Trane Comm Four Driver User Guide

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1

Installation

Install ifcCommFour-rt.jar and ifcCommFour-wb.jar on the computer where Niagara N4 Workbench will run. To install, place a copy of the file in the modules directory of your Niagara N4 installation. This is typically C:\Niagara\Niagara-4.n.nnn\modules.

Install ifcCommFour module on the target station. Using a Niagara N4 workbench where the module has already been installed, connect to the stations platform service. Go to the software manager and install ifcCommFour.

Apart from installing the 3.*n.nn* version of the Niagara distribution files in the JACE, make sure to install the ***ifcCommFour*** module too (if not already present, or upgrade if an older revision). For more details, see "About the Commissioning Wizard" in the JACE Niagara N4 Install and Startup Guide.

Following this, the station is now ready for Trane Comm Four software integration, as described in the rest of this document.

Requirement

- N4 workbench 4.0.xx or higher.

  1. Serial communication RS485 Port. (Required "serial" feature in the license).

- Maximum CommFour Network support:-

  Theoretical there is no limitation on maximum CommFour Network in the single Niagara N4 station, the limitation is always base on the JACE resource count, and system must have at least reserve for 30% CPU usage to perform the multiple process.

- Niagara N4 platform JACE support:

  1. JACE-3E.
  2. JACE 6xx.
  3. JACE 7xx.
  4. JACE 8000 (Titan JACE).

- Trane Comm Four Devices support:

  1)   VAV II, III and IV   (VAVD1)
  2)   Tuc   (ASCD1)
  3)   UPCM   (GeneralPurposeD1)
  4)   Voyager   (RTUD1)
  5)   Ipak   (RTUD2)
  6)   Prededant I   (RTUD3)
  7)   Voyager3/Prededant II   (Voyager3)
  8)   Chiller   (Chiller)

Note: Wireless devices, wireless receivers and wireless sensors device is not supported in this driver. This ifcCommFour driver only work as a single master and it cannot have other master in the same network. When VAV has the wireless sensor in the network the VAV will act both options as a master and slave, While giving a response into the ifcCommFour driver that run in the JACE it also will requesting the data from the wireless sensor, this will cause of the communication traffic and stability of the communication timing and response. We recommend the VAV that having a wireless sensor to use the hardwire temperature sensor when operate will this driver.

Chapter

2

Quick Start

This section provides a collection of procedures to use the Niagara N4 Trane Comm Four drivers to build networks of devices with proxy points and other components. Like other Niagara N4 drivers, you can do most configurations from special "manager" views and property sheets using Workbench.

- For any of the Comm Four networks:

    - "Configure the CommFour network"
    - "Add CommFour devices"
    - "Create CommFour proxy points"

Configure CommFour Network

To add and configure a CommFour network, perform the following main tasks:

- Add the CommFour network, as needed:

    - Add a CommFourNetwork

Add a CommFourNetwork

To add a CommFourNetwork in the station

Use the following procedure to add a CommFourNetwork component under the station's Drivers container.

Note : If the host JACE has multiple RS-485 ports to be used for client (master) access of CommFour networks, add one CommFourNetwork for each physical port. Note that for each CommFourNetwork, you must Configure the serial port parameters.

To add a CommFourNetwork in the station:

▪ Double-click the station's **Drivers** container, to bring up the **Driver Manager**.
▪ Click the **New** button to bring up the New network dialog. For more details, see "Driver Manager New and Edit" in the *Drivers Guide*.
▪ Select "CommFour Network," number to add: 1 (or more if multiple networks) and click **OK**. This brings up a dialog to name the network(s).
▪ Click **OK** to add the CommFourNetwork(s) to the station. You should have a CommFourNetwork named "CommFourNetwork" (or whatever you named it),under your Drivers folder, initially showing a status of "{fault}" and enabled as "true."

After you Configure the serial port parameters, status should change to "{ok}".

Configure the serial port parameters and transmission mode

In the CommFourNetwork property sheet for each network, you must set the serial port configuration to match the serial communications parameters used by other CommFour devices on the network.

To set the serial port parameters

To set the serial port parameters and mode for a CommFourNetwork:

▪ Right-click the CommFourNetwork and select **Views > Property Sheet**.

The **Property Sheet** appears.

▪ Scroll down and expand the **Serial Port Config** slot.

Set the properties for the JACE serial port used, where defaults are:
- Port Name: none – Enter the JACE port being used, like COM2 or COM3.
- Baud Rate: Baud9600 – Or choose different from selection list.

- Data Bits: Data Bits8 – Or choose different from selection list.
- Stop Bits: Stop Bit1 – Or choose different from selection list.
- Parity: none – Or choose different from selection list.
- Flow Control Mode: none – Or choose different using checkbox.

> *Note : You must determine the setup of the* CommFour Serial *network to correctly set the baud rate, data bits, stop bits, parity, and flow control settings.*

▪ Click the **Save** button.

Add a CommFour Devices

After adding a CommFour network, you can use the network's default "device manager" view to add the appropriate CommFour devices.

Note: You need the address information for each CommFour device you are adding, as well as for later procedures to add proxy points under devices.

To add a CommFour device in the network

Use the following procedure to add the correct type of CommFour device in the network. To add a CommFour device:

▪ In the Nav tree or in the Driver Manager view, double-click the client network, to bring up the device manager (CommFour Device Manager). All of these device manager views operate in a similar fashion.

Note: For general device manager information, see the "About the Device Manager" section in the Drivers Guide.

▪ Click the **New** button to bring up the **New** device dialog.

▪ Select for number to add: 1 (or more, if multiple) and click **OK**.
This brings up a dialog to name the device(s), enter CommFour device address.

- Any *CommFour Device* needs the unique address in use.

▪ Click **OK** to add the CommFour device(s) to the network.
You should see the device(s) listed in the CommFour Device Manager view, showing a status of "{ok}" and enabled as "true."

If a device shows "down" check the configuration of the network and/or CommFour device addresses. You can simply double-click a device in the device manager to review settings in an **Edit** dialog, identical to the **New** dialog when you added it.

After making any address changes, click **Save**, then right-click the device and select **Actions > Ping**.

Create CommFour Proxy Point

As with device objects in other drivers, each CommFour device has a **Points** extension that serves as the container for proxy points. The default view for any Points extension is the Point Manager (and in this case, the "**CommFour Point Manager**"). You use it to add CommFour proxy points under any CommFour device.

Note: *Unlike the point managers in many other drivers, the* **CommFour Point Manager** *does offer a "Learn mode" with a* **Discover** *button and pane. Otherwise you can simply use the* **New** *button to create proxy points, referring to the vendor's documentation for the addresses of data items in each CommFour device.*

To add CommFour proxy points

Once a CommFour device is added, you can add proxy points to read and write data. If programming online (and the device shows a status of "{ok}"), you can get statuses and values back immediately, to help determine if point configuration is correct. Use the following procedure:

To create CommFour proxy points in a device:

- In the **Device Manager**, in the **Exts** column, double-click the Points icon in the row representing the device you wish to create proxy points.

This brings up the **CommFour Point Manager**.

- (Optional) Click the **New Folder** button to create a new points folder to help organize points, and give it a short name, such as "TempNo1", or whatever name works for your application. You can repeat this to make multiple points folders, or simply skip this step to make all proxy points in the root of **Points**. Note that all points' folders have their own **CommFour Point Manager** view, just like **Points**. If making points folders, double-click one to move to its location (and see the point manager).

For more details, see "About CommFour proxy points"

▪ Click **OK** to add the proxy point(s) to the Points extension (or to the current points folder), where each shows as a row in the point manager.

If parameter correctly, each point should have a status of "{ok}" with a polled value displayed.

- If a point shows a "{fault}" status, check its ProxyExt "Fault Cause" property value, which typically includes a CommFour "exception code" string, such as "Read fault: illegal data address". In such a case, re-check the address in the point against the documented address for the data item.

▪ Continue to add proxy points as needed under the **Points** extension of each CommFour device. As needed, double-click one or more existing points for the **Edit** dialog, similar to the **New** dialog used to create the points. This is commonly done for re-editing items like data addresses, names, or facets.

Chapter

3

CommFour View

- [CommFour Device Manager](#)
- [CommFour Point Manager](#)

CommFour Device Manager

The CommFour Device Manager is the default view when you double-click on a CommFour Network in the Nav tree. This manager view provides a quick and easy way to display.

The CommFour Device Manager is the default view for any CommFour Network container. The CommFour Device Manager is a table-based view, where each row represents a unique device. When building a network in the station, you use this view to create, edit, and delete device-level components. Below is an example CommFour Device Manager view.
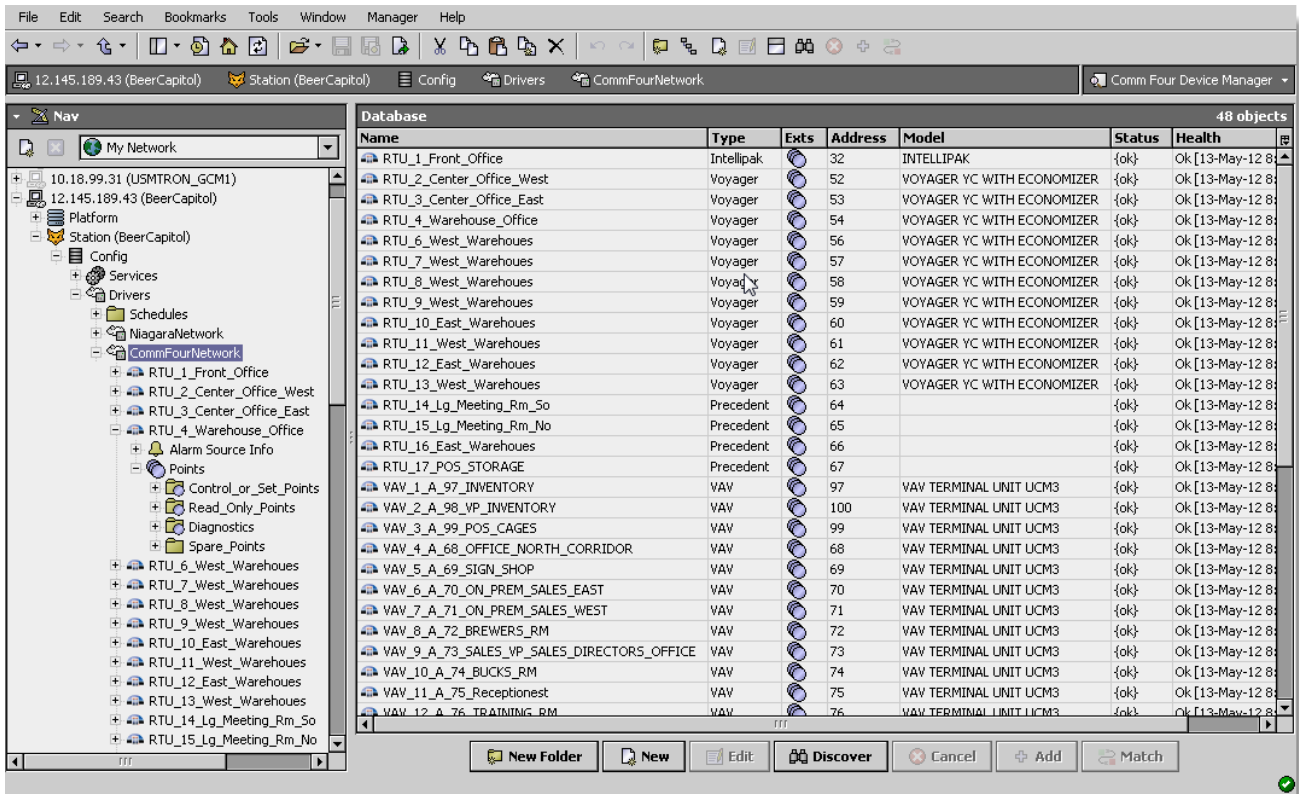
The view above shows a typical CommFour Device Manager view.

The "New Folder", "New", and "Edit" buttons are not unique to the CommFour Device Manager, and are explained in the "Niagara N4 User's Guide" in the "Driver Architecture" section. The "Match" button is not used for the CommFour driver.

You can now add the devices to the station database by clicking the "Add" button. This will pop up the "Add" dialog box:

The "Add" dialog box affords you the opportunity to tweak the display name, enabled state, and/or address of each of the selected devices. Click the "OK" button to add the devices to the database, or click "Cancel" to bail out.

The "Discover" button implements functionality that is unique and tailored to discovering CommFour devices. By clicking the "Discover" button, the "learn" mode of the manager is invoked (the panes will be split, and a "discovery" table will be displayed in the top pane) .
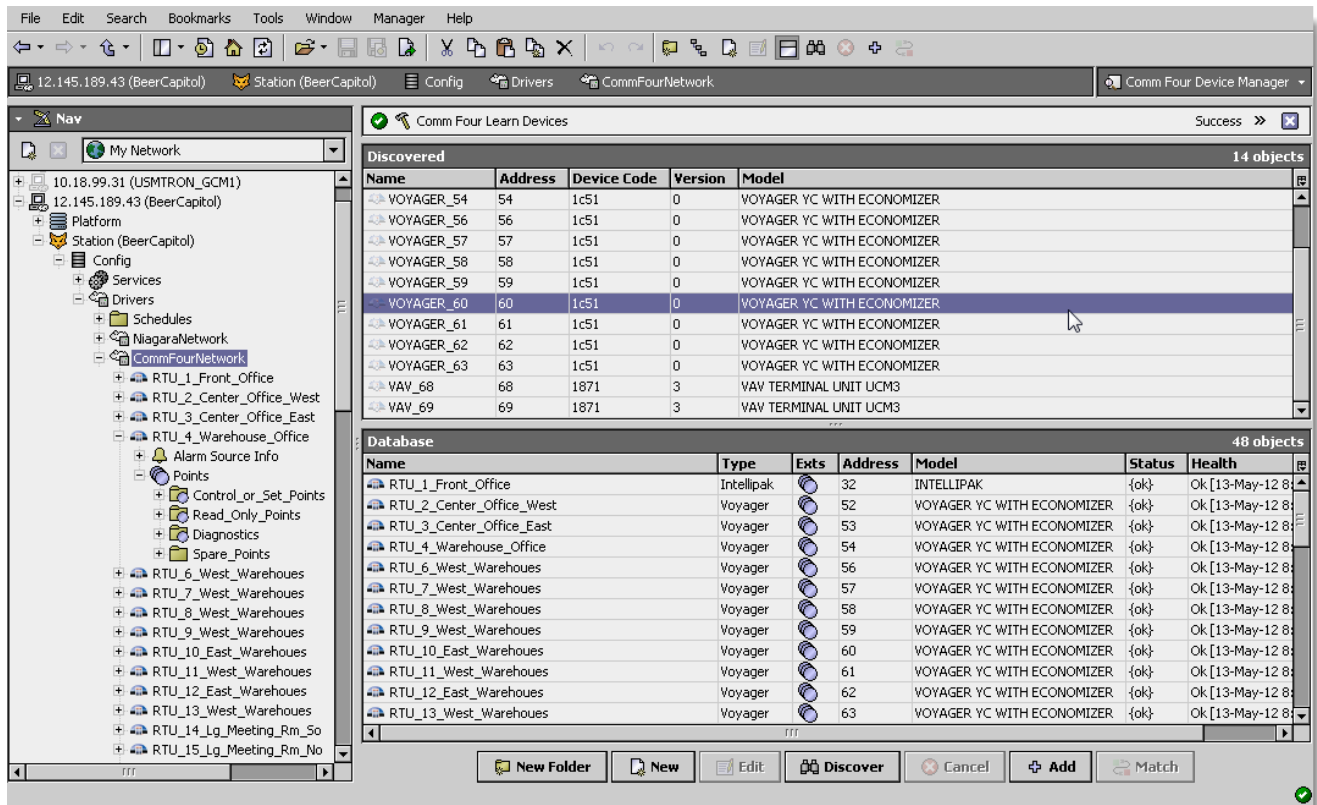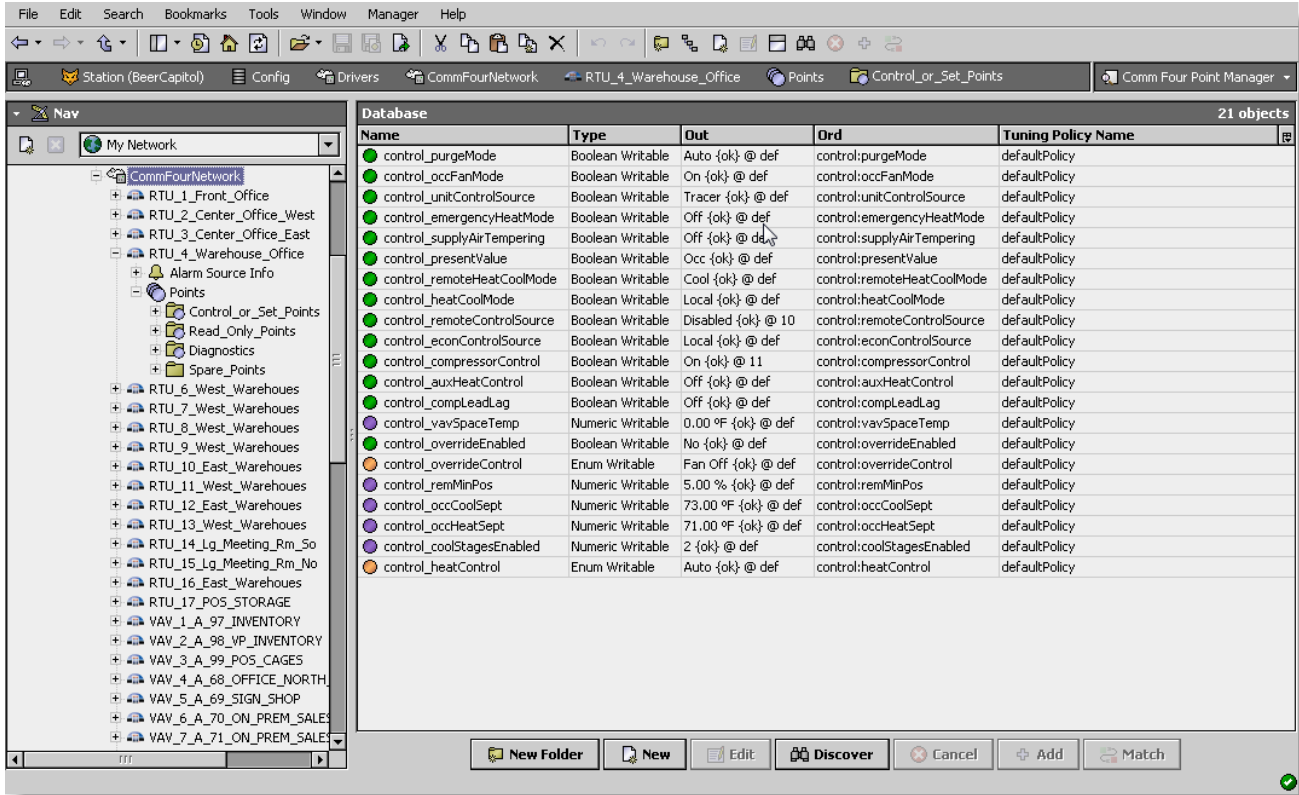

Single or multiple CommFour devices can be added as device by selecting the discovered row(s) in the top pane, and clicking add. Doing so will cause the "Add" dialog box to appear:
Once the device(s) are satisfactorily edited, click "OK" to create the device corresponding to the device property.

CommFour Point Manager

The CommFour Point Manager is the default view when you double-click on a "points" folder (a CommFourPointDeviceExt type folder) under a CommFourDevice in the Nav tree. This manager view provides a quick and easy way to display and learn CommFour points in a CommFour device.

The CommFour Point Manager is the default view for any CommFourPointDeviceExt container. The CommFour Point Manager is a table-based view, where each row represents a unique CommFour Group address within a device.

Below is an example CommFour Point Manager view.

The "New Folder", "New", and "Edit" buttons are not unique to the CommFour Device Manager, and are explained in the "Niagara N4 User's Guide" in the "Driver Architecture" section. The "Match" button is not used for the CommFour driver.

The "Discover" button implements functionality that is unique and tailored to discovering CommFour devices points. By clicking the "Discover" button, the "learn" mode of the manager is invoked (the panes will be split, and a "discovery" table will be displayed in the top pane) .
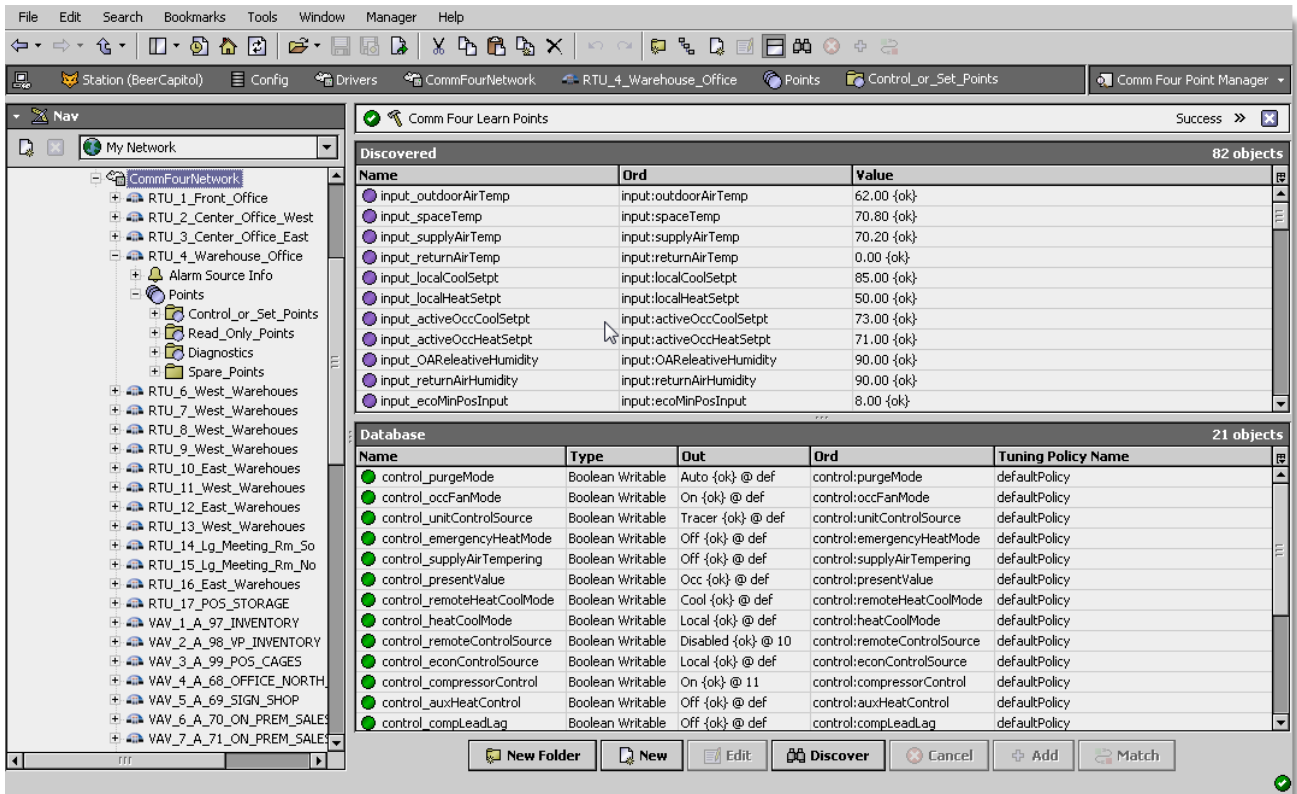
Single or multiple points can be added as control points with CommFourProxyExt extensions by selecting the discovered row(s) in the top pane, and clicking add. Doing so will cause the "Add" dialog box to appear: Once the point(s) are satisfactorily edited, click "OK" to create the proxy points corresponding to the point property.
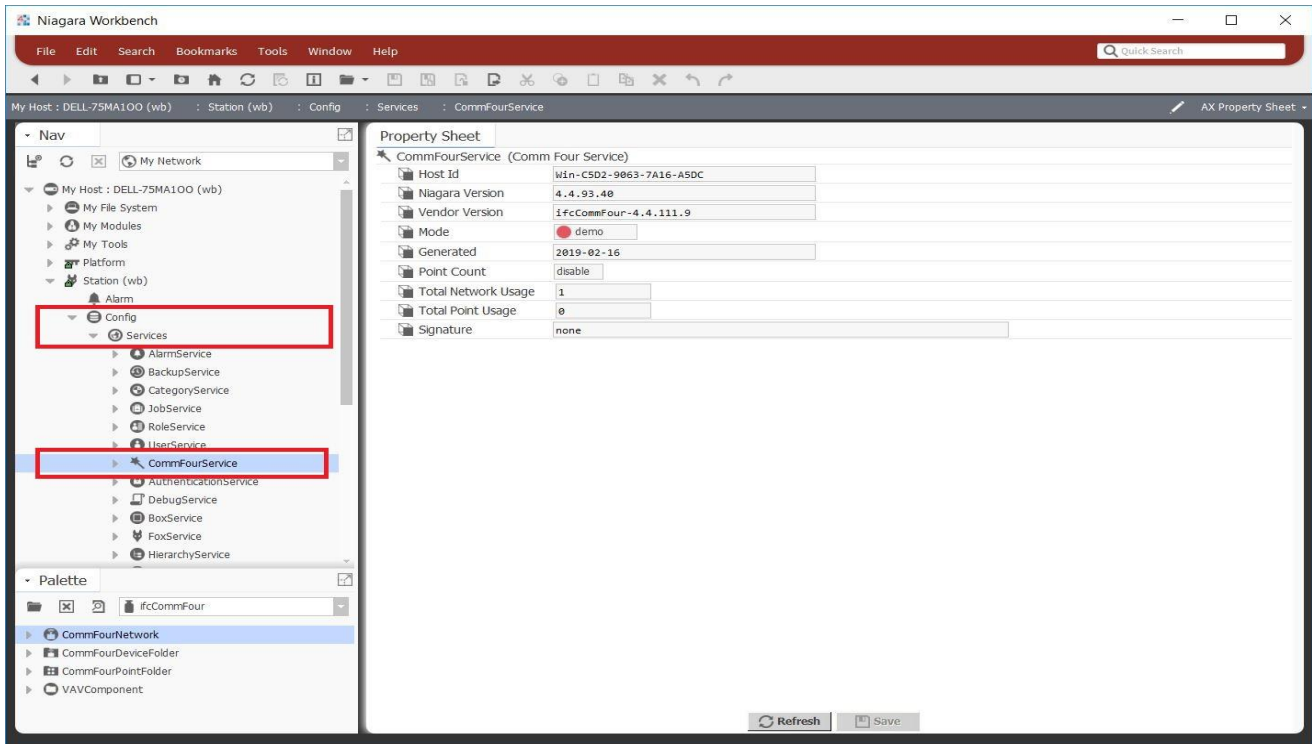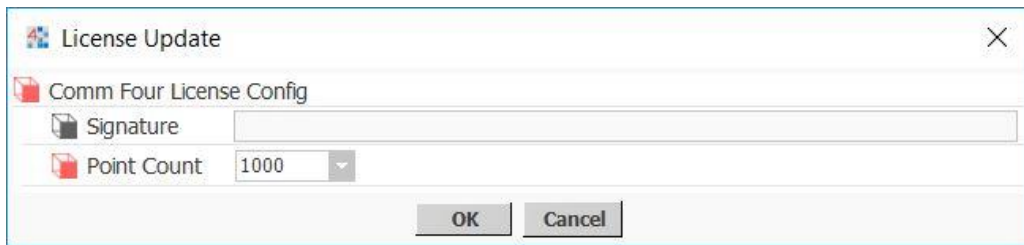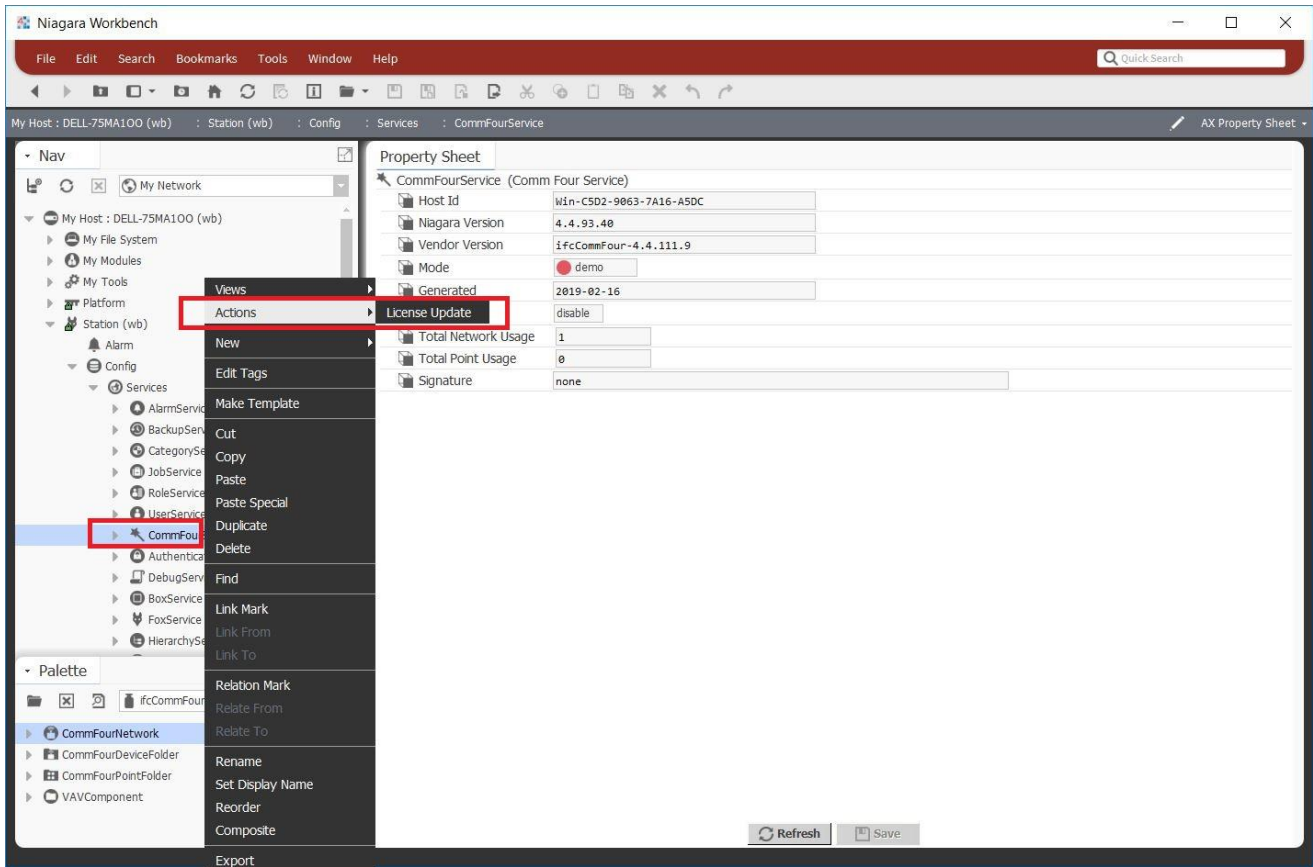
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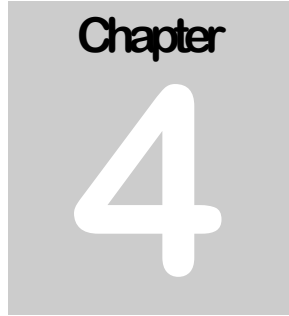
Licensing

CommFour driver License is independently run from the Tridium license, it has no restrictions to run to any existing license vendor.

CommFour license provide 2 hour demo license without the signature code. After the demo license expires, the CommFour Driver communications will automatically stop and will show a fatal error at the CommFour Network level. "CommFour license expired". To extend the demo period user is required to restart the station.

To request a license, please submit the Host ID of JACE, to unlock the driver go to the service container, "ComFourService", click on the right click mouse button on "ComFourService", action and invoke command "License Update", the dialog "License Update" will appear as below. Place the Signature code in the "Signature" and select Point Count (if applicable) property value. Please note the license only provide by authorize vendor. If the signature code is successfully enters the "Mode" property will automatically change to "registered" and the user is required to reboot JACE to apply the change.

end