common shared key that is used to encrypt and decrypt passwords to prevent eavesdropping.

1. Configure the **RadiusServer** settings under **Station > Config> Services > WizardService**.



Parameter	Description
Status	This field displays the status of the RadiusService Server. If the server is enabled (the Enabled field set to True), an {ok} status will be displayed. If the server is disabled (the Enabled field set to False), an {disabled} status will be displayed.

Parameter	Description
Fault Cause	If there is a problem with the RadiusService, this field will list the possible cause of the problem.
Enabled	This field enables or disables the RadiusService. Enable the RadiusService server by setting this field to True. Likewise, the server can be disabled by setting this field to False.
Licensed	This is **true** when the RadiusService is licenced on this station and is available. For more information about support pack licensing, see *Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station*.
Shared Key	This is an encryption key that devices use to encrypt and decrypt user authentication credentials that are sent between devices. The shared key should be a long string of up 32 alphanumeric characters and symbols that would be difficult to guess. For example, he^sg3iq6pg2*gqw@89hsm,wz[The same value must be copied to the **Shared Key** parameter in the **User Management** screen of the ECY Series Web configuration interface.
Auth Port	The Radius server authentication request port number. The default is 1812. The same value must be copied to the **Authentication Port** parameter in the **User Management** screen of the ECY Series Web configuration interface.
Acc Port	The Radius server accounting request port number. The default is 1813.The same value must be copied to the Accounting Port parameter in the User Management screen of the ECY Series Web configuration interface.
Socket Timeout	Leave this at its default value.
Duplicate Interval	Leave this at its default value.
Max Failure	The number of requests a client (an IP address) can make for authentication of credentials that fail after which the client is locked out from making any authentication of credential requests (the response is always fail) for a period set in **Lockout Duration**.
Lockout Duration	Once a client has made too many failed authentication of credentials requests, this sets the time delay that must expire before the RADIUS server will once again try to authenticate a credential request from that client. **NOTE:** The objective of the **Max Failure** and **Lockout Duration** settings are to help prevent a dictionary attack on the RADIUS server to discover username / password combinations that can then be used to login to devices throughout the network.

Parameter	Description
Only Database Devices	Set to true so that only ECY Series controllers currently listed in this EC-Net / EC-BOS database are allowed to use the RADIUS service. **NOTE:** This filters out authentication of credential requests from non-ECY Series controller IP addresses to help prevent an attack on the RADIUS server to discover username / password combinations that can then be used to login to devices throughout the network. For more information about the database, see Discovering BACnet Devices on page 102. Set to false when devices other than ECY Series controllers are using this RADIUS service.

2. Click **Save**.

Discovering BACnet Devices

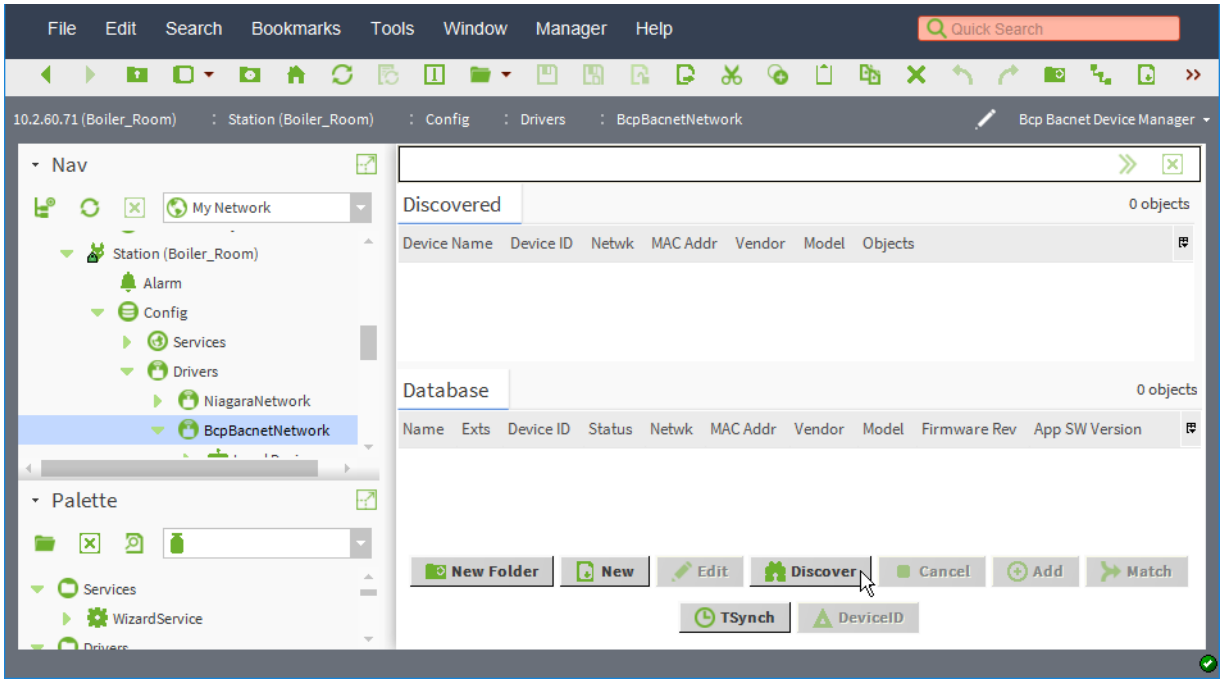
Set each ECB Series controller's MAC address before connecting it to the BACnet MS/TP network. To do so, refer to the controller's hardware installation guide (this is usually done by setting DIP switches on the controller or through a communicating sensor).

Set each ECY Series controller's IP address before connecting it to the BACnet IP network. To do so, refer to the ECLYPSE User Guide or to the controller's hardware installation guide.

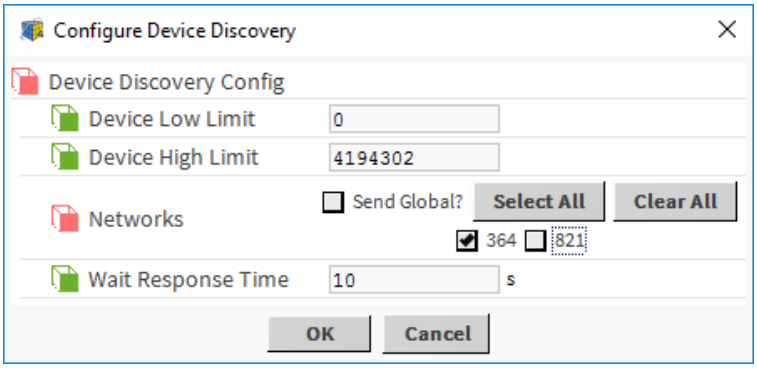
Once the BACnet Network(s) have been established, devices can start to be added to the BACnet Networks that are running from the EC-BOS station. In the following procedure, you will discover the BACnet controllers and assign them their device IDs (instance number) that will identify the individual controllers across the BACnet intranetwork which is necessary when sharing network points.

It is useful to have an organized numbering scheme that makes it easier to keep track of a device's MAC Address (ECB Series controllers), Instance Number, and Network Number that is assigned to it. See the Network Guide for an example of such a numbering scheme.

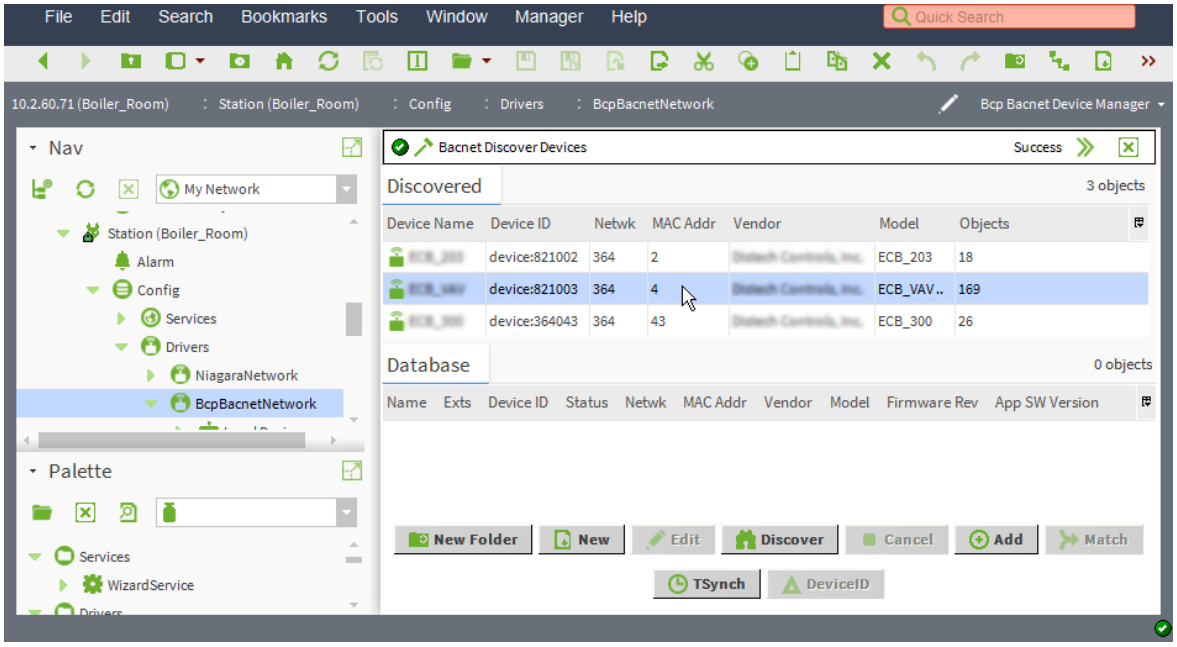
1. Double-click **BcpBacnetNetwork** in the tree and then click **Discover** to find the available BACnet devices on the network.



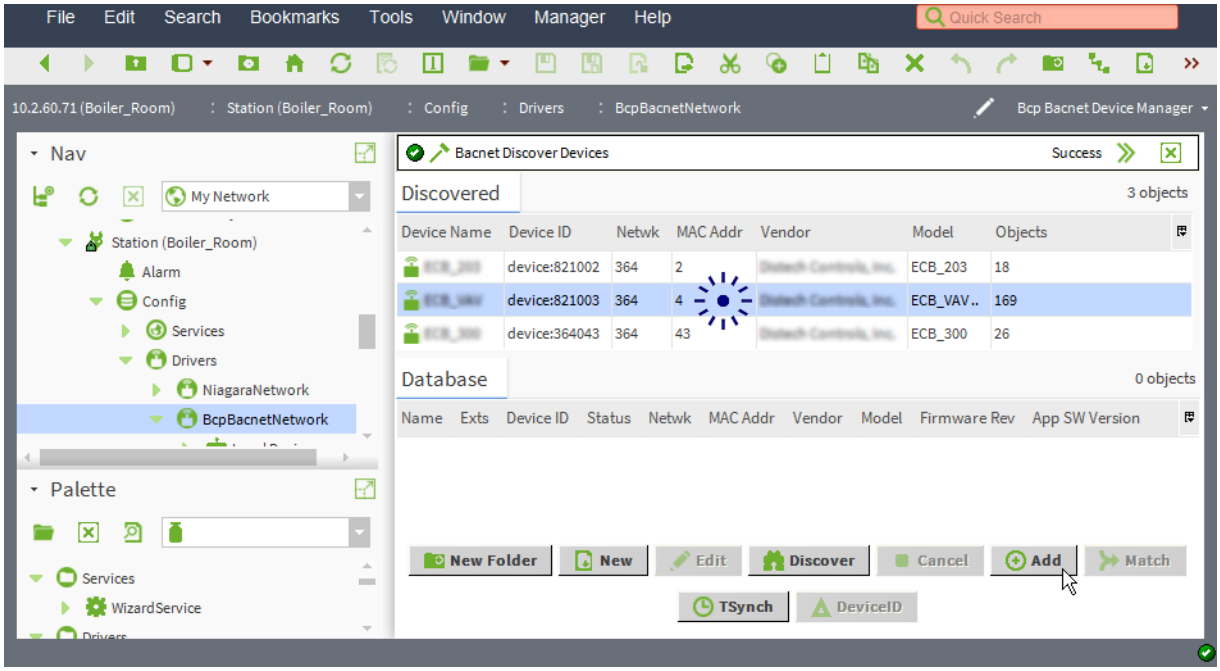
2. Select the network on which you want to discover devices. Select a network you have enabled, for example, 364. Click **OK**.



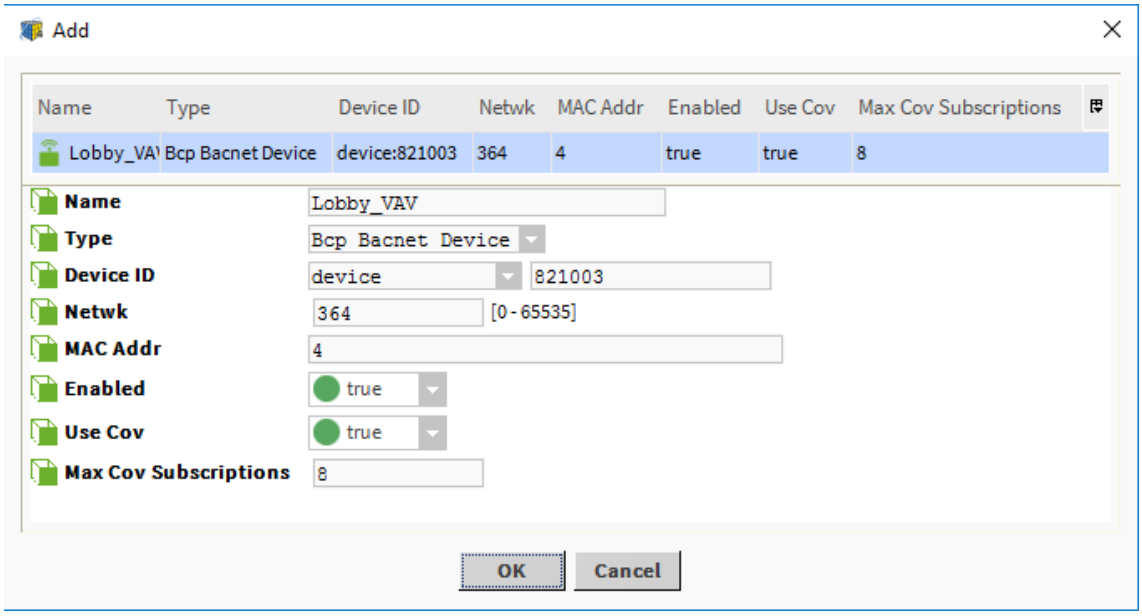
3. The discovered devices for the network are listed.



4. Add the device to this station. Select the device and click **Add**.

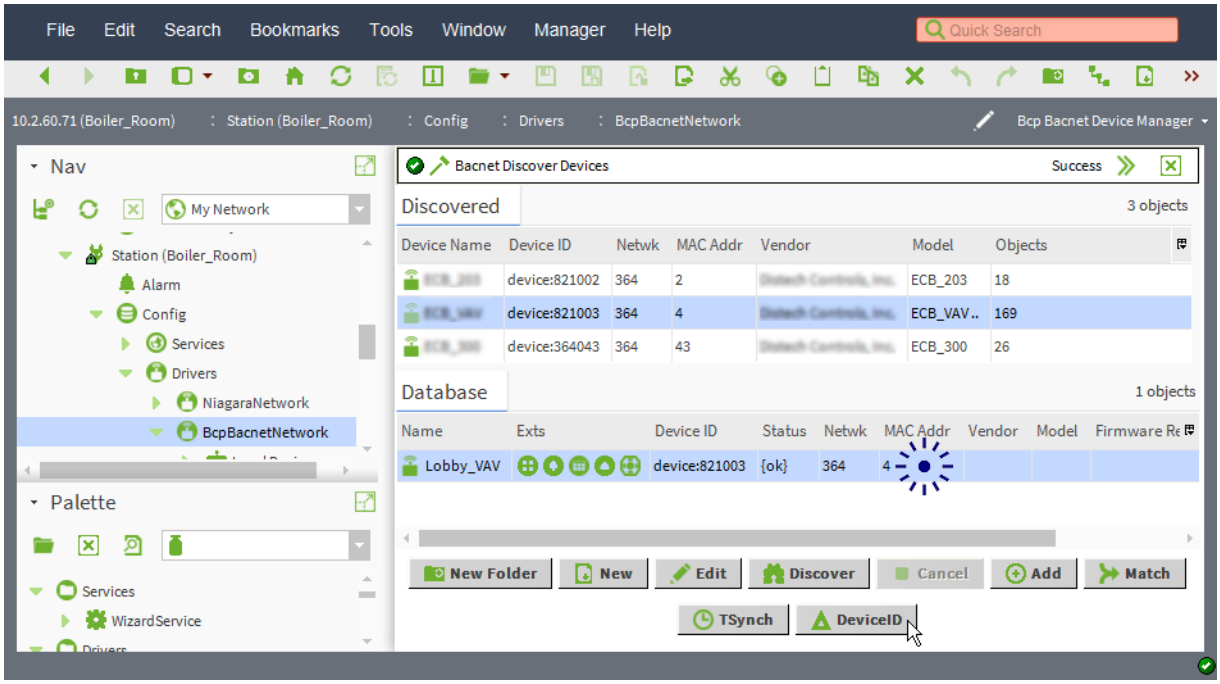


5. Set the **Name** for this device.
6. For EC-*gfx*Program compatible devices, set the **Type** to **Bcp Bacnet Device**. This is required to enable the EC-*gfx*Program wizard.
7. The MAC Address is automatically read from the controller.



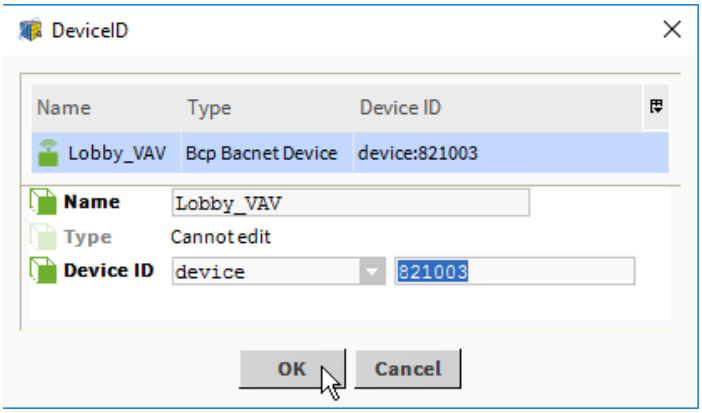
8. Do not set the **Device ID** at this point. Click **OK**. The device is added to the Database.

9. Select the device in the Database list and click **DeviceID**.



10. A ***Change Device ID*** popup appears. Click **Yes**.

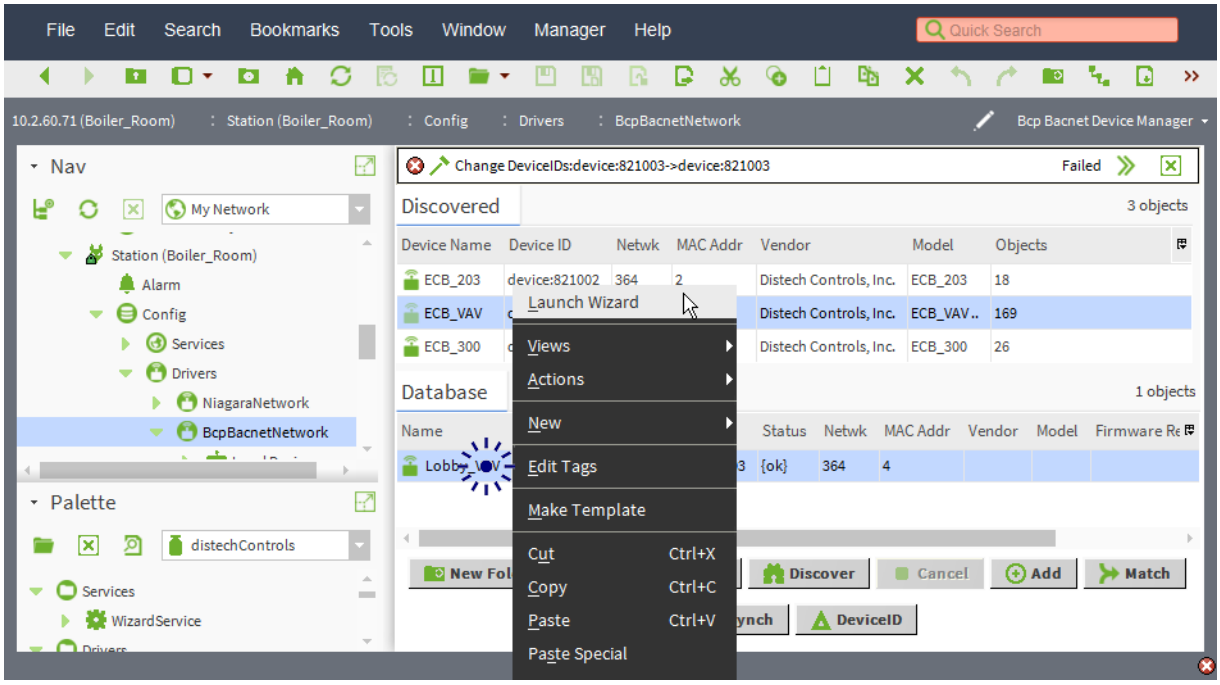
11. Set the Device ID to **device** and set the Device ID according to your network planning. This must be a unique number for this device in the entire BACnet network internetwork. The valid rage is 0 to 4194302. Optionally, set the **Name** for the device. Click **OK**.



12. A *Change Device ID* popup appears. Click **OK**.

    Once an ECY Series controller is discovered and added to the Station, find the **Rest Status** status in the controller's Property Sheet. The status should be **OK** if the REST connection is working with the proper credentials.

13. Launch the EC-*gfx*Program wizard by right-clicking the device and select Launch Wizard.



Setting the Max Master and Max Info Frames on all MS/TP Devices (ECB Series)

This procedure is for ECB Series controllers and MS/TP devices connected to an MS/TP network only.

Once all devices have been discovered and the MAC Addressing is finalized by eliminating any gaps in the address range, set the **Max Master** (maximum MAC Address) in the EC-BOS (Building Controller) to the highest Master device's MAC Address number to optimize the efficiency of the data bus as follows.

NOTE: Masters are devices that can initiate communications on the BACnet MS/TP bus. These devices can only have a MAC Address in the 0-127 range.

The **Max Master** and **Max Info Frames** are parameters used to optimize a BACnet MS/TP Data Bus. This is set in the Bus Master (EC-Net Building Controller) for the MS/TP port of the Bus Master and for each BACnet MS/TP device connected on that port.

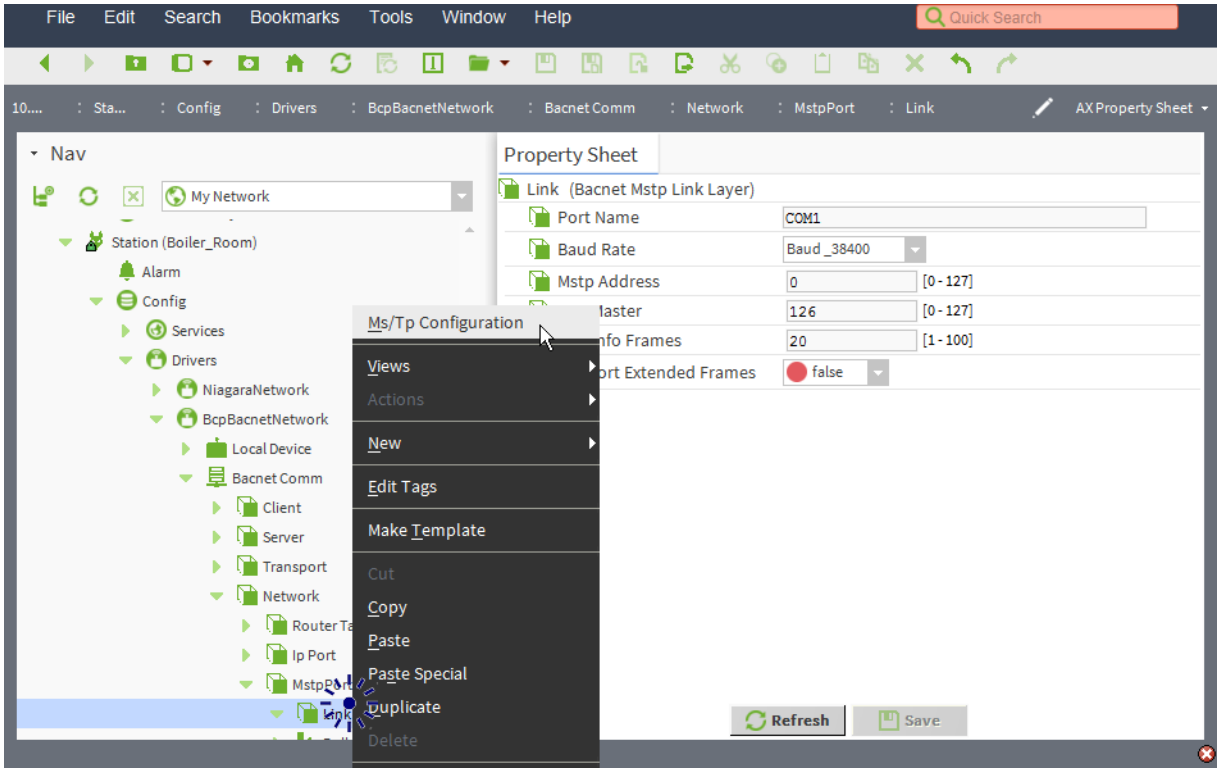
A *Configure MS/TP Devices* tool is available to automate this task. This is only available in the WbWeb profile. This tool:

- Can only be used with a live database during commissioning. If you add more devices to the data bus, you must run this tool again.
- Automatically calculates the value for the **Max Master** by finding the highest Master device MAC Address on the connected BACnet MS/TP data bus **plus 1**.
- Sets the **Max Master** for all master devices including the Bus Master (EC-BOS).
- Sets the **Max Info Frames** for all master devices excluding the Bus Master (EC-BOS).

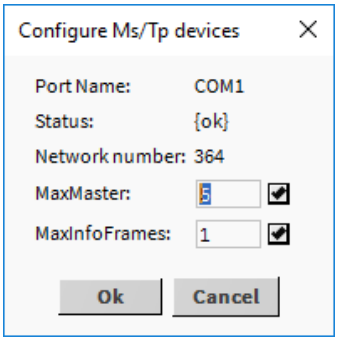
In EC-Net, set the **Max Info Frames** to 20, as this is a device that will make more requests for service from other devices on the network. In general, according to the way a device is programmed, the **Max Info Frames** may have to be set to a higher value than for other devices. For example, when Roof Top Unit Controllers are used with VAV controllers that use *gfx*Applications code, they should also have their **Max Info Frames** set to a higher value such as 5, as Roof Top Unit Controllers poll VAV controllers for information.

Set the **Max Master** and **Max Info Frames** as follows.

1. Right-click the **Link** node in the **Nav** tree and select **Ms/Tp Configuration**.

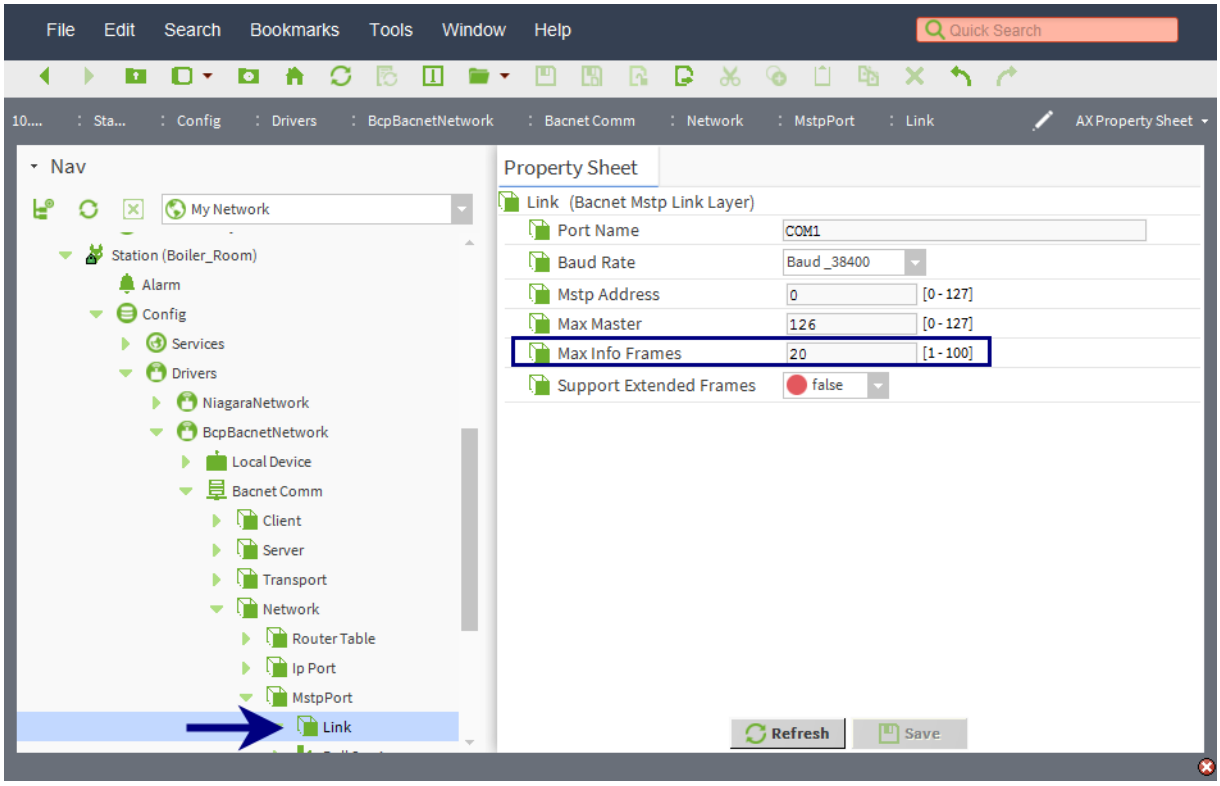


2. The network must be live; the **Status** shown in **Configure Ms/Tp devices** window must be **{ok}**.



3. A confirmation message is shown.

4. Set the **Max Info Frames** to 20 for the Bus Master (EC-Net) as shown in the screen below.



Launching EC-*gfx*Program

EC-*gfx*Program allows the user to program and/or configure an EC-*gfx*Program compatible device through the EC-Net platform.

Use any of the following methods to open EC-*gfx*Program:

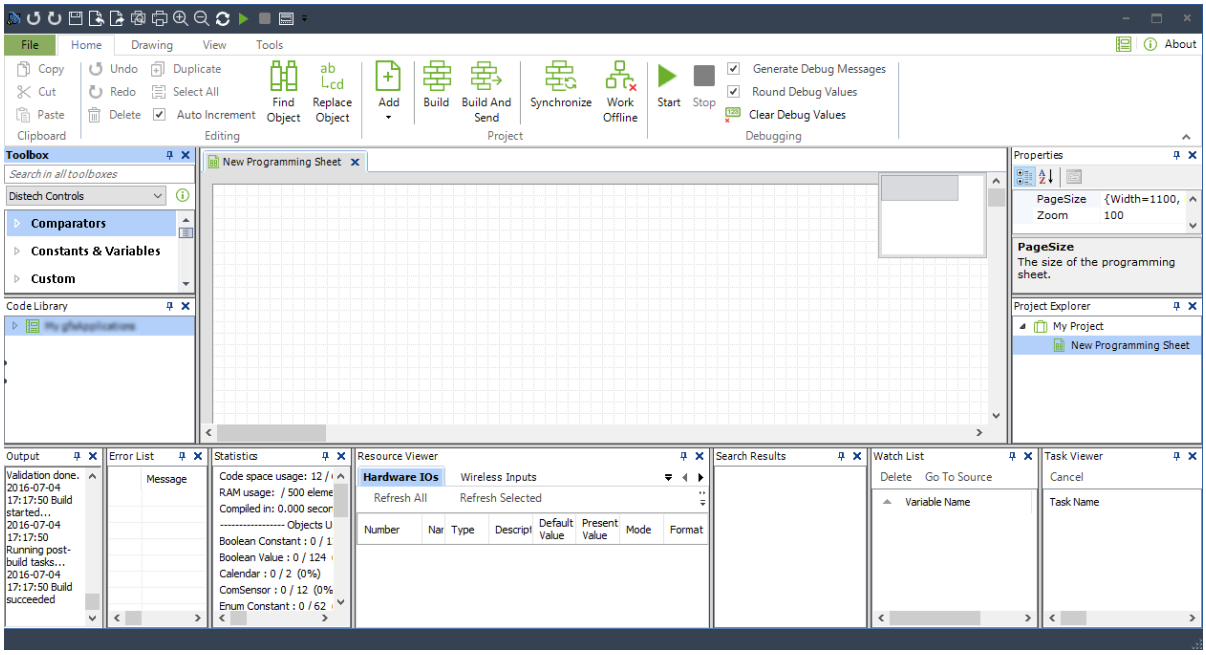
- Running the EC-gfxProgram application.
- Running EC-gfxProgram from your PC's desktop (or from All Programs).
- Launching EC-gfxProgram through an EC-BOS or EC-Net Pro interface (ECB Series controller only).

NOTE: When connected to an ECY Series controller through EC-Net or EC-BOS, when you save your EC-*gfx*Program project, it is saved in both the EC-Net / EC-BOS station and in the controller itself. If you then directly connect to an ECY Series controller with EC-*gfx*Program using the REST connection method, and save the EC-*gfx*Program project to the controller, later when you again connect to the controller through the EC-Net / EC-BOS station, there will be a mismatch between the EC-*gfx*Program project code versions.
Whenever there is a mismatch between the EC-*gfx*Program project code versions between the version in the controller and the version in the EC-Net / EC-BOS station, a pop-up window allows you to choose which project code version to use. A backup option copies both project code versions to your PC's hard disk.

Running the EC-*gfx*Program Application

An EC-Net Wizard allows the user to program and/or configure an EC-*gfx*Program compatible device through the EC-Net platform.

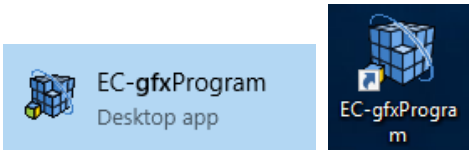
1. Open EC-*gfx*Program by right-clicking the device in the Nav Side Bar, and selecting **Launch Wizard**. The EC-*gfx*Program splash screen appears.



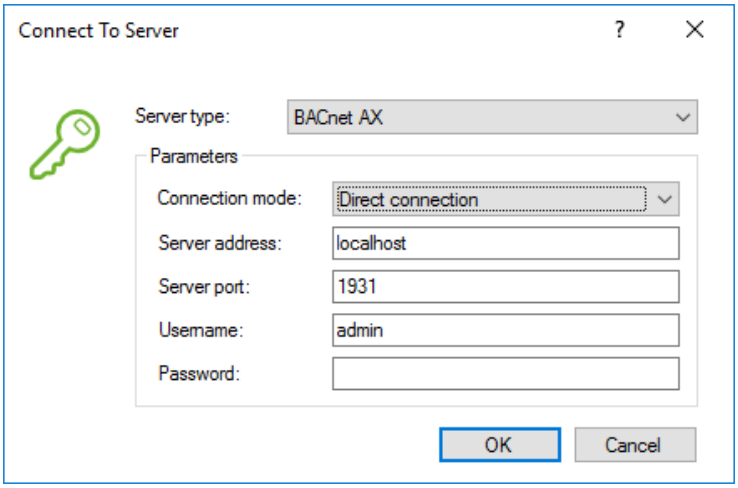
Running EC-gfxProgram from the Desktop

Run EC-*gfx*Program from your PC's desktop (or from Microsoft Windows' *All Programs*).

1. Click / double click either EC-*gfx*Program icon in the Start menu (left) or on the desktop (right).

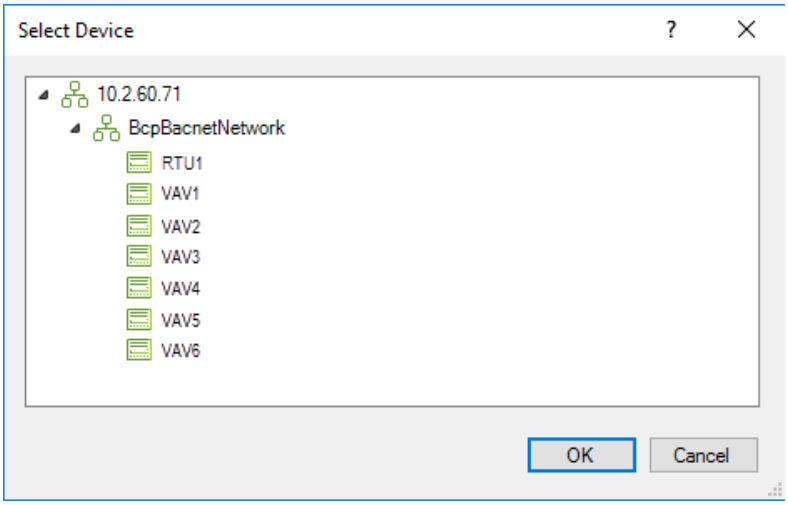


2. Enter the connection information to the building controller and click **OK**.



Parameter	Description
Server type	To connect to an ECB Series or ECY Series controller through EC-Net, set the **Server type** to **BACnet AX**.
Connection Mode	Select **Direct connection** when the IP address of the EC-BOS or EC-Net Pro building controller is directly accessible from your PC (the address of which is set in **Server address**).
Server address	The building controller's (or Target Host's) IP address. If the IP address is unknown for an EC-BOS, use the System Shell procedure documented under Recovery Tips in the EC-BOS Install and Startup Guide. This document can be downloaded from the Distech Controls website at *www.distech-controls.com*.
Server port	By default, this is 1931 for ECB Series controllers, 80 for an HTTP connection to ECY Series controllers, and, 443 for an HTTPS connection to ECY Series controllers.
Username	Enter your username for the EC-Net station's (or Target Host's) Station.
Password	Enter your password for the EC-Net station's (or Target Host's) Station.

3. Click **OK**. The *Select Devices* window appears.
4. Select the device to open in EC-*gfx*Program and click **OK**.

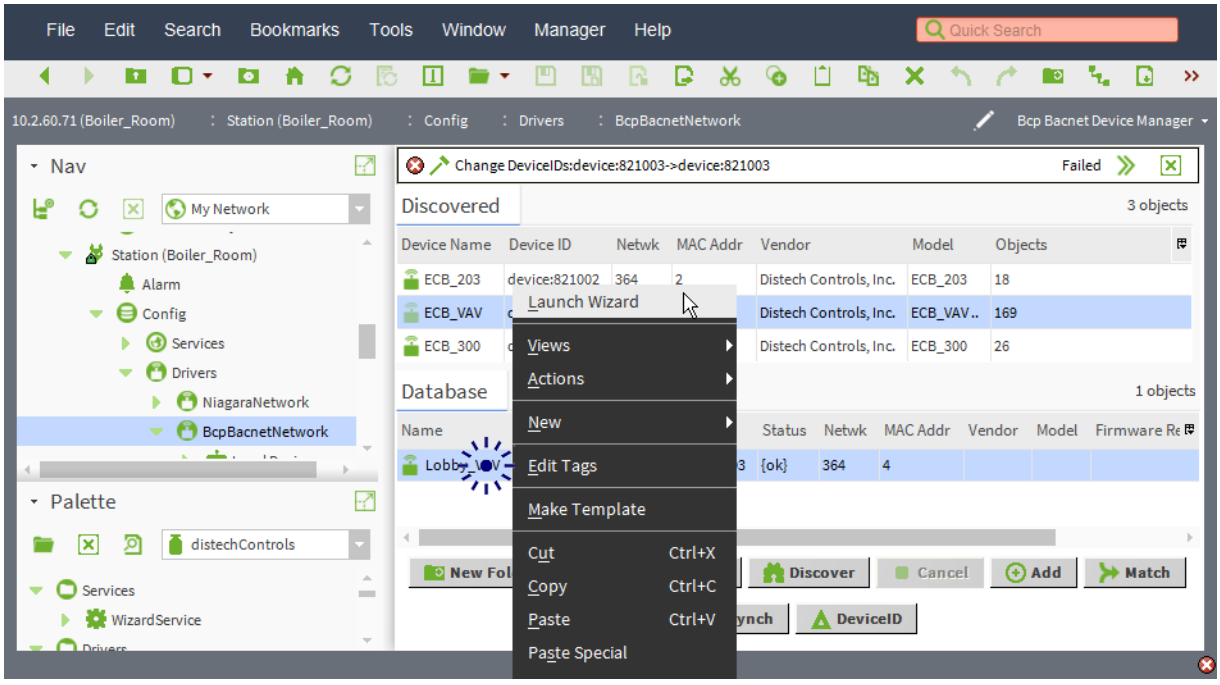


5. The device's EC-*gfx*Program code appears.

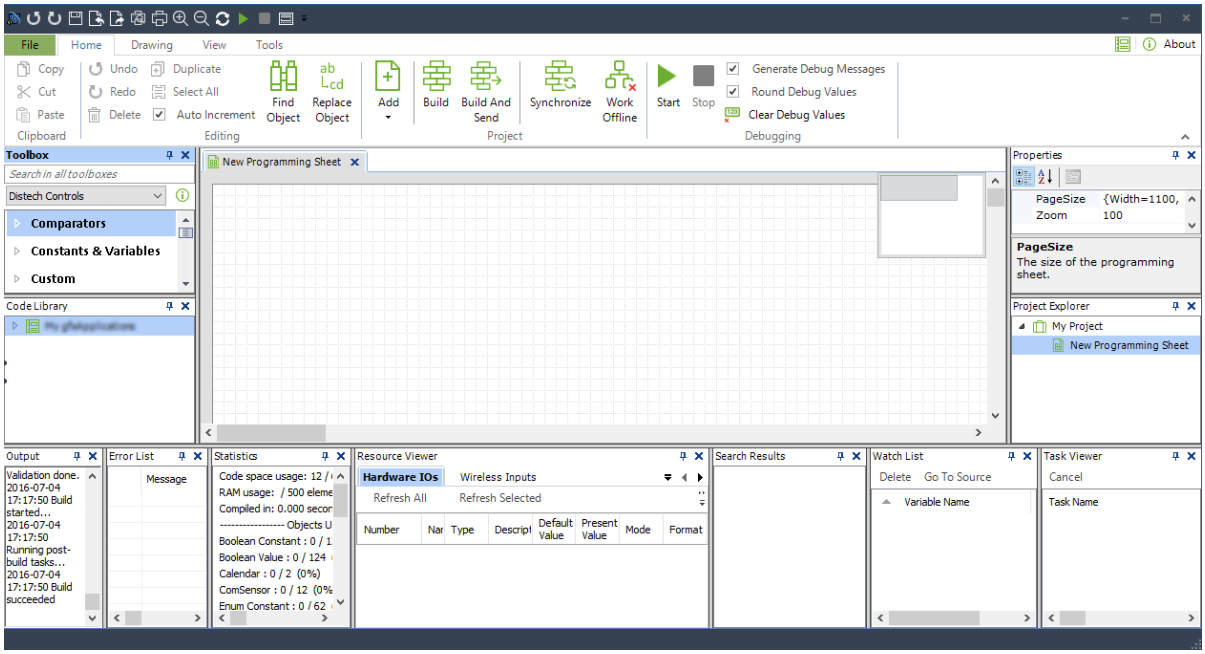
Launching EC-gfxProgram through an EC-BOS or EC-Net Pro (ECB Series Controllers Only)

When logged in to an EC-BOS or EC-Net Pro station, launch EC-*gfx*Program as follows.

1. Discover the devices on the BACnet network. See *Discovering BACnet Devices*.
2. Launch the EC-*gfx*Program application by right-clicking the device and select **Launch Wizard**.



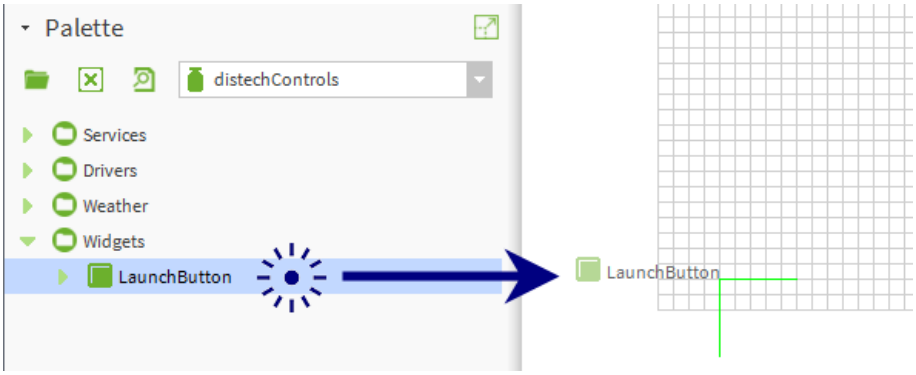
3. EC-*gfx*Program opens for the device.



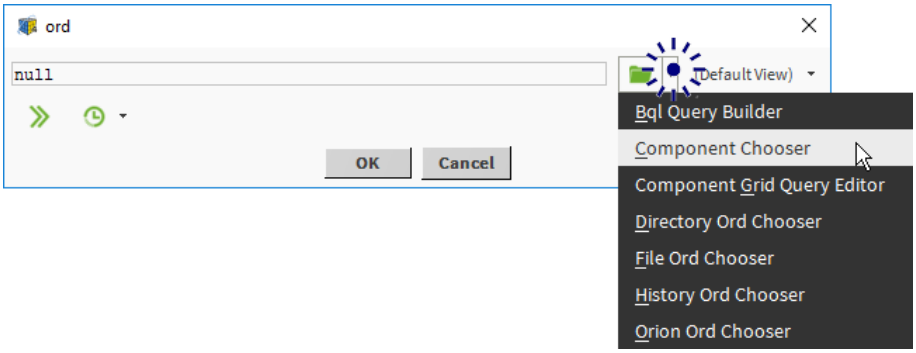
Launching EC-gfxProgram from a Px Page Using a LaunchButton Widget (ECB Series Controllers Only)

By adding a LaunchButton widget to a Px Page, a user can launch any action found by right-clicking the device and selecting **Wizards**. This includes launching EC-*gfx*Program. The Px page must be displayed through one of the WbWeb profiles to work. Add a LaunchButton to a Px Page as follows:

1. Expand the *Widgets* folder and drag and drop the **LaunchButton** widget from the **distechControls** palette onto the Px Page.



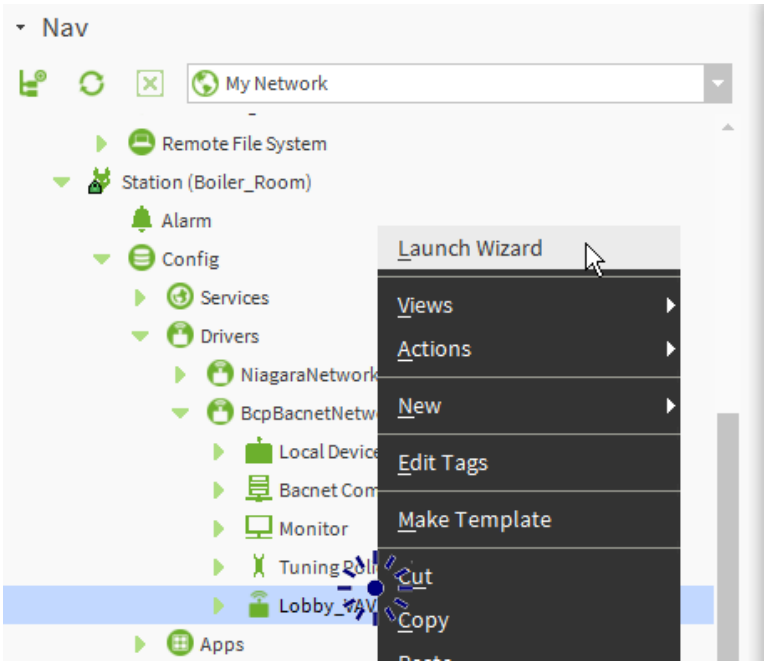
2. Double click the **Launch** button on the Px Page to open the Properties window. Configure the button's look and behavior in the **Image Button** section.
3. Under the Bcp Command Binding, click **...** in **Ord**.
4. Select the device for the LaunchButton wizard action: select **Component Chooser** from the Ord dropdown list.



5. In the **Select Ord** window, select the device for the LaunchButton wizard action under **Drivers**, **BcpBacnetNetwork**. Set the type to **Slot**. Click **OK**.
6. Set the button behavior when the service is unavailable in **degradeBehavior**.

7. Set the Wizard to launch in the **commandIndex**. This number corresponds to the list of wizards shown when you right-click the device selected above for the LaunchButton wizard action and select **Wizards**.

If there is only Launch Wizard and no Wizards selection, there is only one wizard available for this device. Set the commandIndex to 0 to launch this wizard.



8. Click **Save**.

9. Click to toggle the view/edit mode to View. Click the LaunchButton widget to test its behavior.

CHAPTER 4

Licensing the EC-Net Support Package for a Non-Distech Controls Brand Station

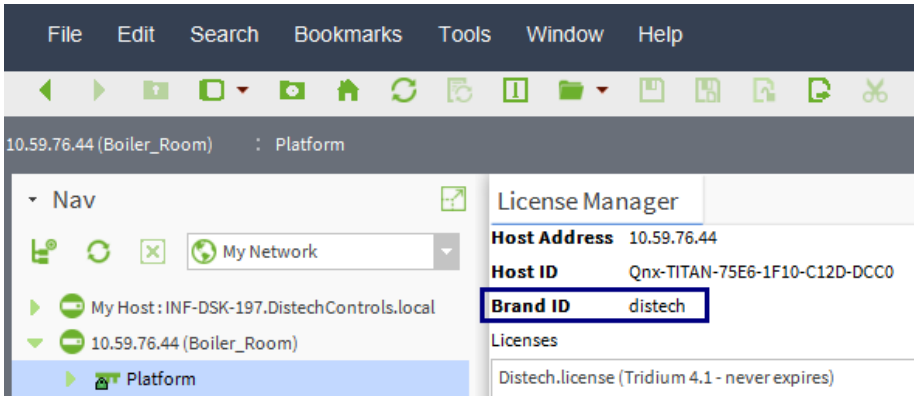
This chapter details how to license the Distech Controls Support Package for use on a non-Distech Controls brand station. Licensing for a non-Distech Controls brand station enables the following three support package services: WizardService, RestService, and RadiusService. For example, the WizardService is used to launch EC-*gfx*Program as well as other wizards, create the proxy points, and allow the points to access the devices. Licensing is unnecessary when using Distech Controls controllers with Distech Controls EC-Net stations.

Topics

Support Package Licensing Applicability

If you are running EC-Net 4 and your Niagara license file has a brandID other than **distech** or **distechEU**, you will require a license to enable the Wizard-Service, RestService, and RadiusService.

To verify your brandID, open the License Manager within the Platform.



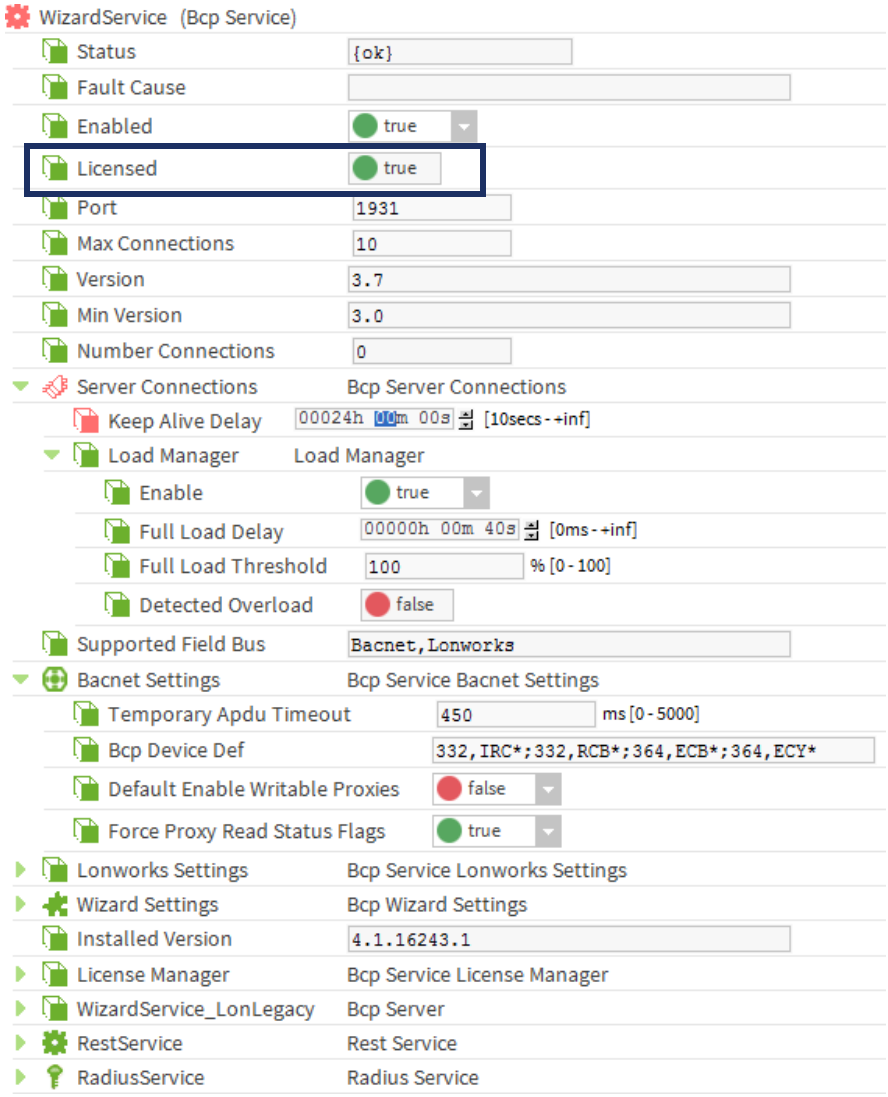
If you are using a Distech Controls EC-Net™ 4 Supervisor or an EC-BOS-8, the Niagara license brandID will be **distech** or **distechEU**. If this is the case, the three support package services will not require a license and will operate without any other intervention.

Support Package Services Overview

Licensing applies to the following three support package services: WizardService, RestService, and RadiusService. When the service is licensed, the status is shown as **true** in the **Licensed** property of each service.

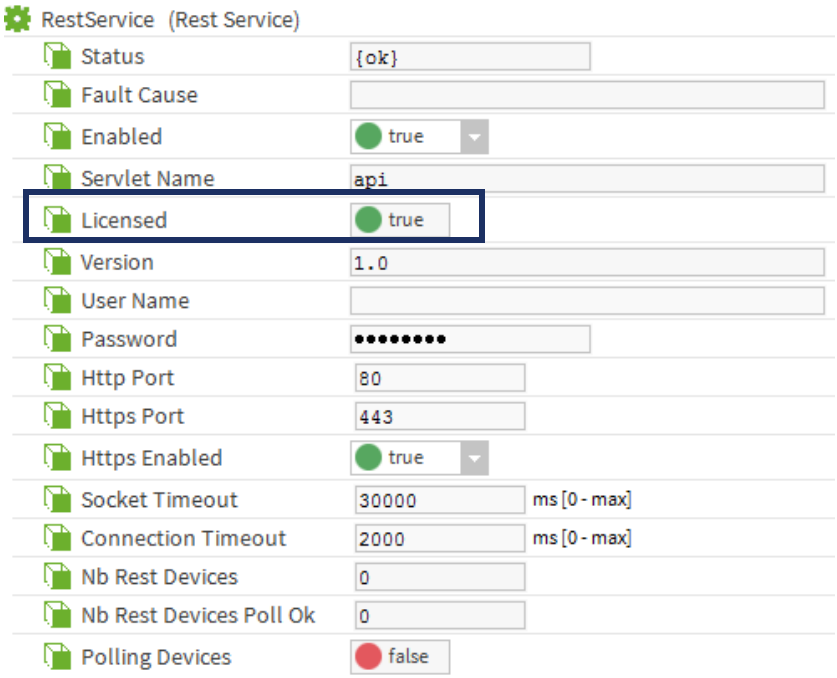
WizardService Overview

The WizardService is used to launch EC-*gfx*Program as well as other wizards, create the proxy points and allow the points to access the devices.



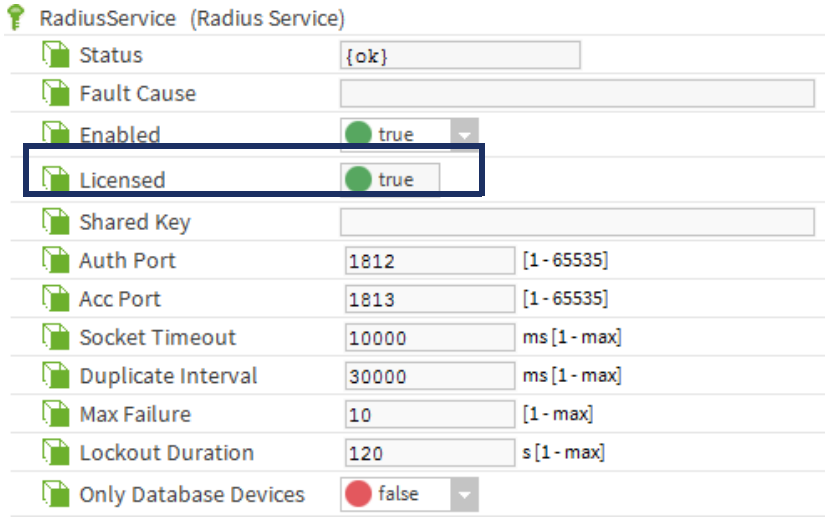
RestService Overview

The RestService allows the RESTful API to run over HTTP requests and to run EC-*gfx*Program for ECLYPSE™.



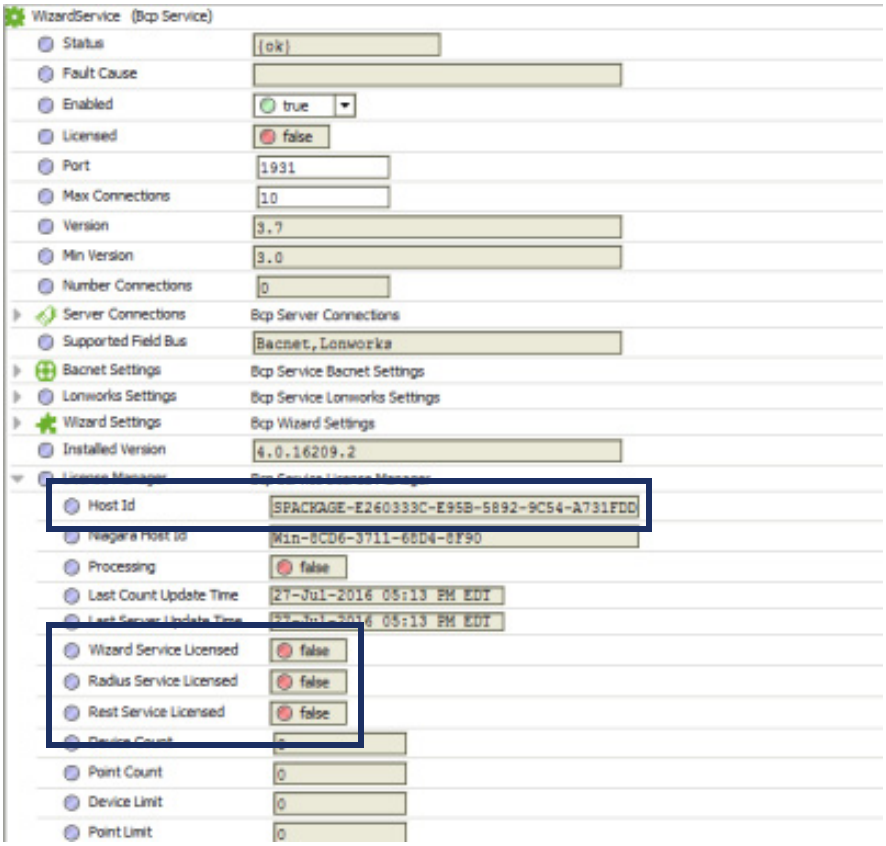
RadiusService Overview

The RadiusService allows the RADIUS networking protocol to manage authentication requests from ECLYPSE devices.



Getting a License

If you require a license, contact Distech Controls customer service to purchase and license your support package. You will need to provide your **HostID** found in the WizardService, as shown below.



If your support package is unlicensed, the status of the services will be shown as **false** (as shown above).

When ordering a license, the license must be chosen according to the available device packs. Once you have purchased a license, a zip file containing the license file will be sent to you by Distech Controls' customer service.

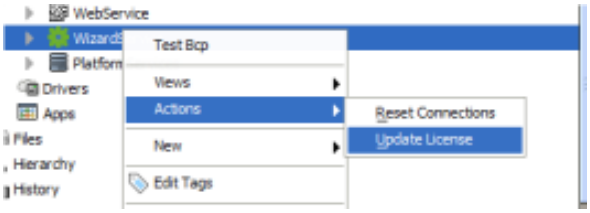
For more information regarding the available device packs, refer to the Distech Controls price list or SmartStore.

Installing the License

There are two ways to install a license file; either with the WizardService through an Internet connection (online) or with the Import command through the WizardService License Manager (offline).

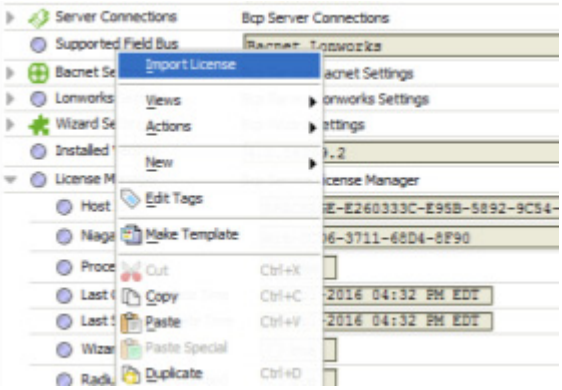
With an Internet Connection

1. Update the license through the WizardService: Right-click on **WizardService** and select **Actions > Update License**. The licensing server is then contacted through the Internet and the license is automatically updated.

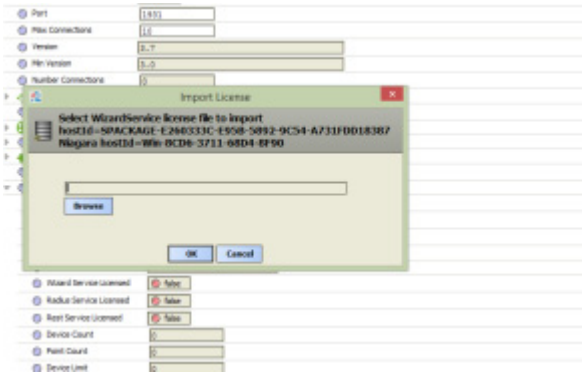


Without an Internet Connection

1. A zip file containing the license file will be sent to you by Distech Controls when an order is placed. To import the license file, right-click on the WizardService **License Manager** property and select **Import License**.



2. Locate and select the license file you wish to import and click **OK**.



The licensing status is updated after importing the file.

License Check

The licensing is automatically checked at station boot, every hour and every time a device or proxy point is added. There are no automatic licensing checks when devices or proxy points are removed.

You can also manually trigger a licensing check, with the “update license” action. You can also manually refresh after removing resources to update the device/proxy point count if needed.

If the count limitations of the points or devices are exceeded, the three services are disabled and a notification window is also displayed in EC-Net 4 Pro.

DISTECH CONTROLS™