

FX Supervisory Controller Upgrade and Migration Instructions Technical Bulletin

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Document Introduction

This document is intended for persons who upgrade software for FX Supervisory Controllers.

This document describes FX Supervisory Controller documentation and controller concepts. It describes the detailed procedures for upgrading FX Workbench 6.x and earlier and the steps for migrating to FX Supervisory Software 14.x.

Concepts

FX Supervisory Controllers

FX Supervisory Controllers describe a family of hardware products. The FX80 is the only actively manufactured controller and it is recommended to use in every new installation. The FX20, FX40, FX60 are all no longer available to order and it is recommended they be replaced with an FX80. The FX30, FX60E, and FX70 have been discontinued and while they still are available to order, it's recommended that an FX80 is ordered instead. FX Supervisory Controllers provide the following capabilities:

- Field bus, network-level integration of devices (such as HVAC equipment controllers, lighting panels, and variable frequency drives).
- Direct integration of inputs and outputs (such as energy meters, alarm indicators, temperature sensors, and actuators).
- Field bus, network-level automation and coordination through scheduling, alarming, trending, and customized control logic (such as runtime totalization, energy management, interlocking, staging/sequencing, and PID control).
- Web-based, graphical user interface that supports both local and remote access.

FX Server

The FX Server software product is available for various computer platforms and provides:

- Network integration of two or more Facility Explorer 6.x and earlier, or one or more for Facility Explorer 14, FX Supervisory Controllers, or IP-based devices (without any FX Supervisory Controllers).
- Network-wide automation and coordination for one or more FX Supervisory Controllers through master scheduling, and centralized, long-term, high-capacity storage of alarms and trends.
- Centralized, network-wide, web-based, graphical user interface for one or more FX Supervisory Controllers supporting both local and remote access.

(Release 6.x) FX Supervisor Controller Family Software DVD (LP-FXWB-COPY)

The FX Supervisor Controller Family Software DVD includes a suite of software tools and applications used to configure, commission, and interact with FX Supervisory Controllers. The FX Supervisory DVD includes:

- **FX Workbench and FX Server:** this tool is used to configure and commission FX Supervisory Controllers using the Johnson Controls® configuration appliance.

- **FX Workbench Pro:** this tool is used to configure and commission FX Supervisory Controllers using both the Johnson Controls configuration appliance and the NiagaraAX™ Workbench.
- **FX Alarm Portal:** this application provides an alarm monitoring workstation.
- **LX Wizards:** the Support Pack, Configuration, and LX Smart Installer, are collections of executable files that let you configure a LON network and program LX controllers.

You can license FX Workbench/FX Workbench Pro using one of two ordering codes:

- End-User Version (FX-SL001M1-0).
- Engineering/Demo Version (FX-SLDEMO-0).

Table 1: Comparison of FX Tools Supervisory Pro Versions

Feature	End-User Version (FX-SL001M1-0)	Engineering/Demo Version (FX-SLDEMO-0)
Allows users to connect to and interact with FX Supervisory Controllers	Yes	Yes
Allows users to reconfigure existing stations while online	Yes	Yes
Allows users to back up and restore stations	Yes	Yes
Allows users to create new stations while offline	No	Yes
Expiration Policy	Never expires	Expires every October 31
Intended user type	Facility operations personnel	Installing contractors

FX Alarm Portal Client

FX Alarm Portal Client (LP-FXWBALM-0) provides the FX Alarm Portal functionality only. FX Alarm Portal Client includes no FX Workbench or FX Workbench Pro functionality.

Upgrading

Upgrading is the process of installing new software onto your computer, onto an FX Supervisory Controller, or both.

Migration

Migration is similar to upgrading, but signifies a larger change in software. Migration typically requires more steps and conversions to move forward.

Upgrade Pricing Policy

You can purchase software new or you can purchase maintenance for software. Maintenance can be purchased in 1, 3, or 5-year increments. With each maintenance plan, you have access to any new software developed during that time. If you let the maintenance lapse, and want it later, you must buy the maintenance you missed plus the new maintenance.

Software Revision Numbering

All FX Supervisory Controller, FX Server, and FX Tools Supervisor Pro software products incorporate an instance of Niagara software. See the following table to find which revision of the Niagara software is used in each FX Supervisory software release.

Major Upgrades

Major upgrades typically contain new features, significant enhancements, and bug fixes. Major upgrades are identified by changes to the major revision number of the software. For example, 2.0 is a major upgrade to 1.2.

Minor Upgrades

Minor upgrades typically contain bug fixes or small enhancements. Minor upgrades are identified by changes to the minor revision number of the software. For example, 1.2 is a minor upgrade to 1.1.

Table 2: Niagara Version Used

SR	Key Identifying Features or Changes	Niagara Software Versions	FX20	FX30E	FX40	FX60	FX60E	FX70	FX80
1.0	Initial release that introduced the FX40 Supervisory Controller, FX Server, and FX Tools Supervisor Pro.	3.0.88	NA	NA	X	NA	NA	NA	NA
1.1	Minor release that introduced the update to the N2 Device Manager, corrections to the Variable Air Volume (VAV) Modular Assembly (VMA) occupancy enumerations, and other minor bug fixes.	3.0.99	NA	NA	X	NA	NA	NA	NA
1.2	Minor release that introduced several enhancements and bug fixes, including a new tabbed structured system graphic template, new Schedule, Point Group, and Link Managers, and FX Alarm Portal.	3.0.106	NA	NA	X	NA	NA	NA	NA
2.0	Major release that introduced the FX20 and FX60 Supervisory Controllers and accessories, FX Server Limited, FX Server driver options, FX Alarm Portal client, and bug fixes to the N2 driver.	3.3.22	X	NA	X	X	NA	NA	NA
2.1	Minor release that introduced the Wireless TEC Option card, LX Series LON Controller configuration wizards, a New Station wizard, and the Global Point Extension Manager.	3.3.31	X	NA	X	X	NA	NA	NA

Table 2: Niagara Version Used

SR	Key Identifying Features or Changes	Niagara Software Versions	FX20	FX30E	FX40	FX60	FX60E	FX70	FX80
2.2	Minor release that introduced support for iPhone® interface or a similar sized graphical user interface and the Point Order field to the System Library.	3.3.31	X	NA	NA	X	NA	NA	NA
3.0	Major release that introduced the FX22, FX62, and FX70 Supervisory Controllers and accessories, FXRIO Remote Input/Output (I/O) Module, and General Packet Radio Service (GPRS) Modem option card.	3.5.25	X	NA	NA	X	NA	X	NA
3.1	Minor release that introduced the Assisted Device Import feature, which supports the new FX-PC Programmable Controllers.	3.5.34	X	NA	NA	X	NA	X	NA
4.0	Major release that introduced the FX20, FX60, and FX70 Supervisory Controllers with factory-installed BACnet® MS/TP protocol driver licenses, additional option cards, FX Energy Suite, and FX20/FX60 basic demo supervisory controllers.	3.6.31	X	NA	NA	X	X	X	NA
4.1	Minor release that introduced FX Server changes, BTL Certification, and changes to the method of FX Supervisor Controller family software delivery and licensing.	3.6.47	X	NA	NA	X	X	X	NA
4.1	Patch release	3.6.407	X	NA	NA	X	X	X	
5.0	Major release that introduced revised graphic images and templates, N2 device convert manager, and new wizard service for LX controllers.	3.7.106	X	X	NA	X	X	X	NA

Table 2: Niagara Version Used

SR	Key Identifying Features or Changes	Niagara Software Versions	FX20	FX30E	FX40	FX60	FX60E	FX70	FX80
5.1	Minor release that introduced updates to FX Workbench. These updates include Batch Import, Simple Plant Standard Graphics, Point Summary Manager, Hardware Scan Service, Graphic Sizing Selection for Mobile Devices, and Launch FX-PCT.	3.7.106	X	X	NA	X	X	X	NA
5.2	Minor release that introduced the FX30E and FX60E Supervisory Controllers. Also introduced were updates to tuning polices in FX Workbench, N2 Help, and Zoning application graphics.	3.7.106	X	X	NA	X	X	X	NA
5.3	Patch release	3.7.108	X	X	NA	X	X	X	NA
6.0	Major release that allows FX Workbench to run on the Niagara 3.8 platform.	3.8.38	NA	X	NA	X	X	X	NA
6.1	Minor release that introduced updates to FX Workbench. These updates include Spaces and Equipment, Meters, WT4000, and updates to the Point Summary Manager.	3.8.38	NA	X	NA	X	X	X	NA
6.2	Patch release	3.8.41	NA	X	NA	X	X	X	NA
6.3	Minor release that introduced updates to FX Workbench. These updates include support for the FX80, Java® Web Start, support for Windows® 10, and an improved system usability.	3.8.111	NA	NR	NA	X	X	X	X
6.4	Patch release	3.8.213	NA	NR	NA	X	X	X	X
6.5	Patch release	3.8.311	NA	NR	NA	X	X	X	X

Table 2: Niagara Version Used

SR	Key Identifying Features or Changes	Niagara Software Versions	FX20	FX30E	FX40	FX60	FX60E	FX70	FX80
6.6	Minor release that provides four functional fixes: a new system property that allows extending the timeout on platform connection, a fix for CCN Numeric override never stops writing, certificates can now be approved for TLS connections from WebStart and the weather service can now follow URI redirects	3.8.401	NA	NR	NA	X	X	X	X
14.0	Major release that allows FX Workbench to run on the Niagara 4 platform. The jump from 6.x to 14.x was intentional to align with the Niagara software version moving forward.	4.0.22.16	NA	NR	NA	X	X	X	NA
14.1	Minor release that adds support for FX80 Supervisory Controllers	4.1.27.20	NA	NR	NA	X	X	X	X
14.2	Minor release that adds Analytics 2.0 to FX Workbench. There is also support for Linux® operating system, the Alarm Portal, more robust FX Server data management features, and support for FX80 legacy drivers.	4.2.36.38	NA	NR	NA	X	X	X	X
14.3	Minor release that introduced two new RIO modules. The release also adds new HTML5 screens to FX Workbench and improved mobile web device functionality.	4.3.58.18	NA	NR	NA	X	X	X	X

Table 2: Niagara Version Used

SR	Key Identifying Features or Changes	Niagara Software Versions	FX20	FX30E	FX40	FX60	FX60E	FX70	FX80
14.4	Minor release adding new HTML5 screens to FX Workbench, improving mobile web device functionality. Minor change to the User Service making the scheduled access for users available through the User Details section. The JCI User manager has been removed. Updating an existing Nav file is through the Tools menu.	4.4.73.6	NA	NR	NA	X	X	X	X
14.4 U1	Minor release that provides eighteen functional fixes. These included updated firmware to solve FX80 WIFI modem failure, a fix to Niagara Daemon Engine Watchdog, and fixes to lexicons, hyperlinking, scrolling, and adding notes. There was also internationalization fixes to lexicons and locales along with web fixes to PDF Export, Webchart, popups, PxIncludes and HTML5 property sheets.	4.4.92.2	NA	NR	NA	X	X	X	X
14.6	Minor release that provides a number of updates and fixes. These include Auto Export , a feature only available on Facility Explorer®, cybersecurity fixes and a mobile refresh update.	4.6.96.28	NA	NR	NA				X
14.7	Minor release that provides new provisioning steps for common processes, a new template type called 'Application Templates', and a secondary JACE port that supports the DHCP server.	4.7.109.2 0.3	NA	NR	NA				X

Table 2: Niagara Version Used

SR	Key Identifying Features or Changes	Niagara Software Versions	FX20	FX30E	FX40	FX60	FX60E	FX70	FX80
14.7.x	Minor release that provides a number of new FX features. These include extending 14.7 with automatic meta-data tagging of applications, a HTML5-based Point-Extension-Manager, point groups and a point-group-manager driven by data tags, and the launch of CCT 13.0, replacing PCT.	4.7.109.20.3	NA	NR	NA				X

- ❶ **Note:** NR stands for **Not Recommended** and SR stands for **Software Release**.
- ❷ **Note:** Based on poor performance observed under lab conditions, we do not recommend that you use the FX30E with software release 6.3 or any subsequent software release.
- ❸ **Note:** 14.4 is the final 14.x release that supports the FX30E, FX60E, and FX70. After 14.4, the 14.x releases will only support the FX80.

Software License Agreement

All Johnson Controls software is licensed. During the installation process, you must accept or decline the terms of the software licensing agreement.

Preventing Unauthorized Software Duplication or Usage

Johnson Controls, Inc. uses the following two methods to prevent unauthorized software duplication and usage.

- Acceptance of the terms of the software licensing agreement legally prohibits duplicating or using Johnson Controls Facility Explorer software tools without authorization. This method applies to all Johnson Controls Facility Explorer software.
 - A properly formatted and installed license file (*FacExp.license*) is required to enable the operation of FX Workbench, FX Workbench Pro, FX Alarm Portal, and FX Server.
- ❶ **Note:** At Release 14.0 and later, a new Johnson.license is required to enable the operation of the N2 driver.

License Files

License files are required to enable operation of FX Supervisory Controllers, FX Server, and FX Tools Supervisor Pro. License files are keyed to the host ID. A host ID is unique to each hardware platform.

- Host IDs that begin with **Win-** are targeted to computers.
- Host IDs that begin with **Qnx-** are targeted to FX Supervisory Controller.

A license file is a text file (*FacExp.license*) that you can read but not edit. License files contain a digital signature, and any attempt to edit them renders the files invalid.

Included in each license file is a list of features allowed to operate inside the host device. These features may include network drivers, database drivers, the maximum number of devices allowed, the maximum number of points allowed, tool profiles, and other feature options.

Also included in each license file is the version of Niagara software allowed to operate inside the host device. When upgrading software in a host (computer or FX Supervisory Controller), the license version must be equal to or greater than the software version.

Niagara^{AX} and Niagara 4 licenses are **two different files**. Make sure that you have the correct license for the Niagara version you are using. Niagara^{AX} licenses do not work on Niagara 4, and Niagara 4 licenses do not work on Niagara^{AX}.

Also, if you are emailed the licenses, the Niagara 4 .zip file also contains the Johnson.license for N2.

Part Numbers

The following table provides and compares the part numbers for both FX Supervisory Software 6.x Product Code and FX Supervisory Software 14.x Product Code.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
NA	NA	FX-SL000M1-0	FX Server with no network connection. For use with TCP/IP. Includes 1-year software maintenance.
NA	NA	FX-SL000M3-0	FX Server with no network connection. For use with TCP/IP. Includes 3-year software maintenance.
NA	NA	FX-SL000M5-0	FX Server with no network connection. For use with TCP/IP. Includes 5-year software maintenance.
LP-FXWBE-0	License enabling the end user version of FX Workbench client software. Enables those features needed to operate and re-configure FX Supervisory Controllers and FX Server stations only via an online connection (cannot create new stations offline). Intended for end users (operators). Never expires. Order (LP-FXWB-COPY) or download software separately.	FX-SL001M1-0	FX Server with one network connection. Client Workbench. Includes 1-year software maintenance.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
NA	NA	FX-SL001M3-0	FX Server with one network connection. Client Workbench. Includes 3-year software maintenance.
NA	NA	FX-SL001M5-0	FX Server with one network connection. Client Workbench. Includes 5-year software maintenance.
NA	NA	FX-SL002M1-0	FX Server with two network connections. Includes 1-year software maintenance.
NA	NA	FX-SL002M3-0	FX Server with two network connections. Includes 3-year software maintenance.
NA	NA	FX-SL002M5-0	FX Server with two network connections. Includes 5-year software maintenance.
LP-FXWS-3	License enabling 3-device FX Server. Allows integration of up to three FX Supervisory Controllers. Supports 32-bit or 64-bit Windows computer platforms. Includes Niagara Historical Database, FX Workbench, Niagara driver, and oBix client/server driver (only for connecting to Niagara-based controllers). Order (LP-FXWB-COPY) or download software separately.	FX-SL003M1-0	FX Server with three network connections. Includes 1-year software maintenance.
NA	NA	FX-SL003M3-0	FX Server with three network connections. Includes 3-year software maintenance.
NA	NA	FX-SL003M5-0	FX Server with three network connections. Includes 5-year software maintenance.
NA	NA	FX-SL010M1-0	FX Server with 10 network connections. Includes 1-year software maintenance.
NA	NA	FX-SL010M3-0	FX Server with 10 network connections. Includes 3-year software maintenance.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
NA	NA	FX-SL010M5-0	FX Server with 10 network connections. Includes 5-year software maintenance.
LP-FXWS-100	License enabling 100-device FX Server. Allows integration of up to 100 FX Supervisory Controllers. Supports 32-bit or 64-bit Windows computer platforms. Includes Niagara Historical Database, FX Workbench, Niagara driver, and oBix client/server driver (only for connecting to Niagara-based controllers). Order (LP-FXWB-COPY) or download software separately.	FX-SL100M1-0	FX Server with 100 network connections. Includes 1-year software maintenance.
NA	NA	FX-SL100M3-0	FX Server with 100 network connections. Includes 3-year software maintenance.
NA	NA	FX-SL100M5-0	FX Server with 100 network connections. Includes 5-year software maintenance.
LP-FXWS-UNL	License enabling unrestricted FX Server. Allows integration of an unrestricted number of FX Supervisory Controllers (actual number of FX Supervisory Controllers will be limited only by the power of the host computer platform) Supports 32-bit or 64-bit Windows computer platforms. Includes Niagara Historical Database, FX Workbench, Niagara driver, and oBix client/server driver (only for connecting to Niagara-based controllers). Order (LP-FXWB-COPY) or download software separately.	FX-SLUNLM1-0	FX Server with unlimited network connections. Includes 1-year software maintenance.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
NA	NA	FX-SLUNLM3-0	FX Server with unlimited network connections. Includes 3-year software maintenance.
NA	NA	FX-SLUNLM5-0	FX Server with unlimited network connections. Includes 5-year software maintenance.
LP-FXSWUPG-0	License file enabling a one-time software upgrade for one copy of FX Server or 1 copy of FX Workbench-End User Version or 1 copy of FX Alarm Portal	FX-SL000M1-6	FX Server no upgrade. Includes 1-year software maintenance
NA	NA	FX-SL000M3-6	FX Server no upgrade. Includes 3-year software maintenance
NA	NA	FX-SL000M5-6	FX Server no upgrade. Includes 5-year software maintenance.
NA	NA	FX-SL001M1-6	FX Server one upgrade. Includes 1-year software maintenance.
NA	NA	FX-SL001M3-6	FX Server one upgrade. Includes 3-year software maintenance.
NA	NA	FX-SL001M5-6	FX Server one upgrade. Includes 5-year software maintenance.
NA	NA	FX-SL002M1-6	FX Server two upgrade. Includes 1-year software maintenance.
NA	NA	FX-SL002M3-6	FX Server two upgrade. Includes 3-year software maintenance.
NA	NA	FX-SL002M5-6	FX Server two upgrade. Includes 5-year software maintenance.
NA	NA	FX-SL003M1-6	FX Server three upgrade. Includes 1-year software maintenance.
NA	NA	FX-SL003M3-6	FX Server three upgrade. Includes 3 year software maintenance.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
NA	NA	FX-SL003M5-6	FX Server three upgrade. Includes 5-year software maintenance.
NA	NA	FX-SL010M1-6	FX Server 10 upgrade. Includes 1-year software maintenance.
NA	NA	FX-SL010M3-6	FX Server 10 upgrade. Includes 3-year software maintenance.
NA	NA	FX-SL010M5-6	FX Server 10 upgrade. Includes 5-year software maintenance.
NA	NA	FX-SL100M1-6	FX Server 100 upgrade. Includes 1-year software maintenance.
NA	NA	FX-SL100M3-6	FX Server 100 upgrade. Includes 3-year software maintenance.
NA	NA	FX-SL100M5-6	FX Server 100 upgrade. Includes 5-year software maintenance.
NA	NA	FX-SLUNLM1-6	FX Server unlimited upgrade. Includes 1-year software maintenance.
NA	NA	FX-SLUNLM3-6	FX Server unlimited upgrade. Includes 3-year software maintenance.
NA	NA	FX-SLUNLM5-6	FX Server unlimited upgrade. Includes 5-year software maintenance.
LP-FXWBDEM-0	License enabling the Engineering/Demo version of FX Workbench client software: Enables all features needed to engineer or demonstrate FX Supervisory Controllers and FX Server Stations. Intended for installing contractors. Requires annual support fee. Expires yearly. Order (LP-FXWB-COPY) or download software separately.	FX-SLDEMO-0	FX Server Demo

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
NA	NA	FX-SLU001-6	FX Server additional one network upgrade
LP-FXWSU-100	License update to convert a three-device FX Server license to a 100-device FX Server license	FX-SLU100-6	FX Server 100 network upgrade
LP-FXWSU-UNL	License update to convert a 100-device FX Server license to an unrestricted FX Server license	FX-SLUUNL-6	FX Server unlimited network upgrade
NA	NA	FX-SLDL010-0	FX Server 10 IP device license
NA	NA	FX-SLDL025-0	FX Server 25 IP device license
NA	NA	FX-SLDL050-0	FX Server 50 IP device license
NA	NA	FX-SLDL100-0	FX Server 100 IP device license
NA	NA	FX-SLDL200-0	FX Server 200 IP device license
LP-FXWSBACC-0	License enabling the BACnet/IP client driver (first 500 points) for one FX Server	NA	All BACnet Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSBACS-0	License enabling the BACnet/IP server driver (first 500 points) for one FX Server	NA	All BACnet Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSBACCS-0	License enabling combination of the BACnet/IP client and server driver (first 500 points) for one FX Server. <i>ⓘ</i> Note: Adding B-AWS or B-OWS to this license invalidates the BTL listing.	NA	All BACnet Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSBACSU-0	License to add the BACnet/IP server driver to an FX Server that has already been licensed with the BACnet/IP client driver	NA	All BACnet Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
LP-FXWSBACCU-0	License to add the BACnet/IP server driver to an FX Server that has already been licensed with the BACnet/IP client driver	NA	All BACnet Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSBAC5-0	License enabling 500 additional BACnet/IP points for one FX Server	NA	All BACnet Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSBACOW-0	License enabling the BACnet Operator Workstation (B-OWS) for one FX Server (requires the BACnet/IP client driver)	NA	FX Server 14.x is not BTL listed.
LP-FXWSBACAW-0	License enabling the BACnet Advanced Operator Workstation (B-AWS) for one FX Server (requires the BACnet/IP client driver)	NA	FX Server 14.x is not BTL listed.
LP-FXWSBACAWU-0	License to upgrade a BACnet Operator Workstation (B-OWS) to a BACnet Advanced Operator Workstation (B-AWS)	NA	FX Server 14.x is not BTL listed.
LP-FXWSMDB-0	License enabling Modbus TCP client driver (500 points) for one FX Server	NA	All Modbus Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSMDB5-0	License enabling 500 additional Modbus TCP client driver points for one FX Server	NA	All Modbus Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSMDBS-0	License enabling Modbus TCP subordinate driver (first 500 points) for one FX Server. Enables FX Server to serve its data to Modbus master devices over a Modbus TCP connection.	NA	All Modbus Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
LP-FXWSMDBS5-0	License enabling 500 additional Modbus TCP subordinate driver points for one FX Server	NA	All Modbus Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSOPC-0	License enabling OPC driver (500 points) for one FX Server	NA	NA
LP-FXWSOPC5-0	License enabling 500 additional OPC points for one FX Server	NA	NA
LP-FXWSOBX-0	License enabling oBix driver (500 points) for one FX Server	NA	NA
LP-FXWSOBX5-0	License enabling 500 additional oBix points for one FX Server	NA	NA
LP-FXWSSNMP-0	License enabling SNMP driver (500 points) for one FX Server	NA	All SNMP Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
LP-FXWSSNMP5-0	License enabling 500 additional SNMP points for one FX Server	NA	All SNMP Drivers come with purchase of FX Server. Device license is required for each TCP/IP device being managed.
NA	NA	FX-SLMYSQL-0	FX Server MYSQL license
LP-FXWSORCL-0	License enabling Oracle database driver for one FX Server	FX-SLORCL-0	FX Server Oracle license
LP-FXWSSQL-0	License enabling SQL database driver for one FX Server	FX-SLSQL-0	FX Server SQL license
LP-FXWSCSV-0	License enabling *.xls and *.csv file data to be imported into one FX Server	FX-SLCSV-0	FX Server CSV license
LP-FXWSOPC-0	License enabling OPC driver (500 points) for one FX Server	FX-SLOPCCL-0	FX Server OPC client license
LP-FXWSDB2-0	License enabling IBM DB2 database driver for one FX Server	NA	NA

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
LP-FXESTA-0	License enabling FX Energy to analyze data from one FX Supervisory controller or station. Analyzes as many points as the designated FX Supervisory controller can support. Can be combined with point licenses (LP-FXEPN) as required to complete a solution.	NA	NA
LP-FXEPNT-0	License enabling FX Energy to analyze a single point of data. Analyzes a single point from an FX Supervisory controller or station, an instance of Niagara, a meter or a database point. Can be combined with station licenses (LP-FXESTA) as required to complete a solution.	NA	NA
LP-FXWSSADR-0	License enabling the Simple OpenADR software driver for one FX Server. Allows communication to the Akuacom DRAS. Limited to one DRAS client connection to the DRAS. Includes a CRYPTO license for the SSL connection.	NA	NA
LP-FXWSSADR1-0	License enabling one additional DRAS client server connection. The FX Server must already contain part number LP-FXWSSADR-0.	NA	NA
LP-FXWBALM-0	License enabling FX Alarm Portal Client software. Enables only FX Alarm Portal and Alarm Console features. Intended for end users. Never expires. Order (LP-FXWB-COPY) or download software separately.	NA	NA

Table 3: Product Code Conversion Table

FX Supervisory Software 6.x	Description	FX Supervisory Software 14.x	Description
LP-FXLICCH-0	License change fee to transfer end-user license from one computer's host ID to another.	NA	NA
LP-FX40UPG-0	License enabling a one-time software upgrade for one FX20/FX40/FX60/FX70	FX-SC3EM1-6	FX30E software 1-year maintenance upgrade.
NA	NA	FX-SC3EM3-6	FX30E software 3-year maintenance upgrade.
NA	NA	FX-SC3EM5-6	FX30E software 5-year maintenance upgrade.
LP-FX40UPG-0	License enabling a one-time software upgrade for one FX20/FX40/FX60/FX70	FX-SC6EM1-6	FX60E software 1-year maintenance upgrade.
NA	NA	FX-SC6EM3-6	FX60E software 3-year maintenance upgrade.
NA	NA	FX-SC6EM5-6	FX60E software 5-year maintenance upgrade.
LP-FX40UPG-0	License enabling a one-time software upgrade for one FX20/FX40/FX60/FX70	FX-SC7M1-6	FX70 software 1-year maintenance upgrade.
NA	NA	FX-SC7M3-6	FX70 software 3-year maintenance upgrade.
NA	NA	FX-SC7M5-6	FX70 software 5-year maintenance upgrade.
NA	NA	FX-SC8M1-6	FX80 software 1-year maintenance upgrade.
NA	NA	FX-SC8M3-6	FX80 software 3-year maintenance upgrade.
NA	NA	FX-SC8M5-6	FX80 software 5-year maintenance upgrade.
LP-FXWB-COPY	FX Supervisory Controller family software, delivered on DVD. Contains installation images for FX Server, FX Workbench, and FX Alarm Portal Client. Licenses not included. Order licenses separately.	FX-DVD-COPY	FX Supervisory Controller family software, delivered on DVD. Contains latest installation images for FX Server, FX Workbench, and FX Alarm Portal Client. Licenses not included. Order licenses separately.

Detailed Procedures for Upgrading FX Workbench 6.x and Earlier

- ① **Note:** If you are using Facility Explorer 5.x or earlier and want to migrate to Facility Explorer 14, you must purchase the upgrade part to move to Facility Explorer 6.x before you move to Facility Explorer 14.x. To migrate to Facility Explorer 14.x, see [Detailed Procedures for Migrating to FX Supervisory Software 14.x](#).

This section describes how to back up your FX Supervisory Controller and prepare it for upgrading. It also provides detailed instructions on how to upgrade FX Workbench, re-license the FX Supervisory Controller, and install new software into the FX Supervisory Controller.

Backing Up Your FX Supervisory Controller Station

1. Expand the Nav tree for the station you want to back up.
2. In the Nav tree, expand **Platform**.
3. Double-click **Station Copier**.
4. Select the station that you want to copy from the **Stations on** panel.
5. Click **Copy**.
6. Enter a name for the Station name and click **Next**.
7. Select **Copy every file in the station directory and its subdirectories** and click **Next**.

Table 4: Transferring Station Copy Options

Feature	Description
Copy files from selected directories	Allows you to select individual files to copy and transfer
Copy every file in the station directory and its subdirectories	Copies all files for transfer (recommended for backing up a remote station during this upgrade procedure)
Copy only the config.bog station database file	Copies the station database only (for example, drivers, devices, and points) and no associated files

8. Click **Next**. The station is stopped.
9. Verify that the transfer information is correct and click **Finish**. The station files are transferred to your computer. When the transfer is complete, the Save station and Transfer files indicators turn green, and the last entry in the Transferring station window states **Transfer complete**
10. Click **Close**. The remote station is now backed up to your computer.

Preparing Your FX Supervisory Controller for Upgrading

Upgrading FX Supervisory Controllers typically requires additional memory.

- ① **Note:**

- You **must** make sure your FX Supervisory Controller has an adequate amount of memory before you attempt the upgrade. If you attempt to upgrade an FX Supervisory Controller that does not have enough memory, the upgrade procedure fails and your FX Supervisory Controller may become unrecoverable.
- **Do not** attempt to upgrade an FX40 (with standard memory, 128 MB RAM, 31 MB flash) to version 2.2 or higher. The FX40 does not have enough memory to support this upgrade.
- **Do not** attempt to upgrade an FX20 to Release 5.0 if the **/ffs0** partition is less than 5.0 MB of file space. To see how much free file space is available, open the **Platform\Platform Administration** view and note how much file space is free. If there is less than 5.0 MB free, we do not recommend that you upgrade to FX20 (1024 KB = 1 MB. 5120 KB = 5 MB).

Checking for Minimum Memory Requirements

1. Start FX Workbench by clicking **Start > Programs > FX Tools Supervisor Pro-x.x > FX Workbench**.
2. Connect to the FX Supervisory Controller by selecting **File > Open Remote Station** and entering the IP address and platform and station login credentials.
3. In the Navigation sidebar, expand **Administration**, double-click **Platform**, and verify the file system (**/ffs0**) has the minimum memory requirements identified in Table 5. If it does not, see [Troubleshooting the File Too Large Error Message](#) before continuing with this upgrade.

Table 5: Approximate Memory Requirements for Upgrading

Feature	Description
From 1.2 to 2.0	3072 KB (3.0 MB)
From 1.2 to 3.0	Not recommended
From 2.0 or 2.1 to 3.0	10,000 KB (10 MB)
From 2.2 to 3.0	5,000 KB (5 MB)
From 3.0 to 4.1	5,000 KB (5 MB)
From 4.1 to 5.0	5,000 KB (5 MB)

4. If your FX Supervisory Controller does not contain the minimum memory requirements, then delete unused files to increase the file space. Some files that are likely unused are the Graphic Templates stored in the **sysGraphicsFile**, **sysGraphicsFileHx**, **sysPxFile**, and **sysPxFileHx** folders.
 - ⓘ **Note:** If you delete all the unused files and the minimum required free space is still not available, the FX Supervisory Controller cannot be upgraded.

Upgrading the FX Workbench Software

You use FX Workbench to upgrade the FX Supervisory Controller. Therefore, you must upgrade your FX Workbench software before you can upgrade your FX Supervisory Controller.

1. Email a request to software.manufacturing@jci.com for an upgraded license to your FX Workbench. In your email, please provide your host ID (Win-####).
 - ⓘ **Note:** If your FX Workbench software is not currently part of a software maintenance agreement, you need to order a software upgrade. Include your purchase order number on the same email.
2. Receive the upgraded FX Workbench software license, unzip it, and paste it into the licenses folder (*FXWorkbench-6.x\licenses* or *FXWorkbench-14.x\security\licenses*).

3. Obtain the most recent version of FX Workbench by ordering LP-FXWB-COPY or FX-DVD-COPY (for 14.x) or by downloading it from the Pro FX User Connected Community.
4. Receive the CD.
 - ⓘ **Note:** The license file you obtained in Step 2 should be automatically copied from your previous installation directory and pasted into the licenses folder of your new installation directory. If not, copy and paste it there.
5. Run the software by clicking **Start > Programs > FX Tools Supervisor Pro > FX Workbench 6.x > FX Workbench 6.x Pro** or **FX Workbench 14.x > FX Workbench 14.x Pro**.

Relicensing the FX Supervisory Controller

If your FX Supervisory Controller is not currently part of a software maintenance agreement, you must order a software upgrade license.

1. Email a request to software.manufacturing@jci.com for an upgraded license. Provide your host ID (Qnx-####) and purchase order number (if buying a software upgrade license).
2. Receive the upgraded FX Supervisory Controller license and paste it into the licenses folder of your FX Tools Supervisor Pro installation directory (C:\JCI\FXSupervisorPro-x.x\licenses).
3. Start FX Workbench by clicking **Start > Programs > FX Workbench 6.x > FX Workbench 6.x Pro** or **FX Workbench 14.x > FX Workbench 14.x Pro**.
4. Connect to the FX Supervisory Controller by selecting **File > Open Remote Station** and entering the IP address and platform and station login credentials.
5. Expose the Nav tree.
6. In the Nav tree, double-click **Platform**.
7. Double-click **License Manager**.
8. Click **Import**.
9. Click **Import one or more licenses from files**.
10. Click **OK**.
11. Select the location of the new FX Supervisory Controller license file you received in Step 2.
 - ⓘ **Note:** Select the license with **Qnx-** in the Host ID number.
12. Click **OK**.
13. Click **Yes** on the Licensing Complete dialog box to reboot the system.
 - ⓘ **Note:** The reboot process can take up to 5 minutes depending on network and computer performance. There is no indicator for the progress of the reboot. If an attempt to reconnect to the FX Supervisory Controller fails, wait for the system to complete the reboot and try again.
14. Reconnect to the FX Supervisory Controller after the reboot process has completed.

Installing New Software into the FX Supervisory Controller

- **Important:** Be certain you want to upgrade an FX40 from version 1.2 to 2.0. Once you upgrade the FX40 from version 1.2 to 2.0, you cannot downgrade back to 1.2.

- ① **Note:** Go to [Upgrading an FX20 to FX Supervisor Release 5.0](#) if you are upgrading an FX20 to FX Supervisor Release 5.0.
1. Start the latest release of FX Workbench by clicking **Start > Programs > FX Workbench 6.x > FX Workbench 6.x Pro** or **FX Workbench 14.x > FX Workbench 14.x Pro**.
 2. Connect to the FX Supervisory Controller by selecting **File > Open Remote Station** and entering IP address and platform and station login credentials.
 3. Expand **Platform**.
 4. Double-click **Platform Administration** and then click **Commissioning**.
 5. Leave the default selections and click **Next**.
 6. Verify that the license revision installed on the FX Supervisory Controller allows you to install the latest software.
 7. Click **Install one or more licenses from files** if the FX Supervisor requires an upgraded license. Click **Don't change any licenses** if the installed license supports the FX Supervisory Software revision being added.
 8. Click **Next**.
 9. Click **UI+RUNTIME** and click **Next**.
 10. In the Station list, select **Don't transfer a station** and click **Next**.

Figure 1: Commissioning Wizard - Software Installation

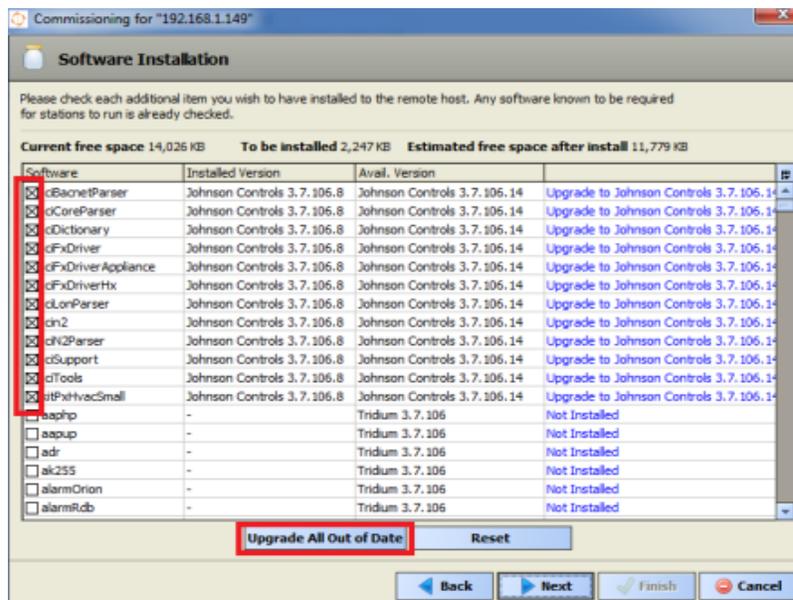
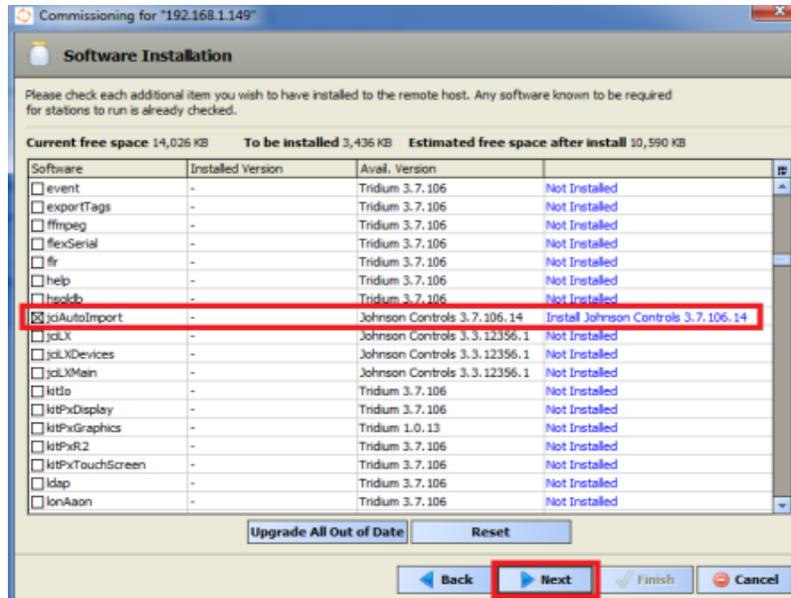


Figure 2: Commissioning Wizard - Software Installation



11. Click **Upgrade All Out of Date**. The system selects the check boxes next to the out-of-date software. Use the scroll bar to locate and add additional .jar files that were added with the new release but may not have been on the FX Supervisory Controller that is being upgraded. In the Avail. Version column, look for .jar files from Johnson Controls. Select the check box to include a .jar file in the upgrade process. For example, if you select the jciAutoImport .jar file, then the file is included with the upgrade.
You do not need to add .jar files like *jciLX*, *jciLXDevices*, or *jciLXMain* unless you have a Lon-Works® network.
12. Click **Next**. The Distribution File Installer lists the software that needs to be installed.
13. Click **Next**.
14. Leave the default selections and click **Next**.
15. Keep the current Platform name and password and click **Next**.
16. Click **Finish**. The station stops running. All .jar files are now updated.

Upgrading FX Server

1. If your FX Server is not currently part of a software maintenance agreement, you must order a software upgrade license. Email a request to software.manufacturing@jci.com for an upgraded FX Server license. Provide your host ID (Win-####) and purchase order number (if buying a software upgrade license).
2. When you receive the upgraded FX Server license, paste it into the licenses folder of your FX Server installation directory (C:\JCI\FXServer-x.x\licenses).
3. To obtain the most recent version of FX Server, order LP-FXWB-COPY or download it from the Pro FX User Connected Community.
4. Install the new FX Server software.

① **Note:** The license file you obtained in Step 1 should be automatically copied from your previous installation directory and pasted into the licenses folder of your new installation directory. If it is not, copy and paste it there.

5. Copy your station files from the old FX Server installation directory (*C:\JCI\FXServer-x.x\stations\station name*) to the new FX Server installation directory.
6. Run the software by clicking **Start > Programs > FX Server**.

Troubleshooting

This section describes the most common problem encountered when upgrading an FX40 from Release 1.x to 2.0, and how to resolve the problem.

Troubleshooting the File Too Large Error Message

A minimum of 3,072 KB (3.0 MB) of free file space is required to upgrade the FX40 to 2.0. A File Too Large error message appears if the minimum file space is not available. Delete unused files to increase the file space. Follow this procedure to delete the Graphic Templates on the FX40, which are likely to be unused.

① **Note:** If you delete all the unused files and the minimum required free space is still not available, the FX40 cannot be upgraded.

Table 6: Troubleshooting the File Too Large Error Message

Problem	Solution
A File Too Large error message appears and the upgrade cannot be completed	<ol style="list-style-type: none"> 1. Close the File Too Large error message and exit the installation wizard. 2. In the Navigation tree, expand the Administration folder. 3. Double-click the Files folder. The sysPxFile folder appears in the right window (along with other folders and files). 4. Double-click the sysPxFile folder. The Graphic Templates files appear in the right window. 5. Select all the files: click the top file, scroll to the bottom of the window, hold down the Shift key, and click the bottom file. (Or press the Ctrl key and click individual files to select only those files.) 6. Right-click the selected files and click Delete. The selected files are deleted from the FX40.

Detailed Procedures for Migrating to FX Supervisory Software 14.x

Migration is similar to upgrading, but signifies a larger change in software. Migration typically requires more steps and conversions to move forward.

In the [Appendix](#) of this document, a high-level migration checklist has been provided to assist with your decision on migration. See the [Migration Checklist](#).

Prerequisites for Migration

If you are not at FX Supervisory Software 6.x, you must upgrade to FX Supervisory Software 6.x before you migrate to FX Supervisory Software 14.x.

Before migrating an FX Supervisory controller, you need to have the following:

- a station running FX Supervisory Software 6.x. To upgrade FX Supervisory Software 6.x, see [Detailed Procedures for Upgrading FX Workbench 6.x and Earlier](#).
- a licensed version of FX Supervisory Software 14.x on your computer
- new FX Supervisory Software 14.x licenses for the controller that you are migrating

FX Supervisory Software 14 Migration Considerations

Many factors should weigh into the decision on whether or not to migrate an FX Supervisory Controller and FX Server. This section provides guidelines for migration of your application.

Considering Platform Compatibility

Determine if the desired platform is compatible with FX Release 14.x. Use the following table as a reference.

The information in the following table does not guarantee that you can migrate the station on that platform; instead, the table explains which platforms are not able to migrate.

Table 7: Platform Compatibility

Platform	Compatible with FX Release 14	Not Compatible with FX Release 14
FX Supervisory Controllers	<ul style="list-style-type: none">• FX30E^{1,2}• FX60²• FX60E²• FX70²• FX80³	FX20 FX40

Table 7: Platform Compatibility

Platform	Compatible with FX Release 14	Not Compatible with FX Release 14
FX Server	Windows 7 Windows 8.1 Windows 10.0 Windows Server 2012	Windows® Vista® Windows XP Windows Server 2008 Linux®

1 Only compatible with FX Release 14 if the heap has been expanded.

2 The FX30E, FX60, FX60E, and FX70 Supervisory Controllers are only compatible with FX Release 14.0 through to 14.4.

3 FX80 Supervisory Controllers are compatible with FX Release 14.1 and greater (they are not compatible with 14.0).

Options for dealing with incompatible platforms include:

- Keep incompatible platform at or below FX Workbench Release 6.x. These platforms can interact with platforms at FX Release 14.x with some limitations. The FX Server must be at FX 14.x, if any other supervisory controller on the network is at FX 14.x. For example, to install or upgrade any supervisory controller to FX 14.x, you must update the FX Server to 14.x. The FX Server must be at the highest release, or greater, of any FX80 on the network.
- Replace the platform with a compatible platform.

Table 8: FX Supervisory Controller Network Compatibility

From	To	Supported	Notes
FX Supervisory Controller 14 (Station)	FX Supervisory Controller 4.x to 6.x (Station)	Yes	Limited
FX Supervisory Controller 4.x to 6.x (Station)	FX Supervisory Controller 14 (Station)	Yes	With exceptions
FX Supervisory Controller 14 (Station)	FX Server 4.x to 6.x	No	Not blocked
FX Workbench 14	FX Supervisory Controller 4.x to 6.x (Platform)	Yes	Connection is available for migration process to FX Supervisory Software Release 14
FX Workbench 14	FX Supervisory Controller 4.x to 6.x (Station)	No	Blocked
FX Workbench 4.x to 6.x	FX Supervisory Controller 14 (Station)	No	Blocked
FX Workbench 4.x to 6.x	FX Supervisory Controller 14 (Platform)	No	Blocked

For more detailed information on compatibility, in FX Workbench 14 Pro from the Help menu, select **Help Contents**. Click the Search tab and type *compatibility*.

Considering Driver, Feature, and Application Compatibility

You must also consider driver, feature, and application compatibility. Facility Explorer Release 14 is a significant code base change. For modules that worked at Facility Explorer Release 6.x and earlier to work at Facility Explorer 14 and later, they must be refactored. All modules developed by Johnson Controls have been refactored for use in Facility Explorer Release 14 with the exception of the Wireless TEC module.

Table 9: Johnson Controls Modules

Johnson Controls Module	Refactored FX Release 14
jciAutoImport.jar	Yes
jciBacnetParser.jar	Yes
jciBACnetTEC.jar	Yes
jciCoreParser.jar	Yes
jciDictionary.jar	Yes
jciFxDriver.jar	Yes
jciFxDriverAppliance.jar	Yes
jciFxDriverHx.jar	Yes
jciMeters.jar	Yes
jcin2.jar	Yes
jciN2Parser.jar	Yes
jciN2TEC.jar	Yes
jciSpaces.jar	Yes
jciSupport.jar	Yes
jciTools.jar	Yes
kitPxHvacSmall.jar	Yes
wirelessStat.jar	No

- ① **Note:** The Wireless TEC module is loaded by factory default on all of the FX Supervisory Controllers. The **FX14UpgradeAssessmentTool** does alert you that this module has not been refactored for use for Facility Explorer Release 14. If the Wireless TEC is not being used, you may choose to ignore this alert. We recommend, however, that you remove this module if it is not in use. If the TEC module is being used, then the FX Supervisory Controller should not be migrated to Facility Explorer Release 14.

For Niagara driver and application support, refer to the *Niagara 4 Driver and Application Support Section* within the Niagara Help system to determine which drivers have been refactored for Niagara 4 and FX Supervisory Software Release 14.

If the platform, drivers, features, and applications have been determined to be compatible and/or supported for use with FX Supervisory Software Release 14, do the following:

1. If the platform is at a release less than FX Supervisory Software Release 6.x, you must purchase and upgrade that platform to FX Supervisory Software Release 6.x and ensure it is running properly before moving further. Use parts LP-FX40UPG-0 and LP-FXSWUPG-0 as appropriate for the platform.
2. On supported FX Supervisory Controller platforms, run the **FX 14 Upgrade Assessment Tool** to determine if the required resources are available. See [FX Supervisory Software 14 Resource Requirements](#).

Figure 5: Johnson.license

```

klicense vendor="Johnson" expiration="2016-10-31" hostId="Onx-NPM3-0000-16DB-66E5" serialNumber="552732" version="4.0" generated="2015-10-28">
<feature name="N2JCI" expiration="2016-10-31" schedule.limit="none" point.limit="none" history.limit="none" device.limit="100"/>
<signature>MDC0FQC18/K5e0198jQ3e20tmEwS+2yng1Ub20K1AMcY23Kz/iFreFY+BBRBo</signature>
</license>

```

Figure 5 displays the **Johnson.license** (Niagara 4) in FX Workbench 14.x. This license is required when using the N2 protocol.

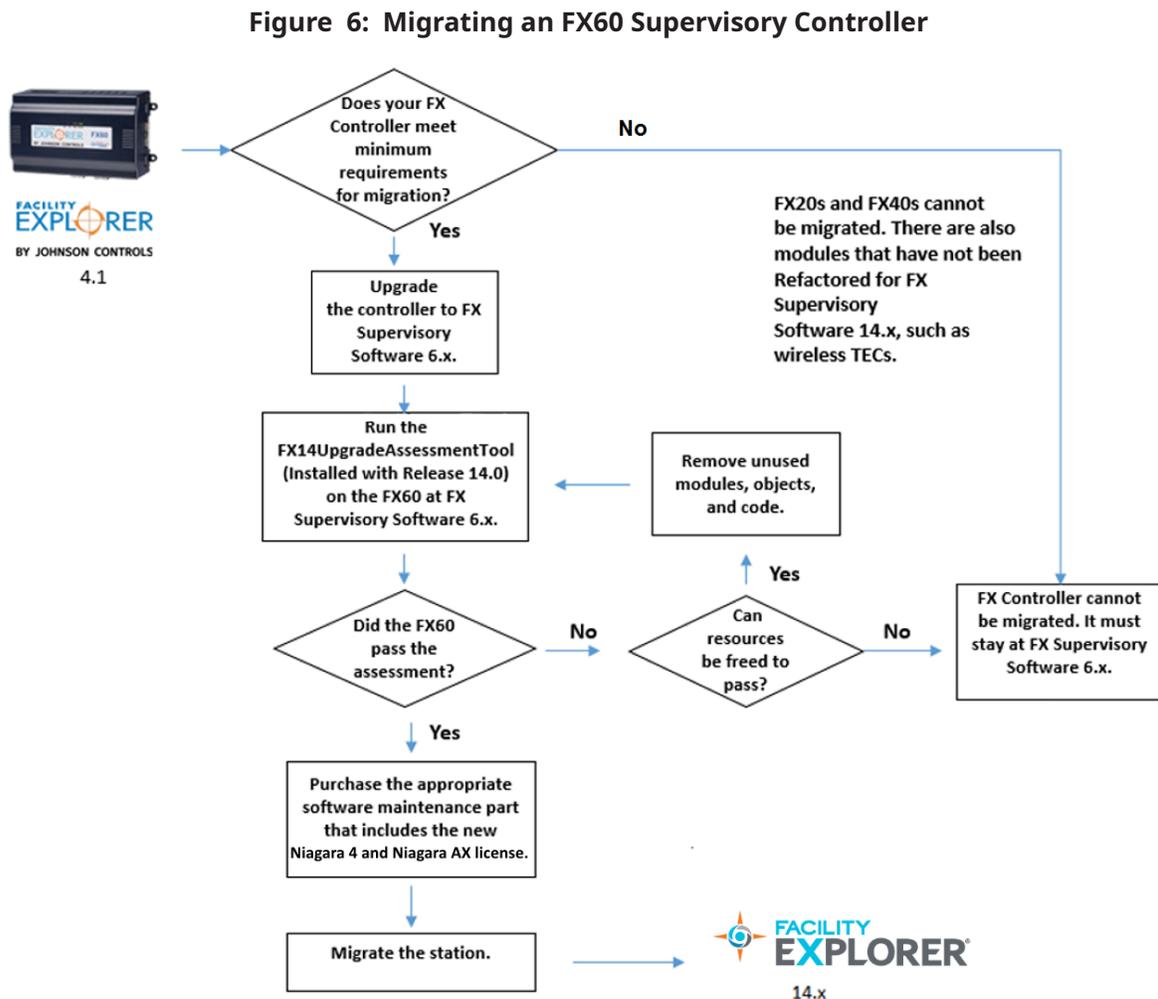
In general, a licensing model stays with a product throughout its lifetime. Parts purchased with an **LP-** prefix follows the FX Supervisory Software 6.x and earlier license models. Parts purchased with an **FX-** prefix follows the FX Supervisory Software 14.x and later 4.x license models.

The only exception to this rule is that to migrate a platform from FX Supervisory Software 6.x to FX Supervisory Software 14.x, you must purchase and apply an **FX-** software maintenance part to an **LP-** platform.

- ① **Note:** Products with **LP-** prefix do not ship with Facility Explorer Release 14.x and later. These products must be migrated in the field to use FX Supervisory Software 14.

Example of an FX Supervisory Controller Migration

Using the following flowchart as an example of when to migrate to FX Workbench 14.x.



FX Supervisory Software 14 Resource Requirements

Facility Explorer 14 requires more disk space, Java® heap, and RAM to run than a similar Facility Explorer 6.x station. Therefore, a controller with Facility Explorer 6.x running near capacity may not fit the same-sized station when migrated to FX Supervisory Software 14. The reasons are as follows:

- **Disk space (flash)**–FX Supervisory Software 14 requires between 14 to 16 MB more space than an equivalent FX Supervisory Software 6.x installation. Additional space is required by the new Java 8 Virtual Machine (VM) and new HTML5 UX features that enable a rich browser experience.
- **Heap space**–For an equivalent station, more Java heap is required due to new features and functionality. The baseline heap increase is about 10 MB. Additionally, more system memory is required.
- **History RAM disk size (FX60 and FX60E only)**–The maximum history RAM disk size on an FX60 has been reduced from 64 MB to 32 MB to free additional system memory. The default RAM disk size is 32 MB, so this should not affect most units. If the RAM disk on an FX60 with FX Supervisory Software 6.x has been upgraded, then this increase in the RAM disk size comes at the expense of heap space (for example, if you upgrade your memory, the additional 32 MB is allotted for heap space and is not usable as RAM post-migration).

❗ **Note:** Maximum history count has not changed.

Run the **FX14UpgradeAssessmentTool** on the Release 6.x Supervisory Controller to determine if it meets the minimum requirements to be migrated to FX 14. The **FX14UpgradeAssessmentTool** is a program that is included with the FX Workbench 14 installation. The program checks your controller for memory and heap resources, disk space, .jar files, and for password encryption.

❗ **Note:** For the migration, the **Facility Explorer Upgrade Assessment Tool** automatically modifies the Backup Service to include the history and alarm data in the backup process (which comes later in the process). However, because of possible size limitations, the four graphics folders (sysGraphics file, sysGraphicsFileHx, sysPxFile, and sysPxFileHx) are removed from the backup process. Although space is gained by the removal of these graphic files, you no longer have access to these files after the migration. These files may be added post-migration as space allows.

➤ **Important:** After the **FX14UpgradeAssessmentTool** has completed, you must delete it from the station; otherwise, it may cause the migration tool to fail.

❗ **Note:** Before you perform this procedure, you must first install FX Workbench 14.

Default Values for the Backup Service Exclude Files and Directories

The following default values for the Backup exclude files and directories of the Backup Service. If needed, you can change these settings after a station migration, so that the backup of the station has the original settings.

Table 10: Default Values for the Backup Service Exclude Files and Directories

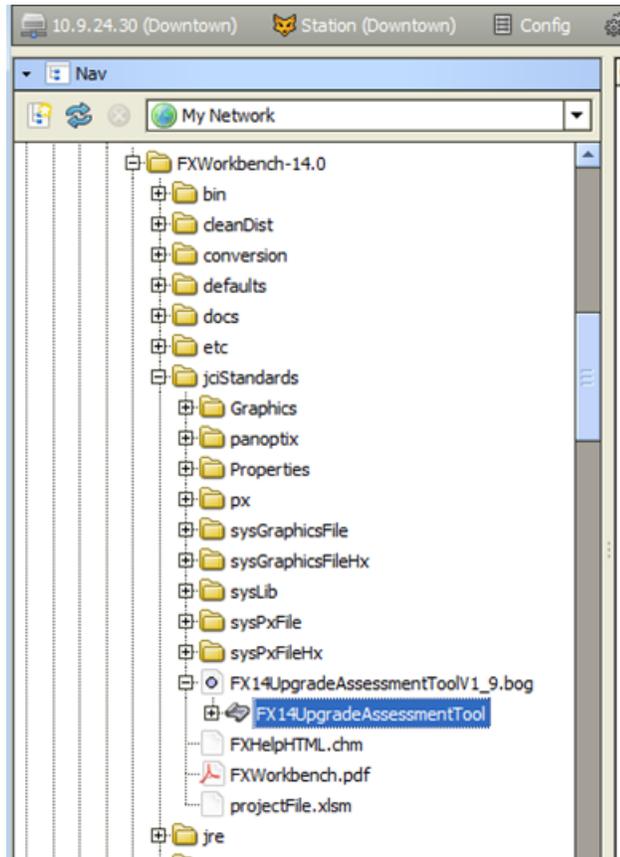
Field	Description
Exclude Files	*.hdb;*.adb;*.lock;*backup*;console.*;config.bog.b*;config_backup*
Exclude Directories	file:^history file:^alarm
Offline Exclude Files	*.lock;*backup*;console.*;config.bog.b*;config_backup*

Checking for FX Supervisory Software 14 Resource Requirements

To check for FX Supervisory Software 14 Resource Requirements:

1. Start FX Workbench 6.x by clicking **Start > Programs > FX Workbench 6.x > FX Workbench Pro 6.x**.
2. In the Nav tree, expand:
My Host > My File System > C > JCI > FXWorkbench-14.x > jciStandards > to view the FX14UpgradeAssessmentToolV1_9.bog

Figure 7: Copy Bog File



3. Right-click the **FX14UpgradeAssessmentTool** program object, and select **Copy**.
4. In the Nav tree, connect to and expand the station you want to migrate.
 - **Important:** You must run the assessment tool on the FX Supervisory controller station. The tool **cannot** check the appropriate resources when the station is moved to run from a computer.
5. Under **Config > Services**, right-click **ProgramService** and select **Paste**.
6. If you want to change the **FX14UpgradeAssessmentTool** program object name, enter the new name and click **OK**. Otherwise, leave the name as is and click **OK**. The **FX14UpgradeAssessmentTool** now appears under ProgramService.

Figure 8: Change Tool Name

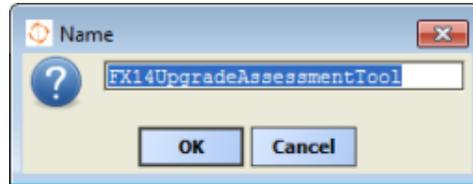
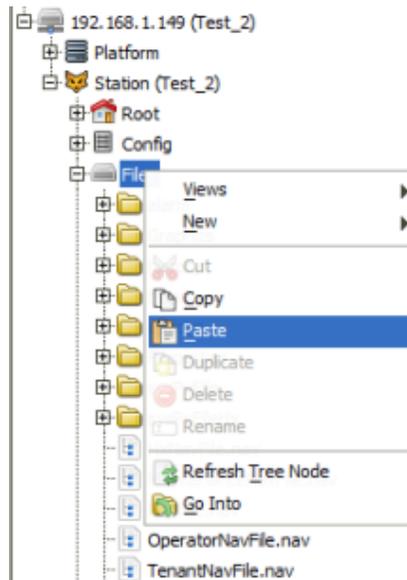
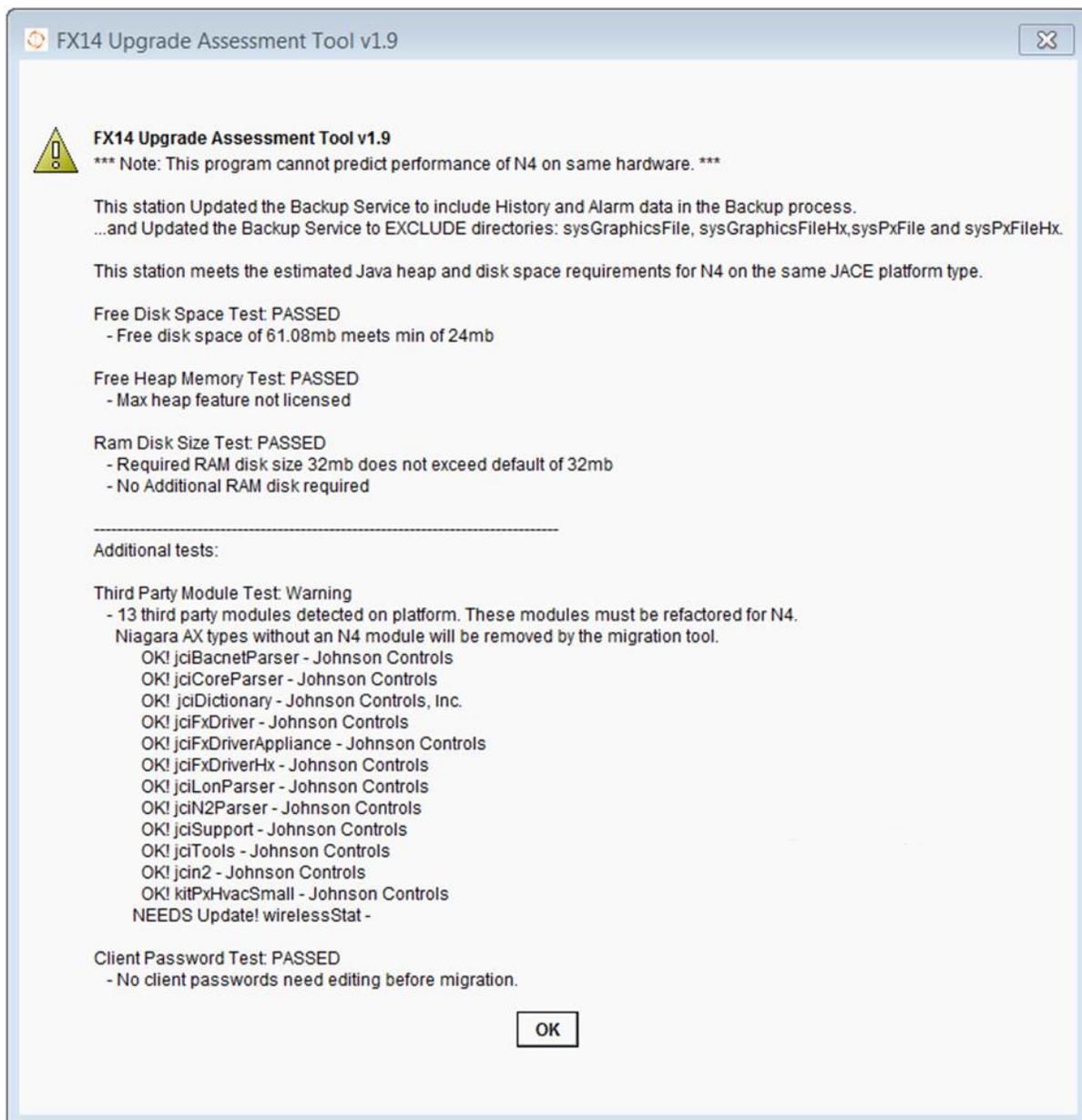


Figure 9: Paste File



7. Expand **ProgramService** and right-click **FX14UpgradeAssessmentTool** and select **Actions > Check Upgrade Status**.
The tool generates a dialog box that displays requirement information and indicates if the device meets the minimum requirements for migration to FX Workbench 14.

Figure 10: Facility Explorer Upgrade Assessment

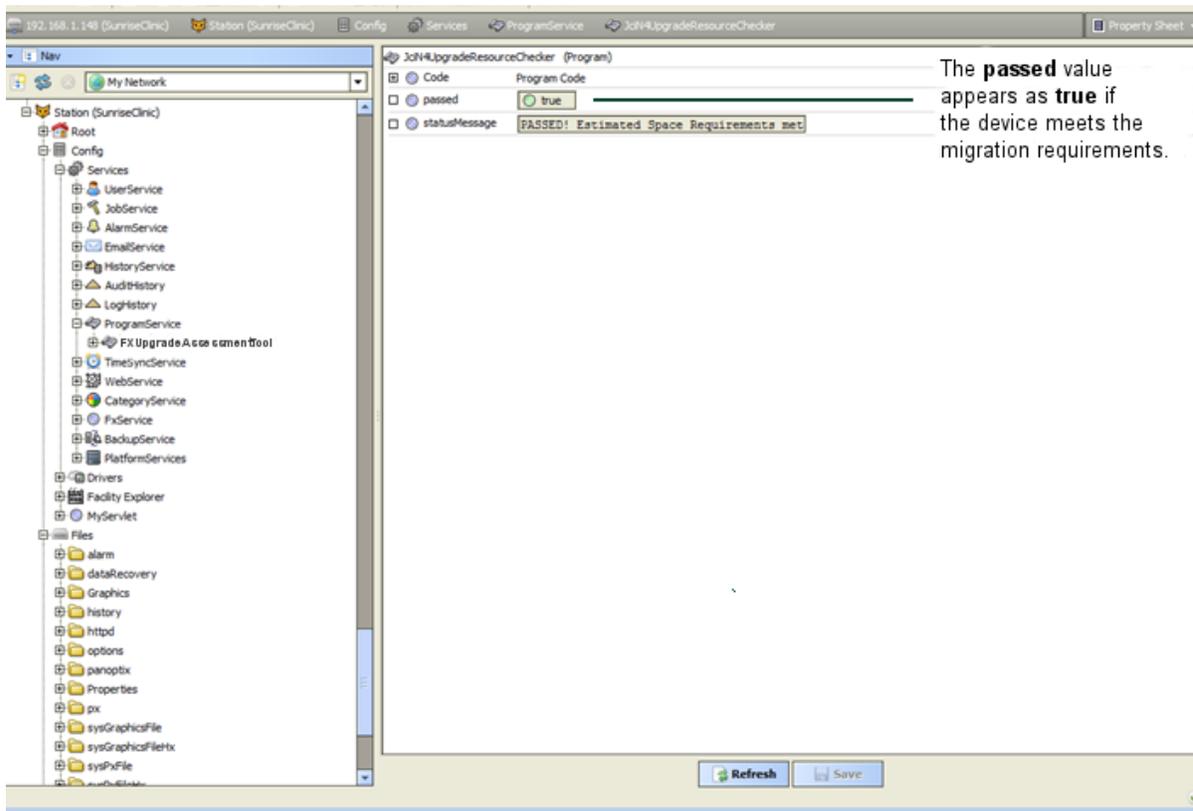


The **FX14UpgradeAssessmentTool** also indicates if it finds third-party modules (modules that are not Tridium modules). All Johnson Controls modules work with FX Workbench 14.x with the exception of the wirelessStat.jar.

- **Important:** The **NEEDS Update! WirelessStat** message always appears. The **WirelessStat.jar** file is included with every FX Workbench installation, but does not work with FX Workbench 14.x. If you are using the wirelessStat driver for wireless TEC controllers, you are not able to migrate to FX Workbench 14.x.
- **Important:** The **Client Password Test** is a test to see whether user passwords can be decrypted by the tool. If the test fails, you must go back to the FX Workbench 6.x version of the station and re-enter the credentials, backup, and start again.

8. Click **OK**.
9. To view additional information, double-click the **FX 14 Assessment Tool**.

Figure 11: Upgrade Compatibility Tool Property Sheet



10. In the Nav tree, right-click **FX14UpgradeAssessmentTool** and click **Delete**.
 - ① **Note:** To view a .txt file of the upgrade status, double-click Files from the Nav Tree for the station. Double-click **CompatibilityToolLog.txt**. A .txt file appears displaying a text version of the status generated by the compatibility tool.
 - **Important:** After using the **FX14UpgradeAssessmentTool**, you must delete it from the station; otherwise, the tool may cause the migration tool to fail.

Checking for Multiple Admin Roles

To migrate a station, you must not have more than one user with the name `Admin`. If you have more than one user with the name `Admin`, you must delete the extra users. If more than one user exists with the same `Admin` name, the migration fails.

1. In the Nav tree, expand **Station > Config > Services**.
2. Double-click **User Service**. The User Manager appears.
3. In the view selection on the top-right side of the screen, select **AX Slot Sheet**.
4. Review the names in the Name column. In the example above, notice that slot number 9 contains **admin** and slot number 14 contains **ADMIN**. Only one admin name is allowed (even if capitalization is different). The user roles have the *baja:User* type.

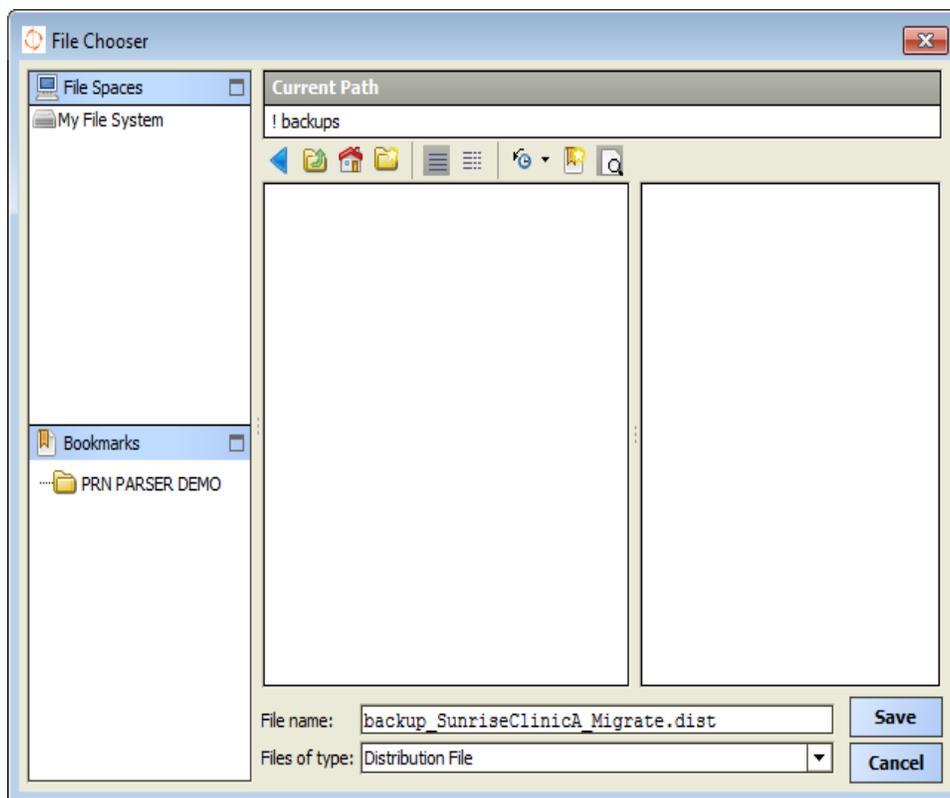
5. If you have more than one user with the name **Admin**, right-click the duplicate name (with the *baja:User type*), and select **Delete**.

Backing Up Your FX Workbench 6.x Station

For the migration to FX Supervisory Software 14, back up the station using FX Workbench 6.x. You cannot backup a 6.x FX Supervisory Controller from FX Workbench 14.

- ① **Note:** Make sure to move the station from the FX Supervisory Controller to the Local Host via the Station Copier after you back up the station. Doing this guarantees that there is space on the FX Supervisory Controller when you install FX Workbench 14.
1. In FX Workbench 6.x, connect to the station you want to back up.
2. Right-click the station you want and select **Backup Station**. A screen appears prompting you to save the backup .dist file to a location.

Figure 12: Station Backup



3. If necessary, enter a different name of the backup in the File name field.
4. Click **Save**. You can view the backup in the BackService, which is located in **Station > Administration > BackupService**.
 - ① **Note:** You can also back up your station by going to **Station > Services > BackupService**, selecting the desired .dist file, and clicking **Backup**.

Running Platform Daemon 14.x

When opening the Platform Daemon 14.x, you are indicating the version of FX Workbench you want to run.

Note:

- Certain antivirus programs may attempt to block you from running the Platform Daemon software.
- Before running the platform daemon, be sure to close out any instances of FX Workbench software.

Click **Start > FX Workbench 14.x > Install Platform Daemon 14.x**. You can now start FX Workbench 14.

Migrating the 6.x Station to Facility Explorer 14.x

During the station migration, we recommend that you have a serial shell open to help you monitor the migration. Having the serial shell open helps you monitor the items being loaded on the FX Supervisory Controller, track errors, and view when the migration is finished. For more information about the serial shell, see the *About JACE Serial Shell Mode* section of the Niagara Help.

- By default, files in the SysPxFile, SysPxFileHx, SysGraphicsFile, or the SysGraphicsFile folders are not migrated to the converted station.
- If you are migrating a station that uses older graphics with a tab pane, you need to clean the graphics up to remove the tabs.

1. Start FX Workbench 14.
2. On the Tools menu, click **Migrate Station**.
3. In the Backup DIST Name (Ver 3.8) field, click the folder button and select the .dist file from the FX Workbench 6.x backup directory. For example, *c:\JCI\FXWorkbench-6.2\backups\backup_SunriseClinic_151121_0914.dist*. After selecting the .dist file, click **Open**.
4. Do one of the following:
 - If you are migrating an FX Supervisory Controller station, click **Migrate JACE Station**.
 - If you are migrating in FX Server, click **Migrate FX Server Station**.
5. Click **Migrate Station**. The migration tool begins the migration process. The migration background screen appears. Use this screen to monitor the progress of the migration. This process can take several minutes.

As the migration is running, the system creates a log file whose name is a the combination of backup .dist file name (*backup_SunriseClinicA_Migrate.dist*) plus **_miglog_** plus the date/time code **151007_1539** plus **.html**.

For example: *backup_SunriseClinicA_Migrate.dist_miglog_151007_1539.html*.

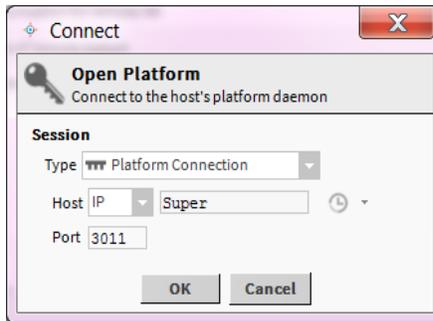
Locate the log file in the Nav tree under **My File System > User Home > stations**.

Note: Before the migration process finishes, a **lock** file is created that uses the log file name plus **.lck** file name extension. Once the migration finishes, this **.lck** file is delete.
6. The Migration screen displays that the migration is completed. When prompted by the migration background screen, press any key to continue. Windows Explorer appears and is opened to the directory where the migration .log file was placed.
7. Click **Close**. The station has now been migrated and is ready to be loaded on the FX Supervisory Controller.

Installing the Distribution File

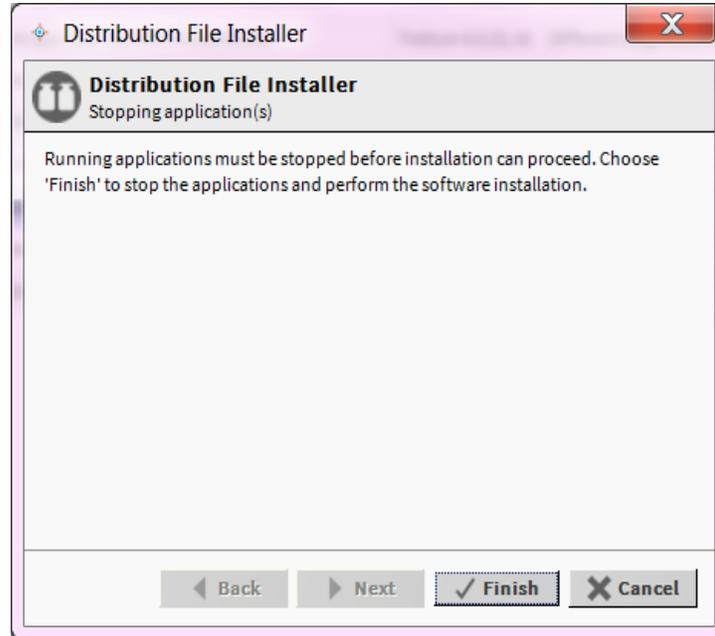
1. On the File menu, select **Open > Open Platform**. The Connect screen appears.

Figure 13: Connect



2. In the Type field, select the session type.
 - **Important:** The Type field defaults to Platform TLS Connection, which may not be enabled on the controller. Select **Platform Connection** if TLS is not enabled.
3. Enter the IP address of the device to migrate and click **OK**.
4. Log into the Platform for the device you want to migrate. These credentials are the same credentials used to log into the platform of the FX Supervisory Controller at Release 6.1.
5. In the Nav tree, double-click **Platform > Platform Administrator**. The Platform Administrator screen appears. Confirm that the Baja Version Niagara 3.8.x.
 - ⓘ **Note:**
 - If the Baja version is less than 3.8.x, then you must first upgrade to FX Workbench 6.x. See [Detailed Procedures for Upgrading FX Workbench 6.x and Earlier](#).
 - A warning message may appear on the screen indicating the default platform credentials. The migration process requires you to change the default platform credentials to a different user name and strong password.
6. In the Nav Tree, expand **Platform** and double-click **Distribution File Installer**. The Distribution File Installer screen appears.
7. On the bottom of the screen, click **Conversion**. Conversion files that are not appropriate for use on the current FX Supervisory Controller are disabled.
8. Select the bold (non-disabled) .dist file and click **Install**. A message appears indicating that running applications need to be stopped before the installation can proceed.

Figure 14: Stopping Applications



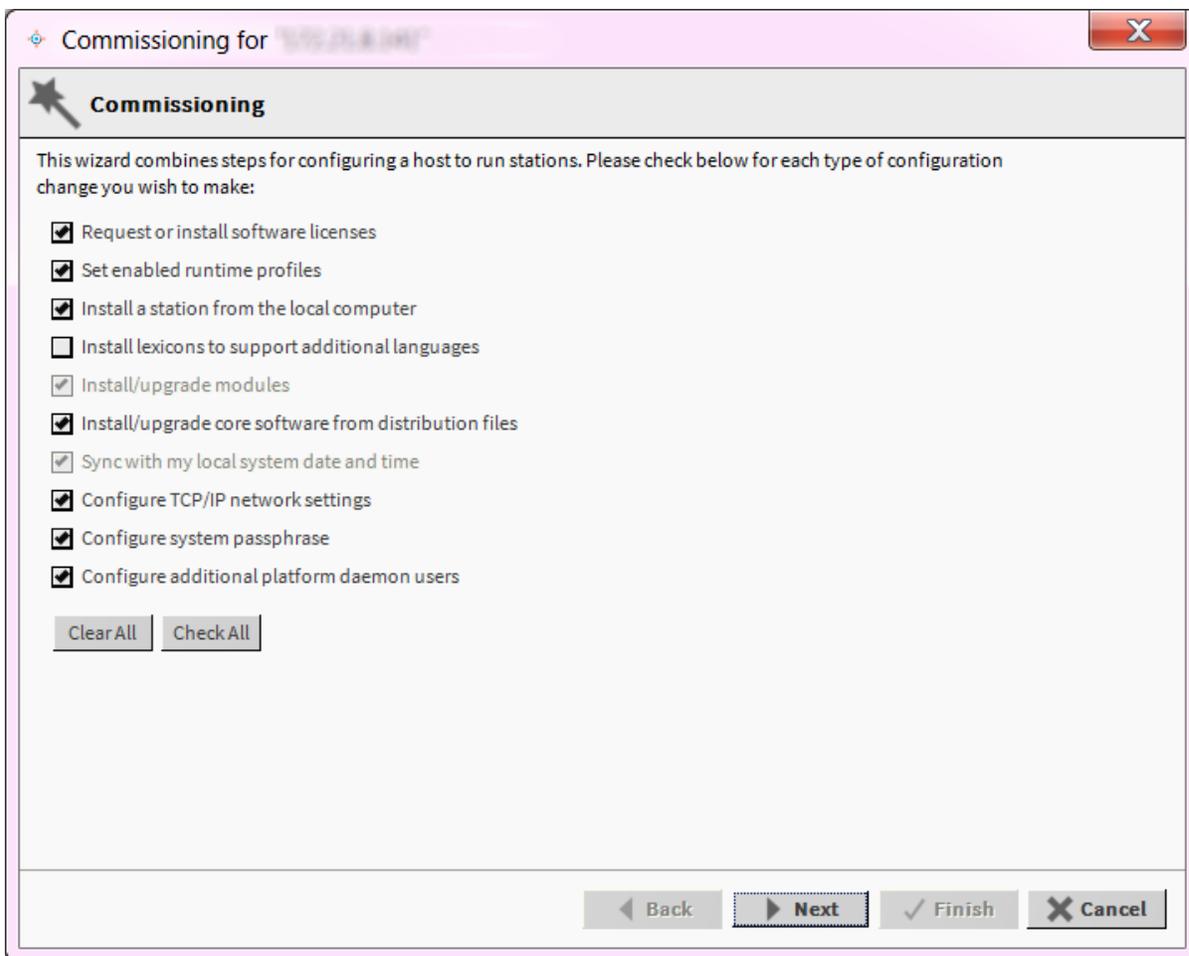
9. Click **Finish**. FX Workbench 14 installs the base Niagara 4 image on the controller. The status of the installation appears on the Installing Distribution screen. The installation may take several minutes.
10. When the installation is complete, click **Close**. The controller reboots. The reboot may take several minutes.
11. Log back into the platform and open the Platform Administrator. Confirm that the device Daemon Version now says 4.0.xx.xx and the Baja version is blank. The installation of the conversion distribution file may revert the platform credentials back to the default values.

Commissioning the Station

After migrating the station to FX Supervisory Software 14, you need to commission the station.

1. In the Nav tree, expand **Platform**.
2. Double-click **Platform Administrator**.
3. Click **Commissioning**.

Figure 15: Commissioning Wizard



4. Select the check boxes based on the following table. Make sure the **Configure additional platform daemon users** is checked.

Table 11: Commissioning

Field	Description
Request or install software licenses	Preselected and disabled for any new FX Supervisory controller
Set enabled runtime profiles	Preselected and disabled for any new FX Supervisory controller
Install a station from the local computer	Ensure that this field is selected as you will be installing the new migrated station from a local computer.
Install lexicons to support additional languages	Option to install file-based lexicon sets (alternative to lexicon modules). Typically you leave this field unselected. Lexicon modules are recommended in FX 14.
Install/upgrade modules	Always preselected when the wizard is run. Selects the software modules and optionally any lexicon modules.

Table 11: Commissioning

Field	Description
Install/upgrade core software from distribution files	Preselected and enabled for any new FX Supervisory controller
Sync with my local system date and time	Preselected in most cases. For new controllers (for example) where the controller time may greatly differ from actual time. ⓘ Note: Ensure that this field is selected to update the date and time from the defaults placed in the controller with the conversion AXtoN4 distribution file.
Configure TCP/IP network settings	Recommended
Configure system passphrase	Preselected and enabled for any new FX Supervisory controller
Remove platform default user account	Preselected and enabled for any new FX Supervisory controller. You cannot commission a unit with the factory-default platform admin user.
Configure additional platform daemon users	Recommended option if you require additional platform admin user accounts with unique user names and passwords (all additional accounts have full and equal privileges).

5. Click **Next**. The Station Installation screen appears.

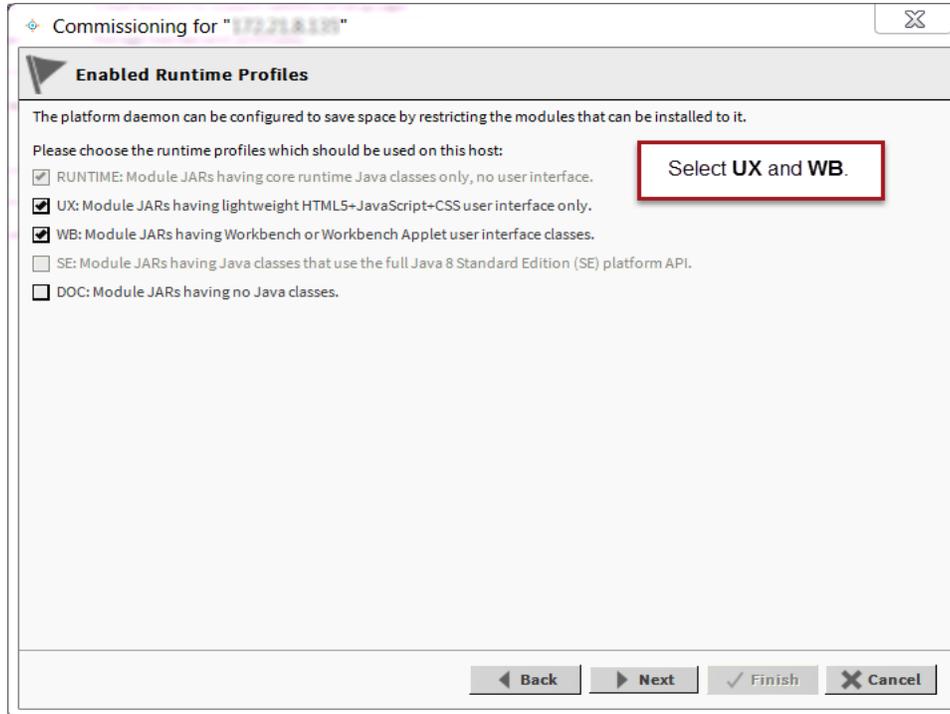
Installing or Updating Licenses

1. Select **Install one or more licenses from files** if you have the FX Workbench 14 license file.
2. Click **Add** and select the required licenses. The licenses appear on the right side of the screen.
3. Click **OK**.
4. Click **Next**.

Setting the Enabled Runtime Profiles

Enabled runtime profiles specify what types of FX Supervisory Software 14 software module .jar files to install.

Figure 16: Enabled Runtime Profiles



1. Use the following table as a reference. Make sure to select both the **UX** and **WB** check boxes.

Table 12: Enable Runtime Profiles

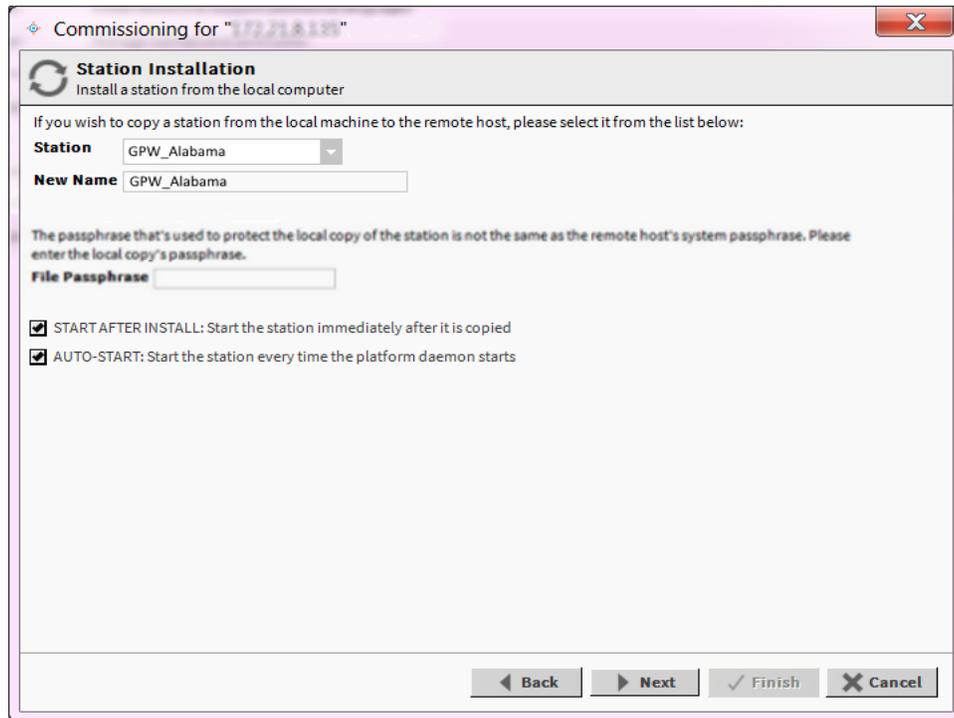
Field	Description
RUNTIME: Module JARs having core runtime Java classes only, no user interface.	Read-only. Always selected.
UX: Modules JARs having lightweight HTML5+Javascript+CSS user interface only.	Select to support web client browser access, using HTML5, Javascript®, and CSS technologies. The client does not need to run Java and download WbApplet from the controller. When you select this field, the WB field is also selected. ⓘ Note: Certain views at FX Release 14 have not been converted to HTML5. These views include the Device Manager, Wire Sheet, and Px Editor views. They are scheduled to be converted at a future release.
WB: Modules JARs having Workbench or Workbench Applet user interface classes.	Auto-selected when you select UX . Select WB if the supervisory controller must also support browser Web Workbench access from Java-enabled clients, using the WbApplet.
SE: Modules JARs having Java classes that use the full Java 8 Standard Edition (SE) platform API.	Not available for QNX-based FX Supervisory Controllers.
DOC: Modules JARs having no module classes.	Selectable, but not recommended for file space reasons on an FX Supervisory Controller.

2. Click **Next**. The Station Installation screen appears.

Specifying a Station to Install

To commission the station, you must first specify the station to install.

Figure 17: Station Installation



1. In the Station box, select the name of the station database on your computer.
2. If desired, enter a new station name. Otherwise, do not change it.
3. Enter the system passphrase.
4. If desired, select one or both of the following check boxes (we recommend that you select both check boxes):
 - **START AFTER INSTALL:** Start the station immediately after it is copied.
 - When you select this check box, the station is restarted at the end of commissioning, even if you do not reboot the FX Supervisory Controller.
 - **AUTO-START:** Start the station every time the platform daemon starts.
 - When you select this check box, the station starts every time the FX Supervisory Controller is rebooted.
5. Click **Next**. A dialog box appears asking which station files to copy.
6. Select one of the following:
 - Copy files from selected directories (recommended)

- Allows you to specify which subfolders under that local station that are copied. This action produces a **tree** selection after you click **Next**.
 - Copy only the **config.bog** station database file
 - Copies only the station configuration (components), and not any supporting folders and files (for example, PX files and HTML files).
7. Click **Next**. A screen appears asking you to select subfolders.
 8. Select the subfolder under the local station to copy. Expand the folders as needed. By default, the directories are selected to be copied to the station. Directories that are not selected are no longer required. Typically, you leave all directories selected.
 9. Click **Next**. A dialog box appears asking you to select the software to install.
 10. Select the software to install.
 11. Click **Next**.

Installing Core Distribution Files

During commissioning, the dependencies of the FX Supervisory Controller platform are compared against the distribution (*.dist*) files available in your FX Workbench computer's software database. The wizard determines what *.dist* files need to be selected for installation. The software you need to install is displayed on the screen.

Click **Next** to select the distribution files. A TCP/IP configuration screen appears.

Configuring TCP/IP Settings

To commission the station, you may need to update the station's TCP/IP settings.

1. Review the settings on the IPv4 Settings tab, which include the temporary factory-shipped IP address.
2. Assign the controller a unique IPv4 address for the network you are installing it on. No other device on this network should use this same IP address. Include the appropriate subnet mask used by the network.
Alternatively, if the network supports DHCP, you can enable it by selecting the **DHCPv4 Enabled** check box. In this case, the IP Address and Subnet Mask fields become read-only.
 - ⓘ **Note:** In general (for stability), we recommend static IP addressing over DHCP. **Do not** enable DHCP unless you are certain that the network has DHCP servers. Otherwise, the FX Supervisory Controller may become unreachable over the network.
3. If needed, adjust other TCP/IP settings, which include:
 - **Hostname**–Use the default localhost name or enter another name you want to use for this host.
 - **Hosts File**–Click the arrows to expand the edit field. The format is a standard TCP/IP hosts file, where each line associates a particular IP address with a known host name. Use a separate line for each entry. Place the IP address in the first column, followed by the corresponding host name. The IP address and the host name are separated by at least one space.
 - **DNS Domain Name**–Enter the name of network domain, or if not applicable, leave the field blank.

- **IPv4 Gateway**—Enter the IP address for the device (such as a switch or a router) that forwards packets to other networks or subnets.
- **DNSv4 Servers**—Click the plus sign for a field to enter the IPv4 address of one or more DNS servers.

4. Click **Next**.

Updating the System Passphrase

All Niagara 4 platforms have a system passphrase (password), which encrypts sensitive information. This information includes client passwords stored in *.bog* files and station databases (*config.bog* files) or station backup distribution (*.dist*) files. The passphrase increases security for the files that contain critical information. In various FX Workbench 14 operations, you are prompted to enter the passphrase, such as when copying stations or restoring station backups in remote platforms. The following areas in the framework are affected by passphrase implementation:

- Provisioning
- File Transfer Client
- Station Copier
- Backup
- Commissioning
- Export Tags

The sensitive information in files is protected with encryption, either by encrypting the information within the files or by encrypting the whole file. How the encryption is applied depends on the portability of the file. Files located under the daemon User Home (files that **belong to the system**) are encrypted using a strong, randomly generated key that exists only on that system. Files located under an FX Workbench 14 User Home (**portable** files that can be sent to many systems) are encrypted using a key derived from the user-defined system passphrase entered during software installation or when the system passphrase changes.

Due to the different types of encryption used for the **system** or **portable** location, when transferring files between the daemon User Home and another FX Workbench User Home, you must use the FX Workbench platform tools (Station Copier, File Transfer, or Backup). Using the platform tools converts files to use the correct encryption key for the target location.

- **Important:** Do not use Windows Explorer to copy files between the daemon User Home and other User Homes because without the proper encryption, the files may not be readable.

For System-to-Portable Transfers

You can get portable copies of files located under the daemon User Home by any of these methods:

- Make a backup from the Platform Administration view
- Make a backup from a running station
- Use either Station Copier or File Transfer Client from the Platform Administrator view

The resulting local, portable copies and backup files are protected with a passphrase.

For Portable-to-System Transfers

When you use the Distribution File Installer to restore a backup *.dist* file, or if you use the Station Copier to transfer a station from your FX Workbench directory to a controller, the file's passphrase is validated and used to translate the data back into the proper **system** encryption format for use under the daemon User Home.

- **Important:** Remember the system passphrase and keep it safe. If you lose the system passphrase, you lose access to encrypted data and you will need to revert to the default system setup using the Serial Shell.
- 1. In the **Current Passphrase** field, enter the default platform password. Contact your local Johnson Controls representative for the default password.
 - ⓘ **Note:** If the default platform password has changed in the field, use the changed password. If you have forgotten the default platform password, you can use the Serial Shell method to reset to the default password.
- 2. In the **New Passphrase** field, enter a new passphrase. The passphrase must be at least 10 characters long with one uppercase character, one lowercase character, and one digit (numeral).
- 3. In the **Confirm New Passphrase** field, enter the new passphrase again.
- 4. Click **Next**.

Specifying a Platform User to Replace the Factory-default Platform User

To commission a station, you need to create a new platform account.

1. In the **User Name** field, enter a user name for platform login.
 - ⓘ **Note:** You are not allowed to use **jci** as a user name.
2. In the **Password** fields, type in a strong password (it must match in both password fields). The password must use a minimum of eight characters, using at least one digit (numeral).
3. If you want, enter an alphanumeric descriptor for this platform admin user in the Comment field. The comment is seen in the Users table if there are more than one platform user.
4. Click **Next**.
 - ⓘ **Note:** The new platform user account is retained in the controller. For example, if you migrate to FX Workbench 14 and then take the station back to FX Workbench 6.x, then forward again to FX Workbench 14, you need to use the new platform credential defined in this procedure.
5. Do the following:
 - To add new users, click **New User** and enter the user information.
 - To delete users, select the user and click **Delete User**.
 - To change a password, click the user and click **Change Password**. Enter the new password.

Reviewing the Changes

Before you finish commissioning, review the changes and make sure the commissioning selections have been reflected. Click **Back** to correct any configuration errors when commissioning the controller.

1. Click **Finish**. The Completing Commissioning screen appears. This process takes several minutes.
2. After commissioning is complete, click **Close**. The Facility Explorer 14 station is now copied to the controller. The controller is rebooted and may take several minutes to complete.

Changing the Default Web Profile to Use the HTML5HxProfile

Beginning at FX Workbench 14, you can take advantage of a rich web experience without the need to install and manage a Java based plug-in. Use the following procedure to change the default web profile to the HTML5HxProfile.

Note:

- The migrated station cannot render the **Extensions** tab of a graphic in HTML5 view.
- Certain views at FX Release 14 have not been converted to HTML5. These views include the Device Manager, Wire Sheet, and Px Editor views. They are scheduled to be converted at a future release.
- To add a new user which uses the HTML5HxProfile, you must first make a secure connection to the station.

1. In the station, go to **Config > Services > User Services**.
2. Double-click the user. The user property sheet appears.
3. In the Default Web Profile section, select **HMTL5HxProfile** in the **Type** field.
4. In the Default Web Profile section, select the default FX Workbench display options based on the following table.

Table 13: Default Web Profile

Field	Description
HX Theme	Select Zebra for a black and white color theme. Select Lucid for a blue and gray color theme.
Enable HX Workbench Views	Select Yes to enable the HX Workbench View. Select No to disable the HX Workbench View.
Enable Nav Tree Side Bar	Select Yes to enable the Nav Tree Side Bar. Select No to disable the Nav Tree Side Bar.
Enable Palette Side Bar	Select Yes to enable the Palette Side Bar. Select No to disable the Palette Side Bar.
Enable Nav File Tree	Select Yes to enable the Nav Tree. Select No to disable the Nav Tree.
Enable Config Tree	Select Yes to enable the Config Tree. Select No to disable the Config Tree.
Enable Files Tree	Select Yes to enable the Files Tree. Select No to disable the Files Tree.
Enables Histories Tree	Select Yes to enable the Histories Tree. Select No to disable the Histories Tree.
Enable Hierarchies Tree	Select Yes to enable the Hierarchies Tree. Select No to disable the Hierarchies Tree.

5. In the Type Spec field, select **hx** and then **HTML5HxProfile**.
6. Click **OK**.

Note: To update an existing Nav file when you upgrade to FX 14.4, click **Tools** and select **Update Home Page Graphic**.

Viewing and Updating Metaspace

Use the following procedures if you receive an error in the Application Director indicating that you are out of metaspace.

Viewing Metaspace

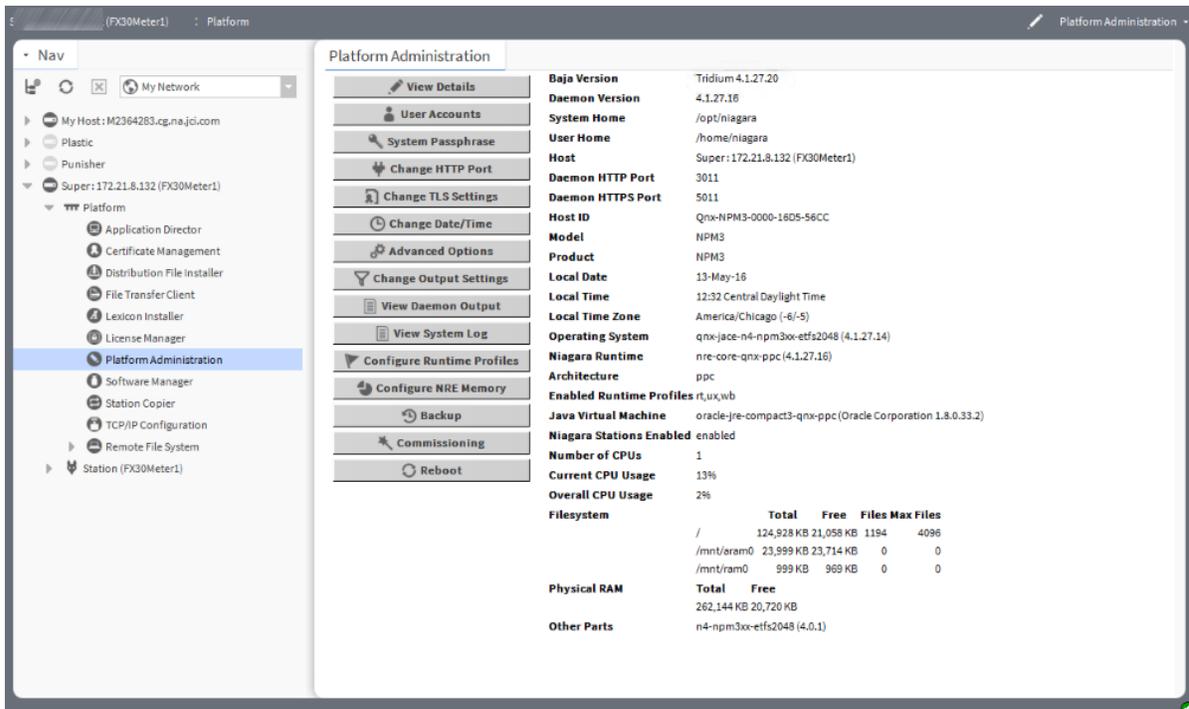
1. In the Nav Tree, right-click on the station and select **Spy**. A Remote Station menu appears on the screen.
2. Click **util**. A **util** menu appears on the screen.
3. Click **JMX Info**. A **JMX Info** screen appears.

Updating Metaspace

Use the following procedures if you receive an error in the Application Director indicating that you are out of metaspace. The station is automatically restarted after the metaspaces memory allocation has been updated.

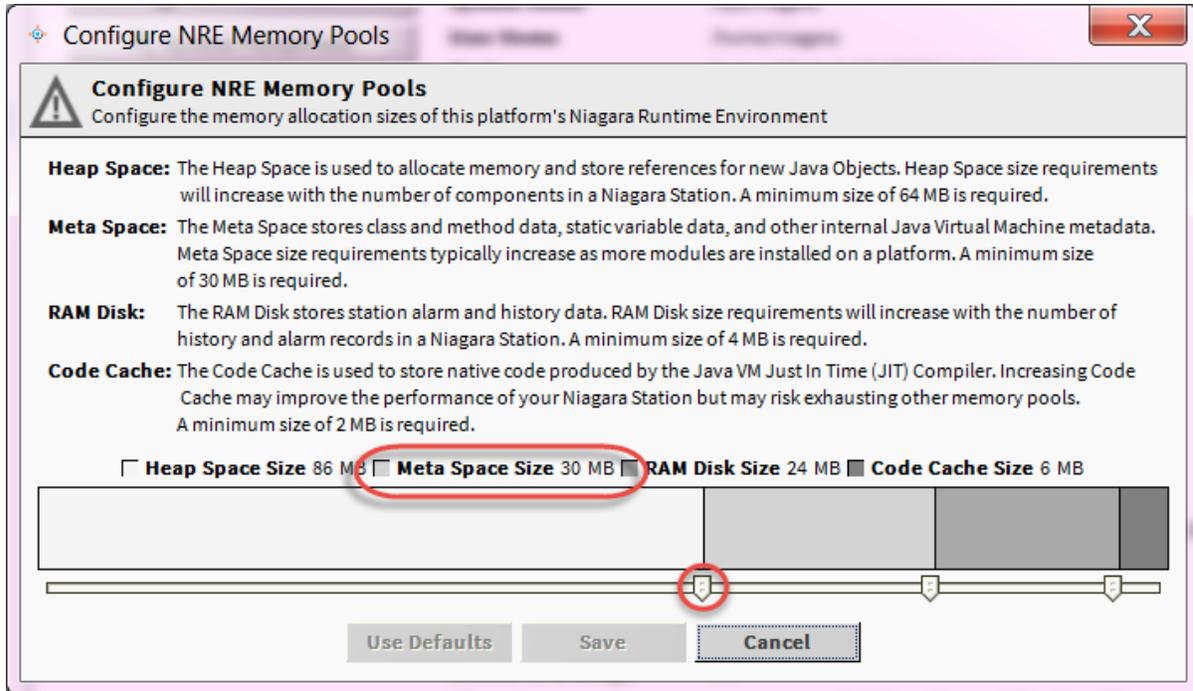
1. In your station, log into the Platform.
2. In the Nav tree, double-click **Platform Administration**. The Platform Administration screen appears.

Figure 18: Platform Administration



3. Click **Configure NRE Memory**. The Configure NRE Memory Pools screen appears.

Figure 19: Metaspace Size - 30 MB



4. Note the metaspace size.
5. Drag the left slider so that the metaspace size is between **36 MB and 46 MB**.
6. Click **Save**.
7. Click **Yes** to restart the station.

Upgrading FX Server to FX Supervisory Software 14

FX Server uses a similar upgrade process as supervisory controllers. However, there is no need to use the **FX14UpgradeAssessmentToolV1_9** with the FX Server to determine whether there are enough resources to migrate.

Use the following process when you upgrade an FX Supervisory Software 14.

1. Back up the FX Server to create a *.dist* file. For details, see [Backing Up Your FX Workbench 6.x Station](#). Also go to the Backup Service to ensure that the history and alarm entries are removed (so the system does not bring the histories and alarms in the backup file).
2. Run the migration tool. For details, see [Detailed Procedures for Migrating to FX Supervisory Software 14.x](#). In the migration tool, be sure to:
 - select the *.dist* file that you backed up.
 - select **Migrate FX Server Station**.

Reverting a Station from FX Supervisory Software 14.x to FX Supervisory Software 6.x

- ① **Note:** We recommend that you run a serial shell running to monitor the progress of this installation. Having the serial shell open helps you monitor the items being loaded on the FX Supervisory Controller, track errors, and view when the migration is finished.
1. In FX Workbench 14, connect to an FX Supervisory Controller platform.
2. Go to the Station Copier and delete the FX Supervisory Controller 14 station.
3. On the Nav tree, select **Platform > Distribution File Installer**. The Distribution File Installer screen appears.
4. On the bottom of the screen, click **Conversion**. Conversion files that are not appropriate for use on the current FX Supervisory Controller are disabled.
5. Select the bold (non-disabled) *.dist* file and click **Install**
6. If a station is running, a dialog box appears indicating that FX Workbench must stop the station prior to installing the *.dist* file.
7. Click **Finish**. The Installing Distribution screen appears and the installation begins. This process may take several minutes.
8. Once the distribution file is installed, click **Close**.
9. Close FX Workbench 14.

Running Platform Daemon 6.x

When you open the Platform Daemon 6.x, you are indicating the version of FX Workbench you want to run.

- ① **Note:**
 - Certain antivirus programs may attempt to block you from running the Platform Daemon software.
 - Before running the platform daemon, be sure to close out any instances of FX Workbench software.

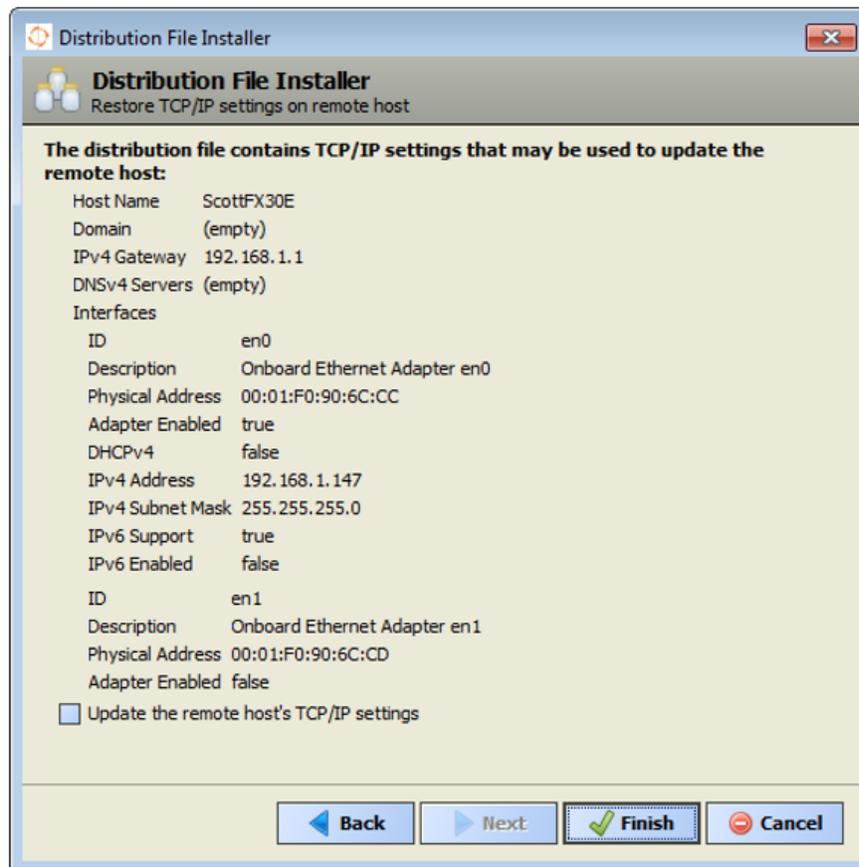
Click **Start > FX Workbench 6.x > Install Platform Daemon**.

Installing a Backup 6.x Station

1. Open the platform for the FX Supervisory Controller. Use the default platform ID and password (jci/FacilityExplorer61 or explorer).
2. In the Nav tree, select **Platform > Distribution File Installer**. The Distribution File Installer screen appears.
3. Click **Backups** and select the backup *.dist* file to install. The backup file must match the FX Supervisory Controller platform for the backup to be enabled in the list of backup files.
4. Click **Install**.

5. Click **Next**. If the backup has different TCP/IP settings than when the backup was created, a screen appears prompting you to keep the existing TCP/IP settings or change them to what was used when the backup was previously run.

Figure 20: Restore TCP/IP Settings



6. Edit the settings as needed and click **Finish**. FX Workbench begins installing the backup of the 6.x station.
7. Click **Close**.
 - ⓘ **Note:** If you want to migrate back to FX Workbench 14.x, you need to obtain another license for FX Workbench 14.x.
 - ⓘ **Note:** If you want to migrate back to FX Workbench 14.x, the platform credentials from your previous migration were retained. You need to use those credentials. If you have forgotten the default platform password, you can use the Serial Shell method to reset to the default password.

Cleaning Tabbed Graphics

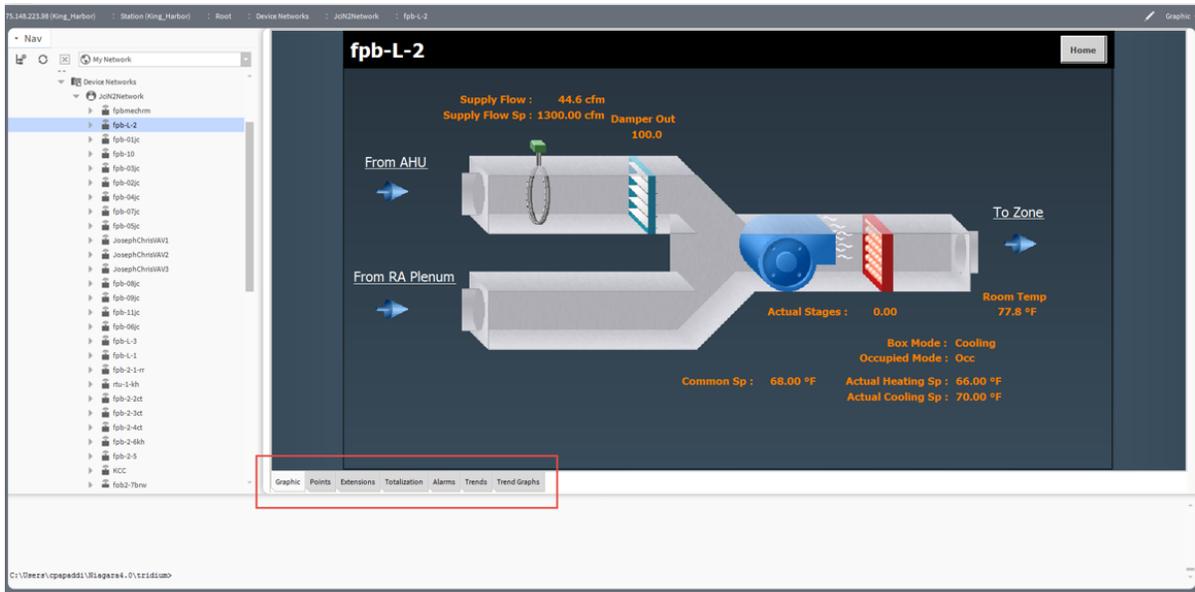
Graphics with tabs at the bottom can still work in FX Supervisory Software 14.x. However, the way these tabbed graphics were designed, the layout of the graphics within the tabs do not render properly in FX Supervisory Software 14.x.

We recommend you remove the tabs to make them look more in line with FX Supervisory Software 14.x.

1. In FX Workbench, open the property sheet of the device you want to change the graphic for.

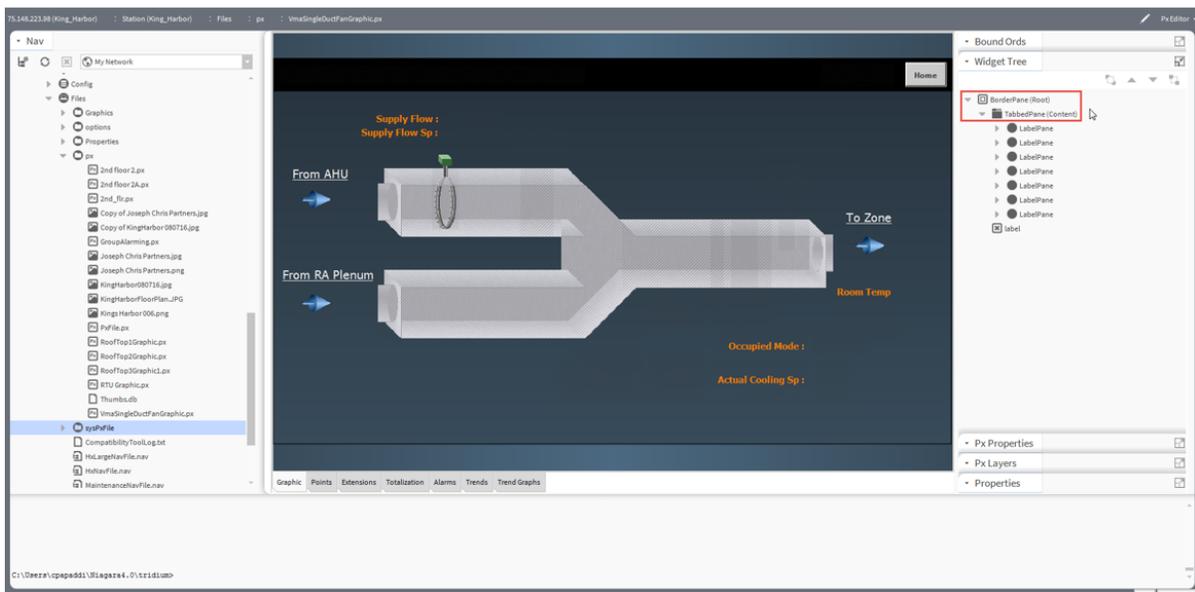
2. In the PX File field, note the .px file. This is the file that you need to edit.
3. In the controller's directory structure, navigate to **Files > px** and double-click the file noted in Step 2. Notice the tabs at the bottom of the image.

Figure 21: Tabbed Image



4. In the view selector at the top right of the screen, select **PxEditor**.

Figure 22: PxEditor - All Tabs



5. To remove tabs from graphics and change the graphic to use a scroll pane instead of a border pane, in the Widget Tree pane, expand **BorderPane (Root) > TabbedPane (Content)**. Right-click and delete all the LabelPane entries.
6. In the view selection, select **Text Editor**.

7. Go to the opening tags for the TabbedPane section of the Text Editor. Remove the following lines:


```
<TabbedPane = "content" tabPlacement= "bottom">
<LabelPane>
<Label name = "label" text = "Graphic"/>
```
8. Go to the closing tags for the TabbedPane section of the Text Editor.
9. Remove the following lines:


```
</LabelPane>
</TabbedPane>
```
10. To reset the canvasPane to orient to the top left and remove scaling, go to the CanvasPane Properties of the graphic.
11. Select the following values:
 - In the halign field, select **Left**.
 - In the scale field, select **None**.
 - In the valign field, select **Top**.
12. Click **OK**.

Troubleshooting

Table 14: Migration Troubleshooting

Problem	Description
The Migration Results section in the Migration Report file indicates that <i>.dist</i> file did not complete successfully . The Failure List includes the following error <i>IllegalNameException: There can be only one Admin role</i> .	Although multiple roles with the name <code>admin</code> roles can be configured and exist on an FX Workbench 6.x station, the migration enforces only role with the name Admin role for Migration. Delete any additional roles with the name <code>admin</code> leaving only a single one remaining. Once the additional Admin roles have been removed, run the migration tool again. ⓘ Note: The additional roles with an Admin name may be hidden. To view and remove hidden roles, use the Slot Sheet view of the UserService. Also, having the names <code>admin</code> and <code>Admin</code> is considered having two admin roles.
When running the Migration Tool, the Client Password Test Fails.	The Client Password test ensures that passwords in the FX Supervisory Software 6.x station can be decrypted for use in FX Supervisory Software 14.x. A failure indicates that a password could not be decrypted. If a failure occurs, re-enter the password for the failed user in the running FX Supervisory Software 6.x station and re-run the Migration Tool.

Table 14: Migration Troubleshooting

Problem	Description
The FX14UpgradeAssessmentTool does not indicate whether the free disk space, free heap memory, or RAM disk size have passed.	For FX Supervisory Controllers, the FX14UpgradeAssessmentTool must be run on the controller itself.  Note: Running the FX14UpgradeAssessmentTool on a station running on a computer does not check for free disk space, free heap memory, and RAM disk size.
When trying to access the web user interface with Firefox™, there is a pop-up dialog box that keeps disappearing before I can interact with it.	In the Add-ons section, set the Java Platform plug-in to Always Activate . Close all instances of the browser, restart the browser, and navigate to the web user interface. The dialog box should now stay visible in order for you to interact with it.
When trying to migrate my station, you cannot log into the platform with FX Supervisory Software 14.x	The host remembers credentials from a previous attempt to migrate. For example, if you attempt to migrate a station from FX Supervisory Software 6.x to FX Supervisory Software 14.x and then decide to take it back to FX Supervisory Software 6.x, the FX Supervisory Software 14.x platform credentials are still retained in the host. When you attempt to migrate to FX Supervisory Software 14.x the second time, the required credentials are the ones defined during the first attempt. If you have forgotten or do not have those credentials, the defaults can be reset using a Serial Shell connection to the host.
A station migrated to FX Supervisory Software 14.x still needs a JAVA plug-in for the browser.	Migrating a station does not automatically change user profiles to the new HTML5HxProfile. You must change the Default Web Profile to HTML5HxProfile for each user that requires this functionality. For more details, see Changing the Default Web Profile to Use the HTML5HxProfile .
When adding a new user or modifying a password, the fields are disabled in the user interface.	Starting with FX Supervisory Software 14.x, you are no longer allowed to add or modify sensitive information when using a non-secure connection. Refer to the <i>FX Workbench User Guide (LIT-12011149)</i> for more information.
Browser displays <i>Your connection is not private</i> .	This message appears because the security certificate cannot be verified. Click the Advanced link, and then click the Proceed to ###.###.###.### (unsafe) link.
An <i>Install software</i> error appears when installing the distribution file. <i>Install Software: Failed</i>	There may not be enough room on the controller. Go to the Station Copier and, if there is an the FX Supervisory Controller 14 station on the controller, delete the station from the controller.

Table 14: Migration Troubleshooting

Problem	Description
<p>The following error appears when logging into a station using a web browser. <i>HTTP ERROR 500</i></p> <p><i>Problem accessing /ord/station %7Cskit:fxApp Reason:</i></p> <p><i>java.baja.xml.SException: Unknow type ForecaseView [line80]</i></p>	<p>The forecasting module used with FX Workbench Home pages does not work with FX Supervisory Software Release 14. If you are trying to view a migrated station's Home page using the HTML5HxProfile view, an error appears if the Hx view in the forecasting information is not removed from the view.</p> <ol style="list-style-type: none"> 1. On the Home page, select Edit Site Home from the view selector (top-right corner of the screen). 2. Click and drag to select all of the Weather Forecast objects in the lower left are of the Hx graphic. 3. Press Delete. 4. Change the view back to the appropriate Home page. When asking if you want to save your changes, click Yes.

Problem

My graphic no longer appears in my migrated station.

Description

FX Supervisory Software 6.x may have been able to render some file types which have certain characters in the filename that are not recognized (see the following sections for guidelines around naming). Rename your file with appropriate characters and re-link your graphic as necessary.

Component Naming

In a FX Supervisory Software 6.x station, you should name components using the following set of rules:

- Only alphanumeric (A-Z, a-z, 0-9) and underscore (_) characters are used.
 - Symbols characters (for example, %, &, ., #) are not allowed.
 - The first character in the name must be a letter (not a numeral).
 - Name must be unique for every component within the same parent component.
 - Naming is case-sensitive. For example, zone21 and Zone21 are unique names.
- ① **Note:** Case differences among names affect the sorting of names in table-based views. The sorting order uses capital letters (A-Z) first and lower case (a-z) following.
- To convey multiple word names without using spaces, naming conventions such as **Camel-Case** and underscores are often used, as needed. For example:
- Floor1 or Floor_1
 - ReturnAirTemp or Return_Air_Temp
 - Zone201_SAT or Zone_201_SAT

Escaped Names

You can name components in FX Workbench **incorrectly**, such as with spaces or other non-alphanumeric characters. Further, various FX Supervisory Software 6.x drivers have **learn** features to automate the creation of points, some of which (by default) may also have such **incorrect** names—reflective of the native name of the source object. For example, a BACnet proxy point might have the default name **Zone 6 RH%** that matches the actual (native) BACnet object's name.

Be aware that the actual component name has all illegal characters **escaped** using a \$ character, along with the ASCII code for that character, in hexadecimal code. For example, a proxy point has the name **Zone\$206RH\$25**, where the \$20 replaces the space and the \$25 replaces the %. You can see these escaped names in the slot sheet of the component's parent container. Or with the component selected, look at its ord (shortcut Ctrl + L) to see the actual name.

For the most part, this **escaped name** scheme is transparent to users. When the name appears to the user (for example, in the Nav tree, property sheet, wire sheet, or a point manager), the component's name is **unescaped** by replacing the code (for example, \$20) with the actual ASCII character (for example, a space). This way, the user sees **Zone 6 R %** and so on. This is the component's **display name**.

In some cases, escaped names lead to confusion. Avoid them or rename them, if possible. For example, if you add history extensions to escaped-named points, you see those escape codes listed for source points when accessing the History Ext Manager (although associated histories use the display names). If you build Px pages and manually type the ords in Px widgets, you probably know source points by **display names** only. If you manually type in an ord without the actual (escaped) name, the widget binding fails with an error.

When using the HTML5HxProfile, the home page graphics created with previous versions of Facility Explorer use a forecasting module. This module has not been updated for use with HTML5 and still requires a Java plug-in. You can remove the components on the home page so that the rest of the Home Page can appear without errors.

Related Documentation

Table 15: Related Documentation

For information about	See document	LIT or Part Number
The Features, Benefits, and Specifications of the FX Supervisory Controller	<i>FX Supervisory Controller Product Bulletin</i>	<i>LIT-12011406</i>
How to Install the FX Supervisory Controller	<i>FX30E/FX60E Supervisory Controller Installation Instructions</i>	<i>Part No. 24-10174-115</i>
	<i>FX70 Supervisory Controller Installation Instructions</i>	<i>Part No. 24-10564-17</i>
	<i>FX80 Supervisory Controller Installation Instructions</i>	<i>Part No. 24-10143-861</i>
The Features, Benefits, and Specifications of the FX Server	<i>FX Server Product Bulletin (6.x and Earlier)</i>	<i>LIT-12011122</i>
	<i>FX Server Product Bulletin (14.x and Later)</i>	<i>LIT-12012251</i>
The Operation of FX Workbench	<i>FX Workbench User's Guide</i>	<i>LIT-12011149</i>
How to Install FX Workbench	<i>FX Supervisory Controller Family Software Products Installation Instructions</i>	<i>LIT-12011965</i>

Appendix

Migration Checklist

	Action	Resources
<input type="checkbox"/>	Check the platform compatibility list to determine whether or not the desired platform can be migrated.	Refer to the <i>FX Supervisory Controller Upgrade and Migration Instructions (LIT-12011441)</i> .
<input type="checkbox"/>	Check driver, feature, and application compatibility.	Refer to the <i>FX Supervisory Controller Upgrade and Migration Instructions (LIT-12011441)</i> . Refer to the <i>Niagara Help > Features and compatibility between N4 and AX</i> . Refer to <i>Niagara Help > Wire compatibility between Niagara 4 and Niagara AX</i> . Check directly with third-party vendors.
<input type="checkbox"/>	Purchase the appropriate FX Supervisory Software 14 Software Maintenance for FX Servers and FX Supervisory Controllers (to move from 6.x to 14.x).	Refer to the <i>FX Supervisory Controller Product Bulletin (LIT-12011406)</i> . To place your order, contact Johnson Controls Product Software Sales at 1-414-525-7906 or 1-800-275-5676, email jciorder@jci.com , or fax to 1-800-356-1191. For answers to pricing questions, contact your channel account manager.
<input type="checkbox"/>	Migrate FX Server and FX Supervisory Controller stations and change users default profile to HTML5HxProfile as desired.	Refer to the <i>FX Supervisory Controller Upgrade and Migration Instructions (LIT-12011441)</i> .

FX Workbench 14.x Modules

Use this table as a reference when selecting modules during FX Workbench commissioning. This modules listed below are the suggested modules needed for the JCI appliance on an FX80. All modules sizes are approximate.

Table 16: FX Workbench 14.x Modules

Module Name	Size	Notes	Module Name	Size	Notes
alarm-rt.jar	339.5 KB		kitPx-ux.jar	11.7 KB	
alarm-ux.jar	178.6 KB		kitPx-wb.jar	121.8 KB	
alarm-wb.jar	488.6 KB		kitPxHvac-wb.jar	634.8 KB	
app-rt.jar	21.1 KB		kitPxHvacSmall.jar	443.3 KB	

Table 16: FX Workbench 14.x Modules

Module Name	Size	Notes	Module Name	Size	Notes
app-wb.jar	13.2 KB		mobileThemeZebra-ux.jar	24 KB	
axvelocity-rt.jar	1383.5 KB		mobile-ux.jar	519.9 KB	
axvelocity-wb.jar	28.9 KB		mobile-wb.jar	195.5 KB	
backup-rt.jar	62.3 KB		modbusAsync-rt.jar	24.2 KB	
backup-wb.jar	23 KB		modbusAsync-wb.jar	9.8 KB	
bacnet-rt.jar	1825.7 KB		modbusCore-rt.jar	220.2 KB	
bacnet-ux.jar	190.2 KB		modbusCore-wb.jar	46.7 KB	
bacnet-wb.jar	311.5 KB		modbusTcp-rt.jar	31.2 KB	
baja.jar	2200.6 KB		modbusTcp-wb.jar	11.3 KB	
bajaScript-ux.jar	434.1 KB		neql-rt.jar	82.5 KB	
bajaui-wb.jar	1280.7 KB		net-rt.jar	63.6 KB	
bajaux-rt.jar	28.5 KB		niagaraDriver-rt.jar	360 KB	
bajaux-ux.jar	89.5 KB		niagaraDriver-wb.jar	183.6 KB	
basicDriver-rt.jar	59.3 KB		niagaraVirtual-rt.jar	133.5 KB	
box-rt.jar	203.8 KB		niagaraVirtual-wb.jar	17.9 KB	
bql-rt.jar	269.3 KB		nsh-wb.jar	20.8 KB	
bql-ux.jar	63 KB		obix-rt.jar	218.1 KB	
chart-rt.jar	14.9 KB		obixDriver-rt.jar	324.4 KB	
chart-wb.jar	200.3 KB		obixDriver-wb.jar	63 KB	
control-rt.jar	79.7 KB		pdf-wb.jar	112.9 KB	
control-ux.jar	31.3 KB		platBacnet-rt.jar	25.9 KB	
control-wb.jar	22.5 KB		platCrypto-rt.jar	119.4 KB	
converters-rt.jar	129 KB		platCrypto-wb.jar	206.6 KB	

Table 16: FX Workbench 14.x Modules

Module Name	Size	Notes	Module Name	Size	Notes
driver-rt.jar	169.2 KB		platDataRecovery-rt.jar	122.3 KB	
driver-ux.jar	47.7 KB		platDataRecovery-wb.jar	37 KB	
driver-wb.jar	106.8 KB		platMstp-rt.jar	33.2 KB	
email-rt.jar	89.8 KB		platPower-rt.jar	45.8 KB	
email-ux.jar	33 KB		platPower-wb.jar	28.3 KB	
email-wb.jar	24.4 KB		platSerial-rt.jar	23.3 KB	
entityIo-rt.jar	21 KB		platSerialQnx-rt.jar	22.4 KB	
file-rt.jar	97.6 KB		platform-rt.jar	905.2 KB	
fonts-rt.jar	234.4 KB		platform-wb.jar	491.3 KB	
fox-rt.jar	398.2 KB		program-rt.jar	89.5 KB	
gx-rt.jar	129.6 KB		program-wb.jar	230.5 KB	
gx-ux.jar	14.3 KB		pxEditor-wb.jar	625 KB	
gx-wb.jar	770.3 KB		query-rt.jar	51 KB	
haystack-rt.jar	84.6 KB		queryTable-wb.jar	141.9 KB	
hierarchy-rt.jar	124.1 KB		report-rt.jar	66 KB	
hierarchy-ux.jar	27.7 KB		report-ux.jar	25.5 KB	
hierarchy-wb.jar	16.8 KB		report-wb.jar	103.3 KB	
history-rt.jar	473 KB		schedule-rt.jar	123.6 KB	
history-ux.jar	56.9 KB		schedule-ux.jar	155 KB	
history-wb.jar	321.3 KB		schedule-wb.jar	252.1 KB	
html-wb.jar	33.7 KB		search-rt.jar	47.2 KB	
hx-wb.jar	472.9 KB		search-ux.jar	60 KB	
icons-ux.jar	692.8 KB		search-wb.jar	15.7 KB	
jciAutoTagging.jar	80.2 KB	New for FX 14.6	serial-rt.jar	23.3 KB	
jciBacnetParser.jar	78.4 KB		serial-wb.jar	9.9 KB	

Table 16: FX Workbench 14.x Modules

Module Name	Size	Notes	Module Name	Size	Notes
jciCoreParser.jar	131.5 KB		silk-rt.jar	32.1 KB	
jciDictionary.jar	407.5 KB		smartTableHx-wb.jar	283.7 KB	
jciFxDriver.jar	388.7 KB		tagdictionary-rt.jar	163.2 KB	
jciFxDriverAppliance.jar	549 KB		tagdictionary-wb.jar	44.7 KB	
jciFxDriverHx.jar	291 KB		template-rt.jar	112.2 KB	
jciMeters.jar	31.7 KB		template-wb.jar	4354.7 KB	
jcin2.jar	762.4 KB		themeLucid-ux.jar	949.4 KB	
jciN2Parser.jar	164.4 KB		themeZebra-ux.jar	805.7 KB	
jciSpaces.jar	186.7 KB		tunnel-rt.jar	63.4 KB	
jciSupport.jar	171.3 KB		wbutil-wb.jar	538.6 KB	
jciTagDictionary.jar	9.4 KB	New for FX 14.6	weather-rt.jar	180.5 KB	
jciTools.jar	30.5 KB		weather-wb.jar	315.7 KB	
jciViews.jar	107.8 KB		web-rt.jar	622.1 KB	
jetty-rt.jar	76.4 KB		webChart-rt.jar	31.6 KB	
js-ux.jar	1728.8 KB		webChart-ux.jar	232.6 KB	
jxBrowser-wb.jar	50 KB		webEditors-ux.jar	884.9 KB	
kitControl-rt.jar	296.9 KB		wiresheet-wb.jar	203.4 KB	
kitControl-ux.jar	101 KB		workbench-wb.jar	2510.3 KB	
kitControl-wb.jar	11.9 kb				

