System 800xA
800xA for Freelance
Installation

System Version 6.0
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Release: August 2014
Document number: 3BDD011810-600
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About This Book

General
This book describes how to install the connectivity software 800xA for Freelance the first time (section 2) and how to run an upgrade (section 3) from a previous version to the current version. For latest information see also the corresponding Release Notes.

Document Conventions
Microsoft Windows conventions are normally used for the standard presentation of material when entering text, key sequences, prompts, messages, menu items, screen elements, etc.

Intended User
This instruction is intended for installation engineers with experience with process systems and Microsoft® Windows operating systems. In general, Microsoft Windows functions are not described in this instruction.

Warning, Caution, Information, and Tip Icons
This publication includes Warning, Caution, and Information where appropriate to point out safety related or other important information. It also includes Tip to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:

Electrical warning icon indicates the presence of a hazard which could result in electrical shock.
Warning icon indicates the presence of a hazard which could result in *personal injury*.

Caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in *corruption of software or damage to equipment/property*.

Information icon alerts the reader to pertinent facts and conditions.

Tip icon indicates advice on, for example, how to design your project or how to use a certain function.

Although **Warning** hazards are related to personal injury, and **Caution** hazards are associated with equipment or property damage, it should be understood that operation of damaged equipment could, under certain operational conditions, result in degraded process performance leading to personal injury or death. Therefore, **fully comply** with all **Warning** and **Caution** notices.

### Terminology

A complete and comprehensive list of terms is included in *System 800xA System Planning (3BSE041389)*. The listing includes terms and definitions that apply to the 800xA System where the usage is different from commonly accepted industry standard definitions and definitions given in standard dictionaries such as Webster’s Dictionary of Computer Terms. Terms that uniquely apply to this instruction are listed in the following table.

<table>
<thead>
<tr>
<th>Term/Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE</td>
<td>OPC Alarms and Events</td>
</tr>
<tr>
<td>CBF</td>
<td>Freelance engineering tool Builder F</td>
</tr>
<tr>
<td>DA</td>
<td>OPC Data Access</td>
</tr>
<tr>
<td>OPC</td>
<td>OLE for Process</td>
</tr>
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</table>
Related Documentation

A complete list of all documents applicable to the System 800xA is provided in Released User Documents (3BUA000263*). This document lists applicable Release Notes and User Instructions. It is provided in PDF format and is included on the Release Notes/Documentation media provided with your system. Released User Documents are updated with each release and a new file is provided that contains all user documents applicable for that release with their applicable document number. Whenever a reference to a specific instruction is made, the instruction number is included in the reference.

<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Document Number</th>
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<tr>
<td>Connectivity</td>
<td>800xA for Freelance, Release Notes</td>
<td>2PAA112403*</td>
</tr>
<tr>
<td></td>
<td>800xA for Freelance, Configuration</td>
<td>3BDD011812*</td>
</tr>
<tr>
<td></td>
<td>800xA for Freelance, Operation</td>
<td>3BDD011811*</td>
</tr>
<tr>
<td>800xA System</td>
<td>System 800xA Language Package Installation</td>
<td>2PAA102031*</td>
</tr>
<tr>
<td></td>
<td>System 800xA 6.0 Manual Installation</td>
<td>2PAA112455*</td>
</tr>
<tr>
<td></td>
<td>System 800xA 5.1 to 6.0 Upgrade</td>
<td>2PAA111694*</td>
</tr>
<tr>
<td></td>
<td>System 800xA 5.0 SP2 to 6.0 Upgrade</td>
<td>2PAA111695*</td>
</tr>
<tr>
<td></td>
<td>6.0, Release Notes Known Problems</td>
<td>2PAA111899*</td>
</tr>
<tr>
<td></td>
<td>6.0, Release Notes Fixed Problems</td>
<td>2PAA112277*</td>
</tr>
<tr>
<td>Freelance</td>
<td>Freelance 2013, Release Notes</td>
<td>2PAA103593*</td>
</tr>
<tr>
<td></td>
<td>Freelance 2013 Rollup1, Release Notes</td>
<td>2PAA105400R0901</td>
</tr>
</tbody>
</table>

Term/Acronym | Description
---|---
PLC file | Standard file format for Programmable Logic
SFC | Sequential Function Chart
Section 1 Introduction

Product Overview

The Connectivity software 800xA for Freelance and standard OPC® provide a connection between the control level established with Freelance modules and 800xA operator workplaces.

Product Scope

Using interactive process graphics, the operator can monitor and control all Analog loops and Digital devices interfaced to the network through Freelance controller. Furthermore it also serves maintenance personnel with the capability to globally monitor the operating status of the process and associated devices.

The upload of engineering data to 800xA-System-Operation and communication through standard OPC interfaces are the major features. Below is a brief summary:

- Object types for Freelance function blocks and variables.
- By default, faceplates for continuous control, drive control etc. are available.
- Data access to process data DA through OPC.
- Alarms and events AE through OPC.
- Object instantiation in 800xA by means of object types.
- Object tree within the control structure and functional structure.
- Creation and grouping of plant areas (Freelance => 800xA).
- Supports extended PLCopen® compliant export file (.ple).
- Delta upload and synchronize mode.
Prerequisites and Requirements

Operating System

The connectivity software requires a Windows operating system:

• Windows 2012 R2 Server (64 bit).
• Windows 8.1 Enterprise Edition (64 bit) (applicable to client machines).

Associated service packs, hot-fixes, roll-ups and security patches have to be installed too.

Software

The connectivity software was developed, tested and released on basis of:

<table>
<thead>
<tr>
<th>System 800xA, Operation</th>
<th>SV6.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freelance</td>
<td>Freelance 2013 Rollup1</td>
</tr>
</tbody>
</table>

Hardware

For PC hardware requirements, refer to 800xA-System and Freelance user guides. Make sure your computers meet these requirements.

User Role

To install the connectivity software, you should have Windows Administrator privileges.

Procedures

Run the installation or upgrade after suitable preparation. Read the Release Notes and Installation guides of 800xA System and Freelance.
Language Setting

The connectivity software supports English and German. The language for all human readable outputs of the connectivity (faceplates, dialog boxes etc.) depends on the operating system language (regional settings). The install shield itself opens always with English language.

- The user locale settings are defined for each user e.g. the administrator, operator(s), engineer(s).
- The system locale settings are defined for the PC node.

For installation the system locale settings must be US English and must not be changed afterwards.

For all other user(s) than operators, the user locale or system locale settings must be US English for any 800xA System configuration, with or without a language package installed.

To activate German local language for operator(s) in supported 800xA System configurations with installed language package, the user locale can be changed from US English to German language. Text strings in faceplates an other user interfaces are changed to the local language.

Input keyboard language can be set to the same local language if a localized keyboard is used.

For detailed information, refer to System 800xA Language Package Installation (2PAA102031*).
Backup

Standard software is recommended to create a backup of memory medium (CD). This backup will enable you to save data if the medium is damaged, or in the event of a fatal error on your computer. Make sure that the backup is clearly marked and carefully maintained.
Section 2 Installation

Overview

Install the Connectivity software version 6.0 as:

- Fresh installation on newly installed 800xA System Version 6.0 and Freelance 2013.
- Upgrade from previous versions of Connectivity software running on 800xA systems 5.1 and earlier. For upgrade procedure, the existing versions of 800xA system need to be upgraded before installing Connectivity Software 6.0. Refer to Section 3 for more details.

Freelance software (CBF, OPC server ...) can be upgraded if necessary, to the latest version before running the upload and performing basic setting.
Installation Path

The Connectivity files will be stored in the directories location as shown in Figure 1. When uninstalling the system later, these files will be removed.

Figure 1. Installation Path
Program Setup

To install the Connectivity Software Version 6.0, perform the following steps:

1. In the System 800xA Media, Browse to the following location: `<System 800xA Media>:\Connectivities\Freelance`

2. Double click on `ABB 800xA for Freelance 6.0.0-0.msi`.

The `ABB 800xA for Freelance 6.0.0-0` installation progress welcome screen appears as shown in Figure 2.

![Welcome screen](image)

Figure 2. Welcome screen

3. Click Next.
4. Select **I accept the terms in the license agreement** radio button and click **Next** in the License Agreement screen.

*Figure 3. License Agreement screen*
5. Enter the user name in the **Name** field and the company name in the **Company** field of the **Registration Information screen** and click **Next**.

![Registration Information screen](image)

*Figure 4. Registration Information screen*
6. Select the radio button **Complete** and click **Next** in the **Setup dialog**.

*Figure 5. Setup Dialog*
7. Click **Install** to start the installation in the Install dialog.

![Install Dialog]

*Figure 6. Install Dialog*
8. Click **Finish** to close the **Installation Wizard** after successful installation.

![Install Complete Wizard](image)

*Figure 7. Install Complete Wizard*

**Adding Connectivity 6.0 as 800xA System Extension**

After the successful installation of the Connectivity 6.0.0-0, it can be added as 800xA System Extension using the **800xA Configuration Wizard**. For more information on adding the Connectivity 6.0.0-0 as System Extension, refer to **Section 4** in this document and also refer to (*System 800xA for Freelance Configuration 3BDD011812*).

After the successful installation of Connectivity Software version 6.0.0-0, start the Uploader. If the software is installed for the first time, the upload time will be same for **Synchronize mode** or **Delta mode**.
Section 3  Upgrade

Overview

Upgrade to 800xA System version 6.0 requires likewise upgrade of the connectivity software. Upgrade to Freelance 2013 is recommended.

<table>
<thead>
<tr>
<th>Product</th>
<th>Predecessor Version</th>
<th>Current Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>800xA-System</td>
<td>5.0 or 5.0 SP1/SP1a, RU1b, SP2 RU2e, 5.1, 5.1 Rev B, 5.1 RevC, 5.1 FP4, 5.1 RevD</td>
<td>6.0</td>
</tr>
<tr>
<td>Freelance System</td>
<td>9.2 SP2 or 9.2 SP1</td>
<td>Freelance 2013</td>
</tr>
<tr>
<td>Connectivity</td>
<td>5.0.0/0, 5.1.0/0, 5.1.0/1, 5.1.0-2, 5.1.0-3</td>
<td>6.0.0-0</td>
</tr>
</tbody>
</table>

This section does not describe the upgrade, 5.1.0-3 and installation of 800xA System or Freelance. For individual steps of these products see the below mentioned documents for upgrade and installation.
Workflow

Below you find the principle workflow with basic steps for upgrading 800xA System and Freelance Connect. Both System Upgrade and Update scenarios are explained in brief within this section.

800xA System

Upgrading directly from 800xA 5.0 or 800xA 5.0 SP1a to 800xA 6.0 is not supported. If running this version, it is necessary to upgrade to the latest revision of 800xA 5.0 SP2 Rev E (Supported by Freelance Connect) before upgrading to 800xA 6.0.

For detailed procedures of all upgrade paths to 800xA 6.0, refer System 800xA 5.0 SP2 to 6.0 Upgrade (2PAA111695*) manual along with System 800xA 6.0 Tools (2PAA101888*) manual.

Perform the 800xA backup from the Maintenance Structure (Aspect Directory backup type). Backing up the aspect directory (800xA System Backup), reports, history data, graphics, and other application data is required before performing the upgrade.

This ensures the Freelance project in previous 800xA version is backed up properly to restore in 800xA System version 6.0 after upgrade.

800xA Graphics

800xA 6.0 supports Process Graphics 2 as a default with optional VB Graphics extensions (800xA Base and Connectivities) that can be installed and loaded when upgrading.

Customers upgrading from previous 800xA versions can still view and modify their VB Graphics, but they must install their previously licensed version of Visual BASIC 6.0 with SP6 in order to do so. All Customers upgrading from previous 800xA versions must install the 800xA Base VB Graphics extensions. Any previously installed VB Graphics extension for Connectivities must also be installed.
New 800xA 6.0 customers should not install the VB Graphics extensions as they will only have the VB runtime and will not be able to create and/or modify VB graphics.

To view VB Graphics in 800xA 6.0, additional licenses are required.

After upgrading to 6.0, the VB graphic displays shall not be impacted. Invoking the faceplate links within the graphic displays shall call up PG2 faceplates. VB faceplates shall still be available under the respective function blocks in the control structure.

**Steps for System Upgrade/ System Update**

All the steps mentioned below are applicable for upgrade from predecessor 800xA versions to 800xA SV 6.0 version.

Follow the steps below to upgrade:

1. Backing up the aspect directory (800xA System Backup), reports, history data, graphics, and other application data is required before performing the upgrade. Perform the steps as described in *Preparing the 800xA 5.x System* in *Offline Upgrade Flow* section of *System 800xA 5.1 to 6.0 Upgrade (2PAA111694*) or *System 800xA 5.0 SP2 to 6.0 Upgrade (2PAA111695*)*.

2. On the connectivity server, delete Freelance OPC server Resource IDs by following the steps below:
   a. Navigate to the Freelance Configure Tool and open it.
   b. Select the OPC-Server Options to view the existing Resource IDs and Alias number.
   c. Note all entries for new Installation. Remove all Resource IDs.

3. Uninstall the Freelance OPC Server on connectivity server.

4. Perform the steps as described in *Preparing the 800xA 6.0 System* in *Offline Upgrade Flow* section of *System 800xA 5.x to 6.0 Upgrade*.

5. Perform the Steps 1-5 (800xA Installation) as described in *Planning and Setting up the 800xA 6.0 System* in *Offline Upgrade Flow* section of *System 800xA 5.x to 6.0 Upgrade*. 
6. Before performing Maintenance Restore of System Backup, install the Freelance Connect software in all 800xA nodes, before performing Maintenance restore of System backup.

7. If 800xA for Freelance VB process Graphics Extension 5.x was used in the existing system, install ABB 800xA for Freelance VB Graphics Extension 6.0.0-0 in all the 800xA nodes.


10. Download the OPC-GWY Node from Control Builder F Project using Load> Whole station option.

11. Restore the System Backup in primary aspect server and perform the Post installation steps as described in Steps 6-8 under Planning and Setting up the 800xA 6.0 System in Offline Upgrade Flow section of System 800xA 5.x to 6.0 Upgrade.

   After successful restore, all Freelance Object types will be updated to 800A for Freelance 6.0 Object types.

12. Perform an Event collector Upload from Service Structure> Event Collector Service > Freelance> Service group> Special configuration Tab

**Freelance Upgrade**

Refer to Freelance 2013 Release Notes (2PAA103593*).

Follow the steps below to upgrade from older version of Freelance to Freelance 2013.

1. Export project data (.csv file) using the export function.

2. Uninstall the predecessor Freelance version on CBF node.

3. Install Freelance 2013 on the CBF node.
4. Import the Freelance project data.
5. Check the project and create a new .ple file.

Further Steps

For detailed information of further steps, refer to *System 800xA for Freelance, Configuration (3BDD011812*) manual.

During Upload, select *Synchronize mode* to get a complete rebuild of Freelance 800xA objects in the Control Structure and Functional Structure.
Section 4  System Extension

Loading Connectivity Software as System Extension

The appropriate system extension 800xA for Freelance must be loaded after the system has been created the first time or after upgrade. Steps to be executed for adding 800xA for Freelance version 6.0.0-0 as 800xA System Extension are as follows:

1. Click ABBnotification icon on the task bar to start the Configuration Wizard.
2. Right click and click Configuration wizard.

![Configuration Wizard selection](image)

*Figure 8. Configuration Wizard selection*
3. Select **System Administration** and click **Next**.

![Configuration Wizard](image)

*Figure 9. Configuration Wizard - Selecting type of Configuration*
4. Select a system by clicking it and click **Next**.

*Figure 10. Configuration Wizard - Selecting System*
5. Double-click **System Extension Load** or double-click **System Extension Maintenance**, if upgraded from the previous version.

![Configuration Wizard - System Extension Load](image)

*Figure 11. Configuration Wizard - System Extension Load*
6. Select the system extension **800xA for Freelance** from the list on the left.

![Configuration Wizard - Select System Extension](image)

**Figure 12. Configure Wizard - Select System Extension**

7. Following system extensions should be loaded first.
   - ABB Central licensing Extension
   - ABB SFC Viewer
   - ABB 800xA SymbolFactory

After successful loading of above system extensions, proceed to load **800xA for Freelance** System extension.
8. Click > to move **800xA for Freelance** to the list on the right and click **Next**.

![Configuration Wizard](image-url)

*Figure 13. Configuration Wizard - Moved extensions for loading*
9. Click **Finish** to load the system extensions.

![Configuration Wizard - Finish](image1)

**Figure 14. Configuration Wizard - Finish**

10. In the **Loading imports screen**, click **Abort** to cancel the system extension loading.

![Loading imports - Abort](image2)

**Figure 15. Loading imports - Abort**
11. Click **Finished** to finish the system extension load.

![Operation completed wizard](image1.png)

*Figure 16. Operation completed wizard*

12. Click **Exit** to close the wizard.

![Exit Wizard](image2.png)

*Figure 17. Exit Wizard*

- Restart the Freelance connectivity server for the changes to take effect.
Section 5 Uninstall

Uninstalling Connectivity Software

To uninstall the Connectivity software:

1. Go to the Panel and in the installed programs list check for ABB 800xA for Freelance instance.
2. Click appropriate version of ABB 800xA for Freelance instance.
3. Click Remove or Uninstall to uninstall the selected version.

If a previous version of the SFC Viewer is installed, uninstall the SFC viewer. The current SFC viewer will be installed with the 800xA core system.

Figure 18. Freelance 6.0 instance in installed program list
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