System 800xA

Installation

System Version 5.1

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ABB

System 800xA

Installation

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Release: August 2011
Document number: 3BSE034678-510 C

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Revision History

About this User Manual

General

Any security measures described in this document, for example, for user access, password security, network security, firewalls, virus protection, etc., represent possible steps that a user of an 800xA System may want to consider based on a risk assessment for a particular application and installation. This risk assessment, as well as the proper implementation, configuration, installation, operation, administration, and maintenance of all relevant security related equipment, software, and procedures, are the responsibility of the user of the 800xA System.

This User Manual includes information as it pertains to installing and setting up prerequisite third party software, and manually installing 800xA System and Functional Area software. It does not include information on site planning, engineering planning, software configuration, network design, security measures, tools, maintenance, etc. that can be found in other 800xA User Manuals.

Unless otherwise noted, the version of all 800xA Base System and Functional Area software described in this User Manual is the latest release of 800xA 5.1. The procedures described require Windows Administrator privileges.

This User Manual does not include information on site planning, engineering planning, software configuration, network design, security measures, tools, maintenance, etc. that can be found in other 800xA User Manuals.

Version Described in this Document

All information and procedures described in this document are specific to the latest release of 800xA 5.1.

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.

Feature Pack

The Feature Pack content (including text, tables, and figures) included in this User Manual is distinguished from the existing content using the following two separators:

Feature Pack Functionality _____

<Feature Pack Content>
_____

Feature Pack functionality included in an existing table is indicated using a table footnote (*) :
* Feature Pack Functionality

Unless noted, all other information in this User Manual applies to 800xA Systems with or without a Feature Pack installed.

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 Guide Functional Description (3BSE038018*).* 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.

Term/Acronym	Description
Backup	**800xA Backup:** Backup using the 800xA Backup Definition aspect.
	Functional Area Backup: Backup via defined tools or copy of Functional Area configuration and/or data to a safe media for items not covered by 800xA Backup.
	The specific operations called out for the Functional Area within the Backup/Restore procedure in *System 800xA Maintenance (3BSE046784*) f*or same version to same version backup and restore.
Restore	**800xA Restore:** Restore via Configuration Wizard.
	Functional Area Restore: Restore via defined tools or copy of Functional Area configuration and/or data from a safe media for items not covered by 800xA Backup.
	The specific operations called out for the Functional Area within the Backup/Restore procedure in *System 800xA Maintenance (3BSE046784*)* for same version to same version backup and restore.

Term/Acronym	Description
Upgrade	Moving from one 800xA release to a later 800xA release, whether it be a major or minor release.
Update	Adding service packs, patches, hot fixes, or rollups to an existing 800xA System.

Related Documentation

A complete list of all documents applicable to the 800xA System is provided in *System 800xA 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.

Section 1 Installation Overview

Introduction

This document reflects 800xA System and Functional Area software at the time of release. All 800xA System and Functional Area Release Notes must be read and understood before performing any automated or manual installation, post installation, or upgrade procedures. The Release Notes contain any last minute changes that must be performed when installing or upgrading the 800xA System. All Release Notes can be found on the CD labeled *System Version 5.1 Released Documents.*

This instruction includes information as it pertains to installing and setting up prerequisite third party software, and manually installing 800xA Base System and Functional Area software.

Unless otherwise indicated in this instruction, do not install any 800xA Base System or Functional Area software on a separate Domain Server node. A separate Domain Server node is one that is not combined with an Aspect Server.

System Security

It is very important to have a corporate security policy that is revised on a regular basis. This is the responsibility of the user of the 800xA System.

This document does not contain recommendations on system security, users, user groups, or user roles and permissions. Refer to *System 800xA Administration and Security (3BSE037410*), System 800xA Network Configuration (3BSE034463*),* and *System 800xA System Planning (3BSE041389*)* for more information.

New Installations

Do not attempt to make a disk image of one 800xA System node and clone it to other 800xA System nodes. This is not supported and the system installation will fail.

800xA for DCI was not included with the initial release of 800xA 5.1 and thus 800xA for DCI installation instructions are not documented in this user manual. Refer to *800xA for DCI 5.1 Installation - Post Installation - Upgrade Supplemental User Manual (3BUA001686*)* for installation of 800xA for DCI 5.1.

If **not** starting with an 800xA System pre-installed by ABB, a new system installation can be executed either semi-automatically using the System Installer as described in *System 800xA Automated Installation (3BSE034679*)*, or manually as described in this instruction.

If performing a manual installation, read the rest of this section in its entirety for guidelines on how to proceed before beginning to install 800xA Base System and Functional Area software.

Read the Release Notes on the System Version 5.1 Released Documents CD delivered with the installation media.

Upgrades

Upgrades can be executed either semi-automatically using the System Installer as described in *System 800xA Automated Installation (3BSE034679*)*, or manually as described in *System 800xA Upgrade (3BSE036342*)*.

System Installer can not be used to upgrade 800xA Systems with 800xA for DCI or Freelance installed.

If an installed system exists and is being manually upgraded from System Version 4.1 to System Version 5.1 or from System Version 5.0 Service Pack 2 to System Version 5.1, refer to *System 800xA Upgrade (3BSE036342*)*.

Upgrades directly from System Baseline 2.1/2 and System Version 3.1 Service Pack 3 to System Version 5.1 are not supported. Refer to *System 800xA Upgrade (3BSE036342*)* for the supported upgrade paths.

The upgrade instruction contains upgrade preparation and post upgrade procedures. Upgrading most Base System and Functional Area software requires referring back to this installation instruction to install that software. Unless otherwise noted, the

procedures for installing the software for a new installation and installing it as part of an upgrade are identical. If required, differences in the two installation procedures will be clearly identified.

Graphics

800xA 5.1 supports Process Graphics 2 as a default with optional VB Graphics extensions that can be installed and loaded when upgrading. 800xA 5.0 SP2 supported VB Graphics as the default with Process Graphics 2 extensions that could be installed and loaded. 800xA SV 5.0 SP1 and earlier supported VB Graphics as the default with no option for Process Graphics.

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. They must also install and load the VB Graphics extensions.

New 800xA 5.1 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.

Installation Tools Provided with System Installer

The System Installer provides standalone tools to help in the installation and verification process.

System Planner Tool: Used to:

• **Plan a New System:** Used to specify the desired system configuration. The System Planner Tool consists of a series of dialog boxes where relevant information is specified, such as:

    – Location of the license file.
    – Whether or not Windows is already installed on the client or server.
    – The number of Operator Workplace and Engineering Workplace Clients.
    – The number of remote client servers.
    – Connectivity Server options.
    – Device Management options.
    – Functional Area software that will run in the system and options for each.
    – Aspect Server redundancy options.

- AC 800M options.
- Other Connectivity Server options.
- Whether the system will be part of a domain or Windows Workgroup.
- Multisystem Integration options.
- Network and node parameters.
- User and User Group settings.
- Network redundancy and control network areas.
- Client or server IP addresses.

When the planning phase is complete, node specific Setup Packages are generated. Refer to the System Planner Tool section in *System 800xA Automated Installation (3BSE034679*)* for more information.

- **Windows Firewall Configuration Tool:** Windows Firewall restricts communications between a server or client and a network or the Internet. It might be necessary to adjust settings for some other applications that prefer an open connection. Either exceptions can be made or a port can be opened so these applications can communicate through Windows Firewall.

  The Windows Firewall Configuration Tool makes the necessary exceptions and opens the necessary ports. Use this tool to configure Windows Firewall even if manually installing the 800xA Base System and Functional Area software.

  In order to allow proper communications between a client or server and a network or the Internet, Windows Firewall must be turned off during 800xA installation and post installation procedures, and then turned on using the Windows Firewall Configuration Tool after all procedures are complete. The Windows Firewall Configuration Tool turns on the firewall for Windows Server 2008 nodes and all Windows Workgroup nodes, and turns on the Domain Profile for Windows 7 nodes that belong to a domain.

- **Windows Configuration Tool:** Sets up Windows Operating System services and settings for the 800xA System (Windows hardening). The operation of the standalone tool is described in *System 800xA Post Installation (3BUA000156*)*.

- **800xA Common Third Party Install Tool:** Installs unlicensed third party software that is common to every node in the 800xA System.

- **System Verifier Tool (this is not a standalone tool):** After Windows is installed and configured on a node, the System Verifier Tool will check to see if the node fulfills the necessary software requirements. If any third party

software is required, the System Verifier Tool will help install it or it will provide the necessary information to fulfill the requirement.

The System Verifier Tool can also be used to upgrade an installed system from 800xA 5.0 SP2 to 800xA 5.1 or 800xA 4.1 to 800xA 5.1. An upgrade information file, generated by the System Verifier Tool, is needed to use this option. The System Upgrade Guide must be run on the 800xA System version to be upgraded, while the 800xA System is running. Refer to the Upgrading an Installed System section in *System 800xA Automated Installation (3BSE034679*)* for more information.

For more information on these installation tools, refer to *System 800xA Automated Installation (3BSE034679*)*.

System Configuration Console

Some procedures described in this instruction use the 800xA System Configuration Wizard. A new feature, the System Configuration Console, can also be used to perform many of these procedures. Refer to *System 800xA Tools (2PAA101088*)* for information and instructions on using the System Configuration Console.

Pre-Installation Considerations

Consider the following before performing the procedures described in this instruction.

1. This instruction does not include information on site planning, engineering planning, software configuration, network design, security measures, users, user groups, user roles and permissions, tools, maintenance, etc. that can be found in other 800xA instructions.

    Do not install any software until the system has been properly designed and configured for the software being installed. Please refer to the following instructions before installing the software described in this instruction:

• Accessible from the System Version 5.1 Released Documents CD provided with the 800xA System:

    – *System 800xA Administration and Security (3BSE037410*)*.

    – *System 800xA Maintenance (3BSE046784*)*.

- *System 800xA Tools (2PAA101888*).*

- *System 800xA Network Configuration (3BSE034463*).*

- *System 800xA System Planning (3BSE041389*).*

- *System 800xA Site Planning (3BUA000285*).*

- *System 800xA System Guide Functional Description (3BSE038018*).*

- *System 800xA System Guide Technical Data and Configuration Information (3BSE041434*).*

- Accessible from ABB SolutionsBank

  - *Third Party Software System 800xA (3BUA000500).*

  - *System 800xA Verified Third Party Products (3BSE046579*).*

2. Preconfigured workstations or servers that come from the hardware manufacturer must be preconfigured by the hardware manufacturer to meet 800xA System specifications. If they are not, they must be reconfigured by the user to meet 800xA System specifications.

3. Unless otherwise specified, this instruction assumes there are no previous versions of 800xA Base System or Functional Area software installed before the described installation procedures are started.

4. If virus checking software is installed, disable it until after the 800xA System is installed and configured (post installation).

5. Read the Release Notes on the System Version 5.1 Released Documents CD delivered with the installation media.

6. The 800xA System software is supplied on DVDs as described in Appendix A, Installation Media.

7. The 800xA for AC 800M software must be installed and the AC 800M Connect system extension must be loaded prior to installing 800xA for TRIO software and loading its system extension. This instruction does not contain installation procedures for 800xA for TRIO. Refer to *System 800xA Post Installation (3BUA000156*)* for all procedures related to 800xA for TRIO.

8. Redundant Batch Servers can not be combined with other servers on the same node if Batch redundancy is required. Refer to the *System 800xA System Guide*

Technical Data and Configuration Information (3BSE041434*) for more information.

Installation Sequence

Figure 1 shows the high level installation sequence flowchart.

The installation process is broken down into three processes:

- Planning and preparation (Figure 2).

- Operating system and third party software installation (Figure 3).

- 800xA Base System, Functional Area, and Revision A software installation and post installation (Figure 4).

Feature Pack Functionality _____

- 800xA Base System, Functional Area, and Feature Pack software installation and post installation (Figure 5).

_____

Follow the sequence when installing the 800xA System. If a block in the flow does not refer to another instruction, the procedures for performing the tasks in that block are contained in this instruction.
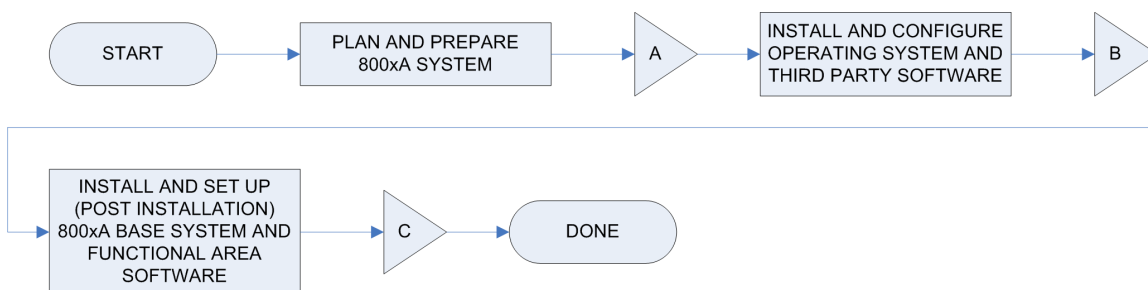
Figure 1. Installation Sequence Flowchart (High Level)
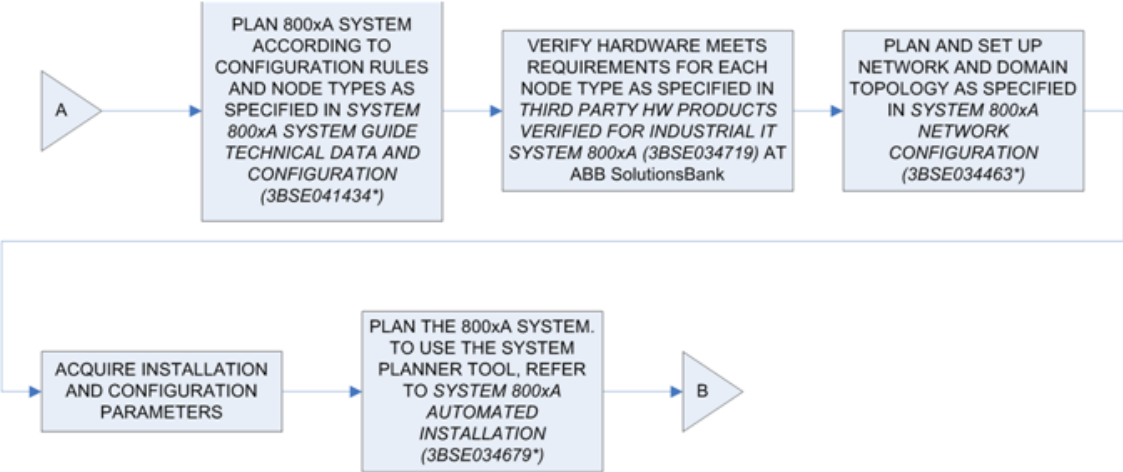
Figure 2. Installation Sequence Flow Chart A (Planning and Preparation)
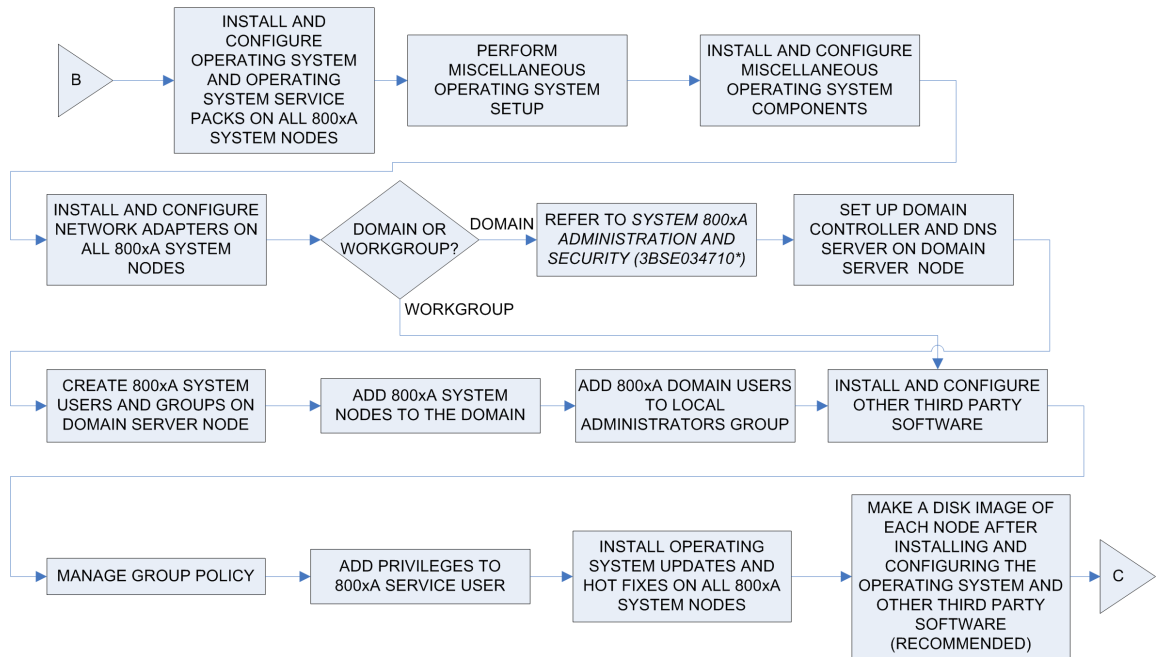
Figure 3. Installation Sequence Flow Chart B (Operating System and Third Party Software Installation)
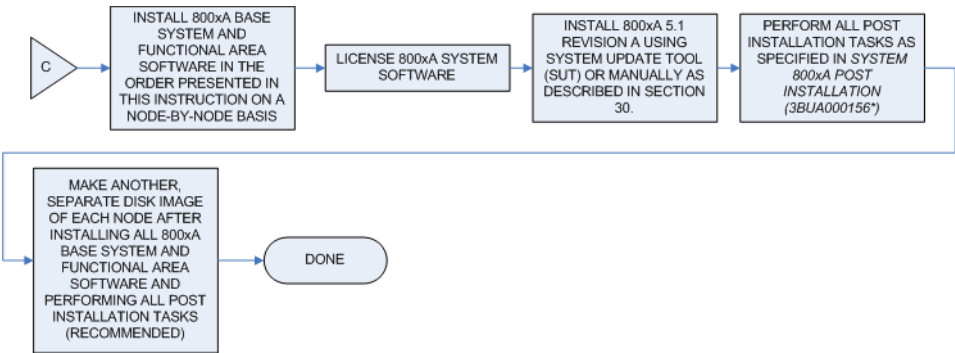
Figure 4. Install 800xA 5.1 Revision A using System Update Tool (SUT) or manually as described in Section 30, Update to 800xA 5.1 Rev A.

Feature Pack Functionality
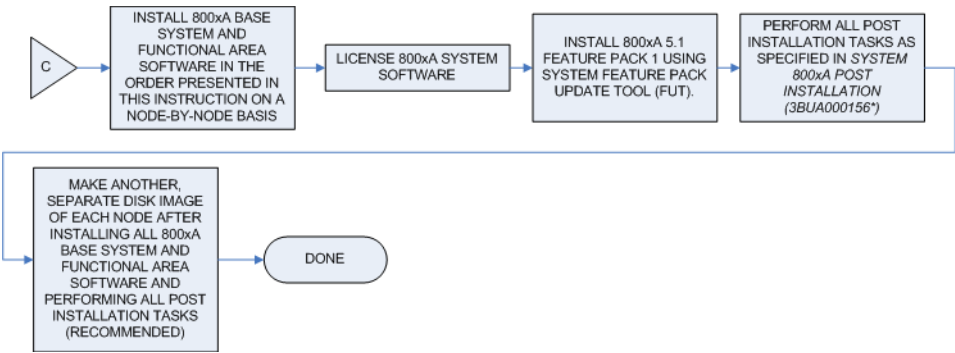
Figure 5. Install 800xA 5.1 Feature Pack using System Feature Pack Update Tool (FUT)

Acquiring Installation and Configuration Parameters

This section provides guidelines for acquiring the information needed for installation with regard to network parameters, software keys, etc. Gather the

required installation media needed to complete the installation, and confirm that all required hardware is in place and meets the system requirements.

ℹ️　An organization should be in place to manage the domain with assigned responsibilities and methods handling users and security.

Before installing and configuring (post installation) the 800xA System, there are several parameters and system settings whose values must be determined and available. Table 1 provides a worksheet for recording this information. It lists node types and their applicable parameters, and provides a Value column for recording the information.

For guidelines on parameters related to network and domain setup, refer to *System 800xA Network Configuration (3BSE034463*).*

Table 1. Installation and Configuration Parameter Worksheet

Node Type	Parameter	Value
All Nodes	Primary IP address	
	Secondary IP address	
	Subnet mask	
	Node name	
	Time sync protocols	
	Time sync role and configuration (per protocol)	
	RNRP network area, node number, and local flag	
PC Nodes	DNS Server addresses	
AC 800M Controllers	Primary CPU primary and secondary IP address	
	Backup CPU primary and secondary IP address	
	Tool port IP address	
	Communication modules	
	IO modules	
Domain Server	Domain name	
	User Groups	
	Users	
	Concept of 800xA roles and permissions on system, structures, and aspect object level	
	Network adapter type	
DNS Server	Backup needs IP address of primary	

Table 1. Installation and Configuration Parameter Worksheet (Continued)

Node Type	Parameter	Value
Aspect Server	Affinity - Aspect Server Base Service	
	Affinity - Aspect Server node name of clients	
	Affinity - node name of redundant Aspect Servers	
	Network adapter type	
	Affinity - Connectivity Server Base Service	
	Affinity - Connectivity Server node name of clients	
	Affinity - node name of parallel Connectivity Server	
AC 400 Controller	MB 300 netw number1	
	MB 300 netw number2	
	MB 300 node number	
800xA for Advant Master	MB 300 netw number1	
	MB 300 netw number2	
	MB 300 node number	
	Network interface IP address in PC used for PU410. Since the RTA unit default IP addresses are 172.16.168.50 and 172.17.168.50, do not configure network area 10 in the RNRP client/server topology. If the client server topology is configured as network area 10, the default IP address of the RTA unit must be changed as described in *800xA for Advant Master Configuration (3BSE030340*).*	
Connectivity Server	Network adapter type	
(Managed) Switches	IP address	

Table 1. Installation and Configuration Parameter Worksheet (Continued)

Node Type	Parameter	Value
Disk Image	Server IP address	
	Session names	
	Backup identities and filenames	
800xA for MOD 300 RTA Unit	Since the RTA unit default IP addresses are 172.16.168.50 and 172.17.168.50, do not configure network area 10 in the RNRP client/server topology. If the client server topology is configured as network area 10, the default IP address of the RTA unit must be changed as described in *Industrial IT, System 800xA for MOD 300 - RTA Unit PU410 and PU412 User's Guide, Technical Data and Installation Information (3BUA001442*)*.	

Installation AUTORUN

When the 800xA System Installation DVD 1 is inserted into the drive, the Installation AUTORUN screen will appear. If it does not, navigate to the root directory of the DVD and manually launch AUTORUN.exe. This screen allows direct access to the various 800xA Base System and Functional Area software

installation programs, that in most cases start the 800xA Installation Wizard for that program. Figure 6 shows the Installation AUTORUN screen.
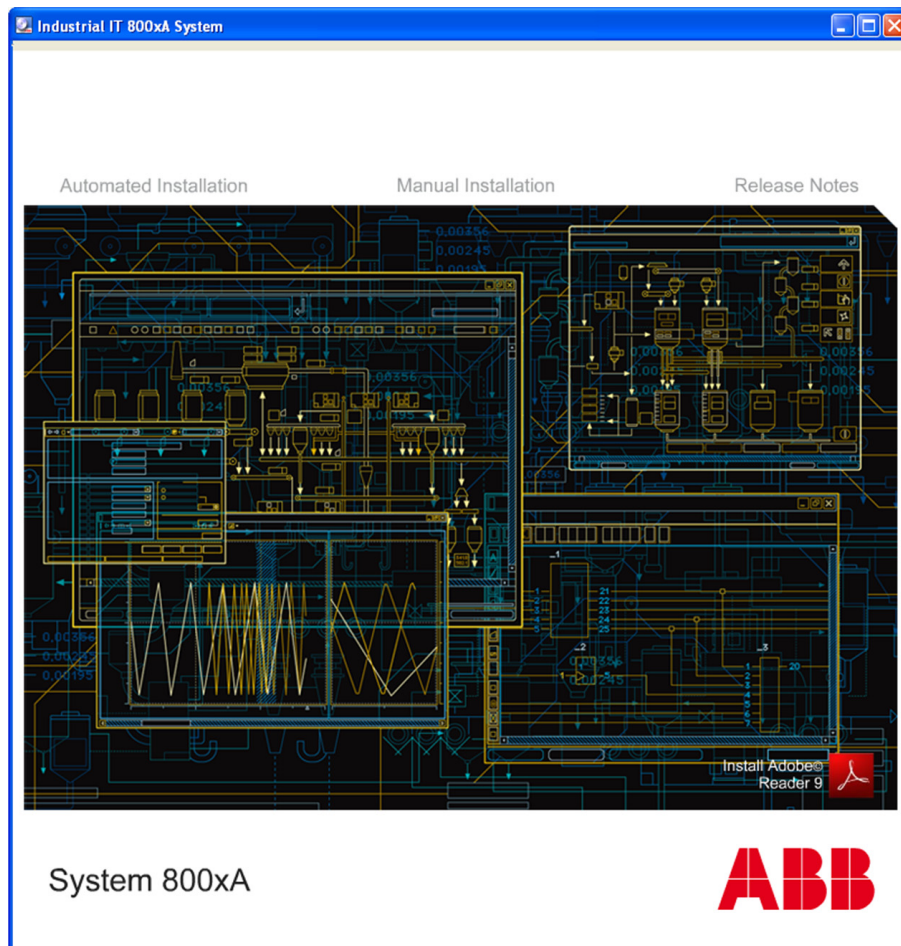
Figure 6. Installation AUTORUN Screen

Clicking **Manual Installation** (Figure 7) allows direct access to the various 800xA Base System and Functional Area software installation programs, that in most cases

start the 800xA Installation Wizard for that program. It also allows direct access to
800xA Common Third Party Install Tool.
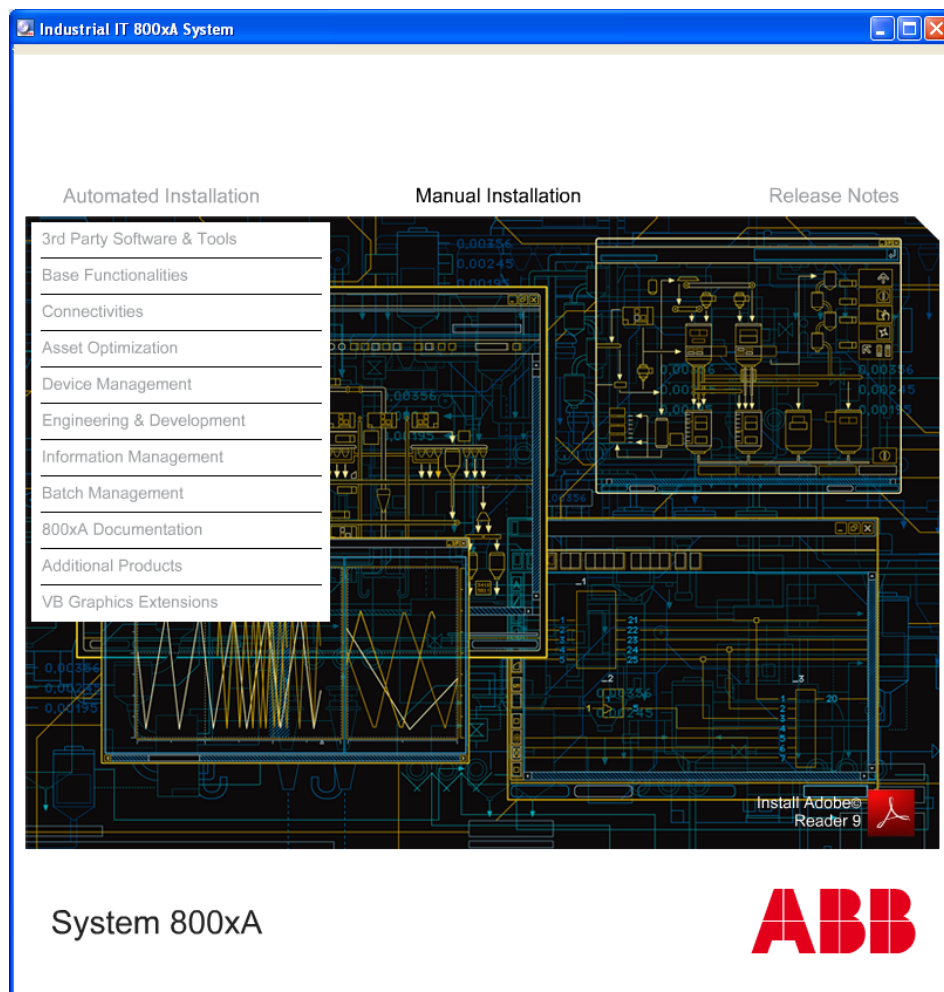
Figure 7. Manual Installation

800xA Installation Wizard

Most 800xA installations begin with the 800xA Installation Wizard. The Welcome dialog box of the Wizard (Figure 8 shows a typical example) provides common options that will not be repeated throughout this instruction. They are:

- **Generate log file:** To specify that a log file be generated for this installation (recommended), enable the check box.

- **Copy To Server**: This function is not supported in the manual installation described in this instruction.

- **Browse**: Allows browsing the contents of the installation media.

- **Home**: Returns to the original installation screen.

- **Exit**: Closes the setup program.

- **Suppress Reboot check box**: Select this check box to suppress a reboot of the node until all 800xA software is installed. Some software may override this check box. It is recommended to suppress the reboot during all software installations, unless the information in the specific software procedure in this user guide states otherwise.

Most procedures indicate to follow the Installation Wizard to complete the installation. The procedure will include guidelines on what to select or fill in when specific dialog boxes appear. Common dialog boxes such as License Agreement
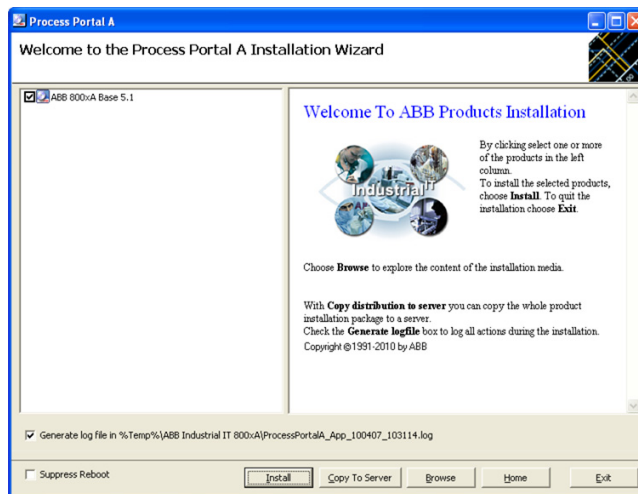
Figure 8. 800xA Installation Wizard Welcome Dialog Box (Typical)

dialog boxes, Start Copying Files dialog boxes, Destination Location dialog boxes, etc. will not be mentioned.

ℹ️ Unless otherwise specified, choose the default installation location in the Destination Location dialog boxes.

ℹ️ Unless otherwise specified, enter your name and company name in the Registration dialog boxes.

ℹ️ Unless otherwise specified, when a dialog box asks if you are installing the product for yourself or anyone who uses the computer, enable **Anyone who uses this computer**.

ℹ️ Read the Release Notes on the System Version 5.1 Released Documents CD delivered with the installation media.

Section 2 Prerequisites

Introduction

i The installer performing the procedures in this section must be proficient in the use of Windows Operating Systems. This section may not include detailed procedures on how to perform the described settings.

i There may be differences in accessing the Microsoft Operating System settings described in this section depending on the selected operating system. It is the responsibility of the user to consult Microsoft documentation and online help to accurately make the settings.

This section provides instructions for installing the Windows operating system and other prerequisite software for the 800xA System. Additional application specific prerequisites may be required when installing software for the various Functional Areas such as Engineering Studio, Batch Management, and Information Management.

i Hot fixes, service packs, and updates for third party prerequisites that the 800xA System software has been found to be compatible with are listed in *Third Party Software System 800xA (3BUA000500)*. This document can be found in ABB SolutionsBank.

i It is recommended to make a full backup of all disks. With such a backup all work will be saved in the event of a disk crash or other serious malfunction. Make sure to place proper identification on the backup media or backup files.

i Install optional hardware drivers if not supplied by the Windows operating system (video card, network adapter, sound card, etc.).

Windows Operating System

This section describes:

Selecting the Windows Operating System

800xA System software may be installed on the 32-bit (x86) US English version of Windows Server 2008 Standard or Enterprise edition with Service Pack 2, or 32-bit (x86) US English version of Windows 7 Professional or Enterprise edition with SP1. Windows Server 2008 R2 is not supported. The following conditions affect the decision on which operating system to use:

> Windows Server 2008 and Windows 7 will be used throughout the remainder of this document (service pack and edition info will not be repeated).

- Certain 800xA Server types can run on Windows 7 as well as on Windows Server 2008. Windows Server 2008 must be used for the following applications:

    - Domain Server.

    - Aspect Server when it runs the Domain Controller and Domain Name System (DNS).

    - Batch Server (except in a Single Node Engineering System).

    - Servers that run Asset Optimization (except in a Single Node Engineering System).

    - 800xA for Harmony Connectivity Server, Configuration Server, and Configuration Server with Connectivity Server.

    - 800xA for AC 870P/Melody Connectivity Server and Configuration Server.

    - 800xA for MOD 300 Connectivity Server.

- Systems using Windows 7 for the Aspect Server nodes are limited to nine PC nodes, not counting Domain Server nodes. Systems using Windows 7 for any

other server nodes, other than the Aspect Server nodes, are limited to 11 PC nodes, not counting the Domain Server nodes. These limitations depend on Microsoft licensing rules for Windows 7 and Internet Information Services (IIS).

- Windows 7 may be used in most other instances, although some performance benefits may be gained by using Windows Server 2008. If Windows Server 2008 is not required, then Windows 7 is generally recommended.

- The Windows operating system may be purchased from any Microsoft reseller.

- Pre-configured servers/clients that come from the server/client manufacturer must be pre-configured by the server/client manufacturer to meet 800xA System specifications. If they are not, they must be reconfigured by the user to meet 800xA System specifications.

9. Existing nodes that *are not running* Windows 7 or Windows Server 2008 must be reformatted and the compatible Operating System must be installed.

Considerations for Disks and File System

There are several factors that may have an impact on 800xA System performance, for example: where the software is installed, the tendency toward fragmentation, and the file system. The following are some recommendations regarding these factors.

Installation Directory

It is generally recommended to use the Windows default location, the program files directory on the boot disk, for installation.

A faster disk subsystem will improve performance.

Defragmenting Disks

The default installation of Windows 7 is set to defragment the disk automatically. If desired, it can be turned off. The default installation of Windows Server 2008 is set to not defragment the disk automatically. If desired, it can be turned on.

The file system must be in a consistent state at all times. Defragment disks on a regular basis using the defragmentation software provided with the operating system.

- Size disks so they will be 25 percent empty for defragmentation purposes.

- Check the system for fragmented files on all nodes where trend and history logs reside, and defragment the applicable disks as required.

- History configuration impacts not only the History Server disks, but also Connectivity Server disks where trend logs are configured. Therefore, check the disks on Connectivity Servers where trend or history logs reside, and defragment them as required.

- Extensive use of the Bulk Configuration tool may cause disks to become fragmented. Check the system for fragmented files after any such procedure, and defragment disks as required.

- Configuration procedures that involve creating, deleting, and then recreating of a large quantity of objects may cause the associated disks to become fragmented. Check the system for fragmented files after any such procedure, and defragment disks as required.

- Deleting and then creating the Aspect System may cause associated disks to become fragmented. Check the system for fragmented files after any such procedure, and defragment disks as required.

Enabling Write Caching on Windows Server 2008 Hard Disks

To ensure Aspect Directory integrity, the write cache buffer flushing must be left enabled in the Microsoft Windows operating system. Depending on the configuration, choice of driver, type of hard disks, etc. Windows may allow disabling the write cache buffer flushing on the hard disks to improve performance.

For data integrity this otherwise performance increasing option must not be used.

Refer to Enable Write Caching on Hard Disks on page 49 for more information and specific procedures.

File System

The 800xA System requires the NTFS file system. In addition to the partition where the Windows operating system and 800xA System software is installed, a dedicated NTFS partition (or partitions) is also needed for:

• Historical data storage - if Information Management is installed.

A FAT32 partition may be required if using certain disk imaging utilities; however, most disk imaging software now supports FAT32 or NTFS.

Windows Installation Guidelines

Make a fresh installation of the Windows operating system.

ℹ Before adding applicable service packs, it is important that all the correct device drivers are installed to match the hardware. This is especially important for elite server hardware with special RAID hard drives and server specific hardware that requires the latest drivers or drivers not included in the operating system media. Verify that the latest BIOS exists for all hardware (mother board, RAID cards, and anything else that uses BIOS).

Install applicable service packs before installing other third party software. Install Windows hot fixes, and updates approved by ABB (refer to *Third Party Software System 800xA (3BUA000500)* after installing other third party software. This document is accessible from ABB SolutionsBank.

Follow the installation procedure as described in the documentation provided by Microsoft.

Table 2 indicates the settings specifically required for the 800xA System installation.

ℹ The U.S. English version of the operating system is required.

Table 2. Windows Installation Requirements

Step	Description
Choosing a partition for installing the operating system.	It is recommended to delete any previous partitions and create a new partition on which to install the Windows operating system. This partition MUST use the NTFS file system.
	Verify that the latest BIOS exists for all hardware (mother board, RAID cards, and anything else that uses BIOS)
	It is recommended that all server nodes (Aspect Directory, Connectivity Servers, Applications Servers, etc.) use at least one additional partition for the operateITData and operateITTemp folders. For best performance, the additional partition should be on a separate disk or disk array from the operating system.
	There may be additional disk requirements for Applications Servers. If installing the IM Server function on this node, at least one additional NTFS partition is needed for storing historical data. This partition can be the same as the operateITData and operateITTemp partition or be a separate partition. The amount of disks, disk space, and disk I/O needed for the IM node are dependent on the final configuration for the node.
	To maximize the performance for any server, any additional partitions should be a separate disk or disk array from the root partition.
	If planning on creating disk images on this server or workstation, a FAT32 partition may be required if using certain disk imaging utilities; however, most disk imaging software now supports FAT32 or NTFS.
Selecting Regional Settings	Refer to Regional and Language Options on page 47.
Time Zone	Make sure the **Automatically adjust clock for daylight saving changes** check box is enabled (if daylight saving time is used).

It is recommended to reboot from the Windows installation CD to begin the Windows operating system installation.

1. Insert the applicable CD in the CD drive.

2. Restart the server or workstation.

3. When the prompt to open the reboot menu is displayed, press the applicable function key to display the menu (function key varies per server or workstation model).

4. From the reboot menu, enable the option for rebooting from the Windows installation CD.

5. When the Windows Setup screen is displayed, enable the option for starting Windows Setup now (complete installation, DO NOT enable the option for repairing an existing installation).

6. Follow the Installation Wizard, and use Table 2 to choose the correct options for the 800xA System when applicable.

7. If reloading an operating system, select **Advanced Settings**, delete the partition, and recreate it. Otherwise the old operating system files will be saved on the disk.

Windows Operating System Service Packs

The Windows operating system service packs must be installed immediately after installing the operating system, and before performing any other procedures in this instruction.

Follow the procedures provided by Microsoft to install the Windows operating system service packs.

Miscellaneous Operating System Setup

The following settings are required for use with the 800xA System:

*   Disable User Account Control (UAC) on page 46.
*   Windows Search Index on page 47.
*   Regional and Language Options on page 47.
*   Disable Displaying Server Manager Console at Logon on page 49.
*   Enable Write Caching on Hard Disks on page 49.
*   Virtual Memory Configuration on page 50.
*   Disable Show Window Contents While Dragging on page 51.
*   Disable Energy Saver and Screen Saver on page 51.
*   Disable Windows Firewall During Installation and Post Installation on page 52.
*   Disable Web Browser Popup Blocker on page 53.
*   Disable Virus Checking Software During Installation and Post Installation on page 53.

Disable User Account Control (UAC)

Perform the following procedure to disable UAC.

Windows Server 2008

1. Open Windows Control Panel.

2. Change Windows Control Panel to Classic View.

3. Double-click **User Accounts**.

4. Select:

    ```
    Turn User Account Control on or off.
    ```

5. Clear the **Use User Account Control (UAC) to help protect your computer** check box and click **OK**.

Windows 7

1. Open Windows Control Panel.

2. Change Windows Control Panel to Large Icons view.

3. Click **User Accounts**.

4. Select:

    ```
    User Accounts > Change User Account Control Settings
    ```

5. Slide the bar to **Never notify** and click **OK**.

Windows Search Index

Do not index the following folders under any circumstances, or the entire volume that contains them. These folders can exist on one or more disks and should not be indexed on any of them.

- **OperateITData:** Runtime data from services is stored here.
- **OperateITTemp:** Runtime data for client processes is stored here.
- **ProgramData:** Various other runtime data is stored here.
- **HsData, Oracle:** Applies only for IM Servers.

Refer to Microsoft Windows help for more information on the Windows Search Indexing feature and recommendations on types of folders to index and not to index.

Regional and Language Options

Perform the following procedure to set the regional and language options. These procedures must be performed for all users on all nodes in the 800xA System.

Windows Server 2008

1. Open Windows Control Panel.

2. Double-click **Regional and Language Options** to launch the Regional and Language Options dialog box.

3. Verify that `English (United States)` is the selection in the **Current format** drop-down list. If it is not, change it to `English (United States)` and click **Apply**.

4. Click **Customize this format** to launch the Customize Regional Options dialog box.

5. Verify that the value in the **Decimal symbol** field drop-down list is a dot (.). If it is not, change it to a dot (.) and click **Apply** and then **OK**.

6. Click the **Administrative** tab.

7. Click **Change system locale** to launch the Regional and Language Settings dialog box.

If a message box appears asking: `Would you like to apply your regional and language changes?`, Click **Apply**.

8. Verify that the value in the **Current system locale** drop-down list is `English (United States)`. If it is not, change it to `English (United States)` and click **OK** to return to the **Administrative** tab of the Regional and Language Options dialog box.

9. Click **Copy to reserved accounts** to launch another Regional and Language Settings dialog box.

10. Enable the **Default user account (new users)** and **System accounts (local system, local service, and network service)** check boxes and click **OK**.

11. Click **OK** to exit the Regional and Language Options dialog box.

12. Close Windows Control Panel.

Windows 7

1. Open Windows Control Panel.

2. Click **Region and Language** to launch the Region and Language dialog box.

3. Verify that `English (United States)` is the selection in the **Format** drop-down list. If it is not, change it to `English (United States)`.

4. Click **Additional settings** to launch the Customize Format dialog box.

5. Verify that the value in the **Decimal symbol** field drop-down list is a dot (.). If it is not, change it to a dot (.) and click **Apply** and then **OK**.

6. Click the **Administrative** tab.

7. Click **Change system locale** to launch the Regional and Language Settings dialog box.

8. Verify that the value in the **Current system locale** drop-down list is `English (United States)`. If it is not, change it to `English (United States)` and click **OK** to return to the **Administrative** tab of the Regional and Language Options dialog box.

9. Click **Copy settings** to launch the Welcome Screen and New User Accounts Settings dialog box.

10. Enable the **Welcome screen and system accounts** and **New User Accounts** check boxes and click **OK**.

11. Click **OK** to exit the Regional and Language Options dialog box.

12. Close Windows Control Panel.

Disable Displaying Server Manager Console at Logon

This procedure only applies to Windows Server 2008 installations.

Perform the following procedure to disable displaying of the Server Manager
Console at logon:

1. Open Windows Control Panel.

2. Double-click **Administrative Tools**.

3. Double-click **Server Manager** to launch the Server Manager.

4. Enable the **Do not show me this console at logon** check box.

5. Close the Server Manager.

6. Close Windows Control Panel.

Enable Write Caching on Hard Disks

To ensure Aspect Directory integrity, the write cache buffer flushing must be left
enabled in the Microsoft Windows operating system. Depending on the
configuration, choice of driver, type of hard disks, etc. Windows may allow
disabling the write cache buffer flushing on the hard disks to improve performance.

For data integrity this otherwise performance increasing option must not be used.

System 800xA configuration and application data is stored in the Aspect Directory.
The Aspect Directory is transaction driven and enforces a two-phase-commit
scheme. As part of that scheme it ensures that data is written to disk prior to
considering the transaction complete. This behavior is used by several other third
party databases.

A flush command is used to ensure that data is written to the disk.It is possible to
configure the disk driver to neglect the flush command. This is normally configured
in the Windows disk drives setting.

A consequence of, for example, a power or hardware failure can be that a flushing is
not performed. Potentially the Aspect Directory can then become inconsistent and

the system will no longer start. Furthermore the data and applications become impossible to recover.

Refer to Microsoft Knowledge Base article 234656 for more information.

Perform the following procedure on all Windows Server 2008 hard disks:

1. Launch the Computer Management Console.

2. Select `Device Manager` in the left pane.

3. Right-click the hard drive in the right pane and select **Properties** from the context menu to launch the hard drive properties dialog box.

4. Select the **Optimize for Performance** option.

5. Select the **Enable write caching on the disk** check box (**Enable write caching on the device** for Windows 7).

6. Click **OK**.

7. Close the Computer Management Console.

It may be necessary to verify the Enable write caching on the disk check box is still enabled after rebooting.

The Internet Explorer Enhanced Security component must be disabled on all Windows Server 2008 nodes.

1. Select:

    Start > Control Panel

2. Double-click **Add/Remove Programs** to launch the Add or Remove Programs utility.

3. Click **Add/Remove Windows Components** to open the Windows Components Wizard.

4. In the Components list, disable the **Internet Explorer Enhanced Security Configuration** check box.

5. Click **Next** and then **Finish**.

Virtual Memory Configuration

Windows manages the virtual memory configuration by default. Although it can be customized, ABB recommends letting Windows manage the virtual memory.

Use standard Windows procedures to set the virtual memory to at least 1.5 GB for client nodes. For server nodes, a correct configuration of virtual memory can enhance performance considerably. As a rule of thumb the size of **pagefile.sys** should be physical RAM x 2.5 or at least 1.5 GB. As another rule of thumb, if one more disk or partition exists, put the **pagefile.sys** there. After installation and starting up the nodes, use standard Windows procedures, via Windows Task Manager, to verify that the virtual memory being used is less than the configured value of the virtual memory.

Disable Show Window Contents While Dragging

To prevent CPU intensive redrawing of the window, disable the Windows Show Window Contents while dragging feature.

1. Access My Computer.

2. Right-click and select **Properties** from the context menu to launch the System Properties dialog box.

3. Select the **Advanced** tab.

4. Click **Settings** in the **Performance** frame to launch the Performance Options dialog box.

5. Select the **Visual Effects** tab (this should be selected when the dialog box is launched).

6. Select the **Custom** option.

7. Clear the **Show Window Content while Dragging** check box.

8. Click **Apply**, wait, and then click **OK** to close the Performance Options dialog box.

9. Click **OK** to close the System Properties dialog box.

Disable Energy Saver and Screen Saver

It is recommended to NOT have any Energy Saving and screen saver functionality activated on 800xA System nodes (especially operator Workplace Clients), as this might lead to longer reaction times in case of an emergency. If the server or workstation BIOS has an Energy Saver configuration, configure it on a node-by-node basis. The Windows energy saving data is user dependent.

The energy saving setting may be accessed in two ways. The BIOS setup is available whenever the server or workstation is powered up. It may also be accessed via Power Options in Windows Control Panel. The screen saver may be turned off in the Display Properties option in Windows Control Panel.

Disable Windows Firewall During Installation and Post Installation

In order to allow proper communications between the nodes during installation, Windows Firewall must be disabled during 800xA installation and post installation procedures, and then enabled using the Windows Firewall Configuration Tool after all procedures are complete.

The installer should make sure that the installation procedure completes without exposing the computers to malware or malicious network traffic of any sort. This can only be done by limiting the communication to the system and by performing separate virus scanning of any portable media or disks before connecting them to the system nodes during the installation.

After completing the system installation it is recommended to perform a full virus scan of all computers in the system.

Windows Firewall restricts communications between a workstation or server and a network or the Internet. It might be necessary to adjust settings for some other applications that prefer an open connection. Either exceptions can be made or a port can be opened so these applications can communicate through Windows Firewall.

The 800xA System Installer has a standalone Windows Firewall Configuration Tool that will make the necessary exceptions and open the necessary ports. Use this tool to configure Windows Firewall even if manually installing the 800xA Base System and Functional Area software.

1. Use standard Windows procedures to turn off Windows Firewall on every node in the 800xA System when performing all installation procedures described in this instruction, and all post installation procedures described in *System 800xA Post Installation (3BUA000156*)*. Nodes that are joined to a domain have three profile options with Windows 7 (Domain, Private, and Public). Turn off all three profiles during installation and post installation. Windows Server 2008 nodes and any node that is joined to a Windows Workgroup only require that the firewall be turned off (there are no profiles).

2. Refer to the Windows Firewall Configuration appendix in *System 800xA Post Installation (3BUA000156*)* to turn on and configure Windows Firewall on every node in the 800xA System. The Windows Firewall Configuration Tool

turns on the firewall for Windows Server 2008 nodes and all Windows
Workgroup nodes, and turns on the Domain Profile for Windows 7 nodes that
belong to a domain.

Disable Web Browser Popup Blocker

Some third party software may offer a web browser popup blocker. Do not use them
with the thin client portions of the integrated applications (specifically Asset
Optimization), since these applications open child window browsers to display
application data for the user. If a popup blocker is being used on a web browser,
disable it during use of these web based applications.

Disable Virus Checking Software During Installation and Post Installation

The installer should make sure that the installation procedure completes without
exposing the computers to malware or malicious network traffic of any sort.

This can only be done by limiting the communication to the system and by
performing separate virus scanning of any portable media or disks before
connecting them to the system nodes during the installation. After completing the
system installation it is recommended to perform a full virus scan of all
computers in the system.

If virus checking software is installed, disable it during 800xA installation and post
installation procedures.

Disable Automatic Updates

The Windows Automatic Updates feature must be disabled.

1. Select:

    Start > Control Panel > Windows Update

2. Select Change Settings from the left pane.

3. Under the Important Updates section, select **Never Check for Updates**.

Change Local Security Policy on Windows 7

In order to add a client to the 800xA System, the local security policy on Windows 7 should be verified. The settings described here are the default setting in the Windows 7 installation.

1. Select:

    Start > Control Panel

2. Double-click **Administrative Tools**.

3. Double-click **Local Security Policy** to open the Local Security Policy console.

4. Navigate to **Local Policies > Security Options** in the Local Security Settings console tree in the left pane.

5. Double-click **Network Access: Sharing and security model for local account** in the right pane to open the Local Security Setting dialog box.

6. Select **Classic- local users authenticate as themselves** in the drop-down list box.

7. Click **Apply** and then **OK**.

Miscellaneous Windows Components Installation and Configuration

The following Windows components must be installed and configured for use with the 800xA System. Some of them are dependant on the 800xA Software that will be used in the 800xA System and will be indicated as such:

- Internet Information Services on page 54.
- Enable SNMP Service on page 60.
- Remote (Thin) Client for Windows Server 2008 on page 61.

Internet Information Services

Microsoft Internet Information Services (IIS) components must be enabled on 800xA System nodes except client nodes and separate Domain Server nodes. There are different procedures for Windows 7 and Windows Server 2008.

Windows 7

Perform the following procedure to enable the required IIS components on Windows 7.

1. Open Windows Control Panel.

2. Change Windows Control Panel to Large Icons view.

3. Click **Programs and Features**.

4. Click **Turn Windows features on or off** in the left pane to launch the Windows Features dialog box.

5. Navigate to and expand the following:

    `Internet Information Services > Web Management Tools`

6. Make the settings as shown in Figure 9. For detailed instructions for making the settings continue with Step 7.
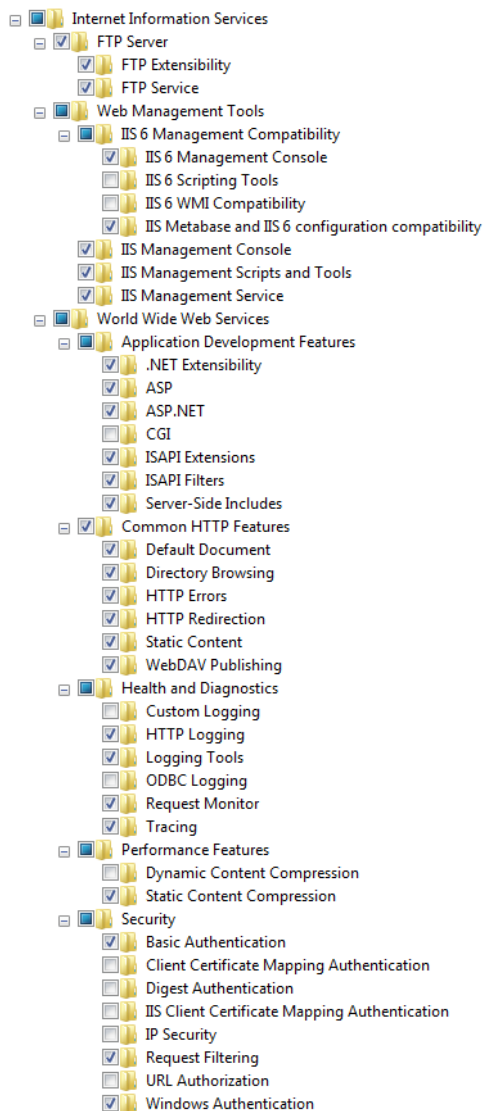
Figure 9. IIS Configuring IIS Components on Windows 7.

7.   Enable the following check boxes:

–   IIS Management Console.

–   IIS Management Scripts and Tools.

–   IIS Management Service.

8.   Click the plus sign (+) next to `IIS 6 Management Compatibility` to expand it.

9.   Enable the **IIS Metabase and IIS 6 configuration compatibility** check boxes.

10. Navigate to and expand the following:

```
Internet Information Services > World Wide Web Services
> Application Development Features
```

11. Enable the **.NET Extensibility**, **ASP**, **ASP.NET**, **ISAPI Extensions**, **ISAPI Filters**, and **Server-Side Includes** check boxes.

12. Click the plus sign (+) next to `Common HTTP Features` to expand it.

13. Enable the **Default Document**, **Directory Browsing**, **HTTP Errors**, **HTTP Redirection**, **Static Content,** and **WebDav Publishing** check boxes.

14. Click the plus sign (+) next to `Health and Diagnostics` to expand it.

15. Enable the **HTTP Logging**, **Logging Tools**, **Request Monitor**, and **Tracing** check boxes.

16. Click the plus sign (+) next to `Performance Features` to expand it.

17. Enable **Static Content Compression** check box.

18. Click the plus sign (+) next to `Security` to expand it.

19. Enable the **Basic Authetication**, **Request Filtering** and **Windows Authentication** check boxes.

20. Click **OK** to make the changes and close the Windows Features dialog box.

Windows Server 2008

Perform the following procedure to enable the required yes components on Windows Server 2008.

1. Open Windows Control Panel.

2. Change Windows Control Panel to Classic View.

3. Double-click **Programs and Features**.

4. Click **Turn Windows features on or off** in the left pane to launch the Server Manager.

5. Select **Roles** in the left pane.

    a. If this *is* the node that will serve as the AO Main Server node, check to see if **Application Server** and **Web Server (IIS)** are in the Installed Roles pane of the Roles Summary.

    b. If this *is not* a node that will serve as the AO Main Server node, check to see if **Web Server (IIS)** is in the Installed Roles pane of the Roles Summary.

6. Click **Add Roles** to launch the Add Roles Wizard.

7. Click **Next** to advance to Select Server Roles.

8. Select the **Web Server (IIS)** and/or **Application Server** check boxes (depending on the current configuration) and click **Next**.

It is only necessary to perform Step 9 through Step 11 on the AO Main Server node.

9. Click **Next** to advance to Application Server.

10. Click **Next** to advance to Select Role Services.

11. Select the **Application Server Foundation**, **COM+ Network Access**, **TCP Port Sharing**, and all selections under the **Windows Process Activation Service Support** check boxes.

12. Click **Next** to advance to Web Server (IIS).

13. Make the settings as shown in Figure 10. For detailed instructions for making the settings continue with Step 14.

Figure 10. Configuring IIS Components on Windows 2008 Server.

14. Select the following:

    – Every check box under **Common HTTP Features**.

    – Every check box *except* **CGI** under A**pplication Development**.

–   Every check box *except* **Custom Logging** and **ODBC Logging** under Health and Diagnostics.

–   The **Basic Authentication**, **Windows Authentication**, and **Request Filtering** check boxes under **Security**.

–   The **Static Content Compression** check box under **Performance**.

–   The **IIS Management Console** and everything except **IIS 6 WMI Compatibility** and **IIS 6 Scripting Tools** under the **IIS 6 Management Compatibility** check boxes under **Management Tools**.

–   Every check box under **FTP Publishing Service**.

15. Click **Next** to advance to Confirm Installation Selections. If they are correct, click **Install**. If they are not, click **Previous** to make the proper selections.

Enable Detailed Error in IIS

This procedure is only required on Asset Optimization Server to send Custom error response to remote node. Perform the following:

1. Open IIS Manager, select **Node name**, locate **Error Pages** in the IIS.

2. Right-click on **Error Pages** and select **Open Feature**.

3. Right-click on **500** and select **Edit Feature** settings.

4. Select **Detailed errors** option in **Edit Error Pages** settings dialog.

Enable SNMP Service

This procedure is required on the nodes where PC, Network and Software Monitoring Server is installed.

Simple Network Management Protocol (SNMP) services are required by the PC, Network and Software Monitoring software to enable PC, Network and Software Monitoring Server nodes to communicate with remote devices that support SNMP.

There are different procedures for Windows 7 and Windows Server 2008.

Windows 7

To enable SNMP services in the node in which the PC, Network and Software Monitoring Server software will be installed:

1. Open Windows Control Panel.

2. Change Windows Control Panel to Large Icons view.

3. Click **Programs and Features**.

4. Click **Turn Windows features on or off** in the left pane to launch the Windows Features dialog box.

5. Navigate to and expand the following:

    ```
    Simple Network Management Protocol (SNMP)
    ```

6. Enable the **WMI SNMP Provider** check box.

7. Click **OK** to make the changes and close the Windows Features dialog box.

Windows Server 2008

To enable SNMP services in the node in which the PC, Network and Software Monitoring Server software will be installed:

1. Open Windows Control Panel.

2. Change Windows Control Panel to Classic View.

3. Double-click **Programs and Features**.

4. Click **Turn Windows features on or off** in the left pane to launch the Server Manager.

5. Scroll down to the Features Summary and click **Add Features** to launch the Add Features Wizard.

6. Scroll down and select the **SNMP Services** check box. This will automatically select the **SNMP Service** and **SNMP WMI Provider** check boxes.

7. Click **Next** and then **Install**.

8. Click **Close** to exit the Add Features Wizard.

Remote (Thin) Client for Windows Server 2008

Perform the following procedure to install the Terminal Server role service and configure the Terminal Server to host programs:

1. Select:

    Start > Administrative Tools > Server Manager

    to launch the Server Manager.

2. Right-click **Roles** in the left pane and select **Add Roles** from the context menu to launch the Add Roles Wizard.

3. Click **Next** in the Before You Begin dialog box.

4. Select the **Terminal Services** check box under Roles on the Select Server Roles dialog box, and click **Next**.

    > If Terminal Services is already installed on the server, the Terminal Services check box will be selected and dimmed.

5. Click **Next** in the Terminal Services dialog box.

6. Select the **Terminal Server** check box in the Select Role Services dialog box, and click **Next**.

    > If installing the Terminal Server role service on a Domain Controller, a warning message indicating that Installing the Terminal Server role service on a Domain Controller is not recommended will appear.

7. Click **Next** in the Uninstall and Reinstall Applications for Compatibility dialog box.

8. Select the appropriate authentication method for the Terminal Server in the Specify Authentication Method for Terminal Server dialog box, and click **Next**.

9. Select the appropriate licensing mode for the Terminal Server in the Specify Licensing Mode dialog box, and click **Next**.

10. Add the users or user groups who can remotely connect to this Terminal Server in the Select User Groups Allowed Access To This Terminal Server dialog box, and click **Next**.

11. Verify that the Terminal Server role service will be installed in the Confirm Installation Selections dialog box, and click **Install**.

12. Restart the node when the installation is complete.

Network Adapters

If the Network Adapter supports Receive Side Scaling this feature must be disabled. Refer to the Network Adapter documentation for information on how to disable the feature.

Network adapters must be installed and configured to support communication on the client/server network. This is required on the Domain Server node, and all 800xA System nodes. Typically one network adapter will be provided with the server or workstation hardware. It may be necessary to install a second network adapter for redundancy.

All network adapters may be installed and configured at the same time during system installation; however, the network will not run with redundancy until Redundant Network Routing Protocol (RNRP) is installed (refer to Section 5, RNRP for a separate Domain Server node and Section 4, 800xA Base System for all other 800xA System nodes).

If the network adapters are not plug-and-play devices, the installation must be done manually. If the Windows installation does not include the drivers for the network adapters the driver software must be installed before the network adapters can be configured.

The 800xA System relies on TCP/IP as its transport protocol. It is strongly recommended that TCP/IP is the only protocol in use. If other protocols need to be installed, make sure that TCP/IP is configured as the primary protocol.

Refer to Windows Help > Networking for more information on how to install and configure TCP/IP network adapters.

Refer to *System 800xA Network Configuration (3BSE034463*)* for configuration of DNS.

The following procedure applies to Windows 7 nodes. The procedure for Windows Server 2008 nodes may vary from the one shown here.

To configure the network adapters:

1. Open Windows Control Panel.

2. Double-click **Network and Sharing Center** to open the Network and Sharing Center.

3. Click **Change Adapter Settings**.

4.   Right-click on the network adapter and select **Properties** from the context menu to open the Connection Properties dialog box.

5.   Select `Internet Protocol Version 4 (TCP/IPv4)` and click **Properties** to open the Internet Protocol (TCP/IP) Properties dialog box.

6.   Select **Use the following IP address**.

7.   Enter the IP address in the **IP address** field according to the planning done in Table 1 on page 31.

8.   Enter the subnet mask in the **Subnet mask** field according to the planning done in Table 1 on page 31.

9.   Enter the IP address of the default gateway in the **Default gateway** field (if required by topology).

10. Enter the IP address of the Primary Domain Server in the **Preferred DNS server** field.

11. Enter the IP address of the Secondary Domain Server in the **Alternate DNS server** field.

ℹ️ Always specify the Domain Servers with their primary client/server network addresses. This is true for all network adapters, including the ones for secondary client/server networks.

12. Repeat for all network adapters in the servers and workstations.

ℹ️ Use the same DNS settings for all network adapters.

13. Click **OK** as necessary to save the newly configured values, and then click **Close** to close the Connection Properties dialog box.

14. Connect the Ethernet cables. Match each of the icons with its corresponding Ethernet connector on the server or workstation.

15. Use ping and nslookup from a Windows command prompt to verify the server or workstation has contact with the Domain Controller:

```
C:\>ping 172.16.4.1
Pinging 172.16.4.1 with 32 bytes of data:
Reply from 172.16.4.1: bytes=32 time<10ms TTL=64...
C:\>nslookup client1 (the name of this computer)
```

```
Server: dc1.mydomain.com
Address: 172.16.4.1
Name: client1.mydomain.com
Address: 172.16.4.91
```

The connection may not work via more than one network adapter before RNRP is installed.

Verify the port speed and duplex configuration on both ends (Network Adapter and network switch). Refer to *System 800xA Network Configuration (3BSE034463*).*

Verify the primary network is bound first for RNRP configurations. From the **Change Adapter Settings**:

- Use the Alt key to expose the **Advanced Settings** menu.
- Select **Advanced Settings**.
- Verify the Primary RNRP is bound first and the second NIC is second.
- Make corrections as needed.

Domain Controller and DNS Server

If the Domain Controller uses any network interface in addition to the ones for the client/serer network, the DNS Server need to be configured to only listen to DNS requests on the client/server network. Perform the following for all Domain Controllers.

- Open the Interfaces tab under Properties for the DNS Server.
- Select Only the following IP addresses.
- Make sure that only the IP addresses for the client/server network are selected.

The only 800xA software installed on a separate Domain Controller node is:

- Diagnostics Collection Tool.
- RNRP.
- 800xA Common Third Party Install Tool.

This procedure is performed at the Domain Server, and is required for all 800xA Systems that use domains.

For an 800xA System installation to be used as a production system, set up a new Domain Server with a domain specifically for the 800xA System, that will exist independent of any other corporate domains that may already exist. Follow the

procedure in this section, starting at Active Directory Domain Services on First Forest Root Domain Controller on page 67.

The following are general recommendations:

- One 800xA System may share the same domain with other 800xA Systems.

- Generally, it is better to create a new, dedicated domain for an 800xA System as opposed to reusing an old domain.

- Do not create subdomains and avoid complex solutions.

- Generally, it is not recommended to split two redundant Domain Controllers to host engineering and production systems on two different locations (i.e. network islands). Splitting two Domain Controllers will make one of the parts incomplete since the Flexible Single Master Operations (FSMO) roles and Global Catalog services are not redundant within Microsoft Windows.

Additional guidelines for setting up the 800xA System domain are provided in *System 800xA Network Configuration (3BSE034463*)*.

Before setting up a new domain, verify that the server hardware being used as the Domain Server has Windows Server 2008 installed. Windows 7 can not be used for a Domain Controller or DNS server.

Ensure TCP/IP protocol is correctly installed on the node.

Create a new domain by setting up a new Domain Controller and DNS server using the Server Manager.

To set up a new domain, configure the IP addresses of the Domain Server node if this is not already done. This procedure is described in Network Adapters on page 63.

- Set the IP addresses according to Installation Sequence on page 30.

- Set the IP address of this computer as the **Preferred DNS Server** on the primary network adapter.

- If using, or planning on using two Domain Servers, set the IP address of the other Domain Server as the **Alternate DNS Server** on the primary network adapter.

- If using a redundant network, use the same DNS settings on the secondary network adapter.

Active Directory Domain Services on First Forest Root Domain Controller

The following procedure was prepared using *Install AD DS on the First Forest Root Domain Controller* as provided by Microsoft at:

http://technet.microsoft.com/en-us/library/cc753100(WS.10).aspx

The instructions included here are for the preferred method of installing Active Directory Domain Services (AD DS). Refer to the Microsoft article if planning on using alternate methods.

The interface in Windows Server 2008 provides two wizards for installing the AD DS:

- **Add Roles Wizard -** accessible from Server Manager.

- **Active Directory Domain Services Installation Wizard (Dcpromo.exe) -** accessible by:

  - Clicking the link to launch the Active Directory Domain Services Installation Wizard when the Add Roles Wizard completes (recommended).

  - Selecting **Start > Run**, typing `dcpromo.exe`, and clicking **OK**.

Membership in the local Administrator account is the minimum required to complete this procedure. Details about using the appropriate accounts and group memberships can be found at http://go.microsoft.com/fwlink/?LinkId=83477.

To install AD DS:

1. Select:

    Start > Server Manager

2. Click **Add Roles** in the Roles Summary dialog box.

3. Review the information in the Before You Begin dialog box (if necessary) and click **Next**.

4. Select the **Active Directory Domain Services** check box in the Select Server Roles dialog box and click **Next**.

5. Review the information in the Active Directory Domain Services dialog box and click **Next**.

6. Click **Install** in the Confirm Installation Selections dialog box.

7. Click **Close this wizard and launch the Active Directory Domain Services Installation Wizard (dcpromo.exe)** in the Installation Results dialog box.

8. Click **Next** in the Welcome to the Active Directory Domain Services Installation Wizard dialog box.

9. Click **Create a new domain in a new forest** in the Choose a Deployment Configuration dialog box and click **Next**.

10. Type the full Domain Name System (DNS) name for the forest root domain in the Name the Forest Root Domain dialog box and click **Next**.

Do not use public domain names such as .com.

Enter the Domain Name as per Microsoft guidelines. Failure to follow the guidelines will not allow nodes that are trying to be joined to the domain to join.

11. Select **Windows Server 2008** in the Set Forest Functional Level dialog box and click **Next**. This is the preferred method unless special needs exist for compatibility with older Domain Controllers.

12. **DNS Server** is selected by default in the Additional Domain Controller Options dialog box so that AD DS can create the forest DNS infrastructure when AD DS is installed. Click **Next** if it is planned to use Active Directory-integrated DNS (this is the preferred method).

13. Use the default locations in the Location for Database, Log Files, and SYSVOL dialog box and click **Next**.

14. Type and confirm the restore mode password in the Directory Services Restore Mode Administrator Password dialog box and click **Next**.

This password must be used to start AD DS in Directory Service Restore Mode for tasks that must be performed offline.

15. Review the selections in the Summary dialog box. Click **Back** if it is necessary to change any selections.

16. Click **Export settings** to save the selected settings to an answer file that can be used to automate subsequent AD DS operations.

17. Type the name for the answer file and click **Save**.

18. Click **Next** to install AD DS when the selections are accurate.

19. Click **Finish** in the Completing the Active Directory Domain Services Installation Wizard dialog box.

20. A prompt appears asking to restart the server. Select either the **Reboot on Completion** check box to restart the server automatically or clear the check box to restart the server manually to complete the AD DS installation.

> *System 800xA Network Configuration (3BSE034463*)* includes examples of a correctly configured DNS Server.

21. More information about installing a new Windows Server 2008 forest can be found at:

    http://technet.microsoft.com/en-us/library/cc732156(WS.10).aspx

22. Select **Administrative Tools** in Windows Control Panel.

23. Double-click **Configure Your Server Wizard**.

24. Click **Next** at the Welcome dialog and the Preliminary Steps dialog.

25. If any of the network connections on the server do not work, the following warning may appear:

```
At least one of the network connections on this server
is currently disconnected. If a server connection is
not working, this wizard might not be able to configure
the server properly. Before continuing, ensure that all
of your network connections are working properly.
```

    Disregard this message and click **Continue** when configuring the first Domain Controller. However, when configuring a backup Domain Controller it is important that it has a network connection to the primary Domain Controller.

26. Select **Custom Configuration** in the Configuration Options dialog and click **Next**.

27. Select **Domain Controller (Active Directory)** in the Server Role list in the Server Role dialog and click **Next**.

28. At the Summary dialog, click **Next** and wait while the wizard is installing and configuring the Active Directory.

29. Click **Next** in the Active Directory Installation dialog that appears and in the Operating System Compatibility dialog.

30. Select **Domain controller for a new domain** in the Domain Controller Type dialog and click **Next**.

31. Select **Domain in a new forest** in the Create New Domain dialog and click **Next**.

32. Choose a proper name for the (still nonexistent) domain in the New Domain Name dialog and click **Next**.

Do not use public domain names such as .com.

33. Choose a proper name in the NetBIOS Domain Name dialog and click **Next**.

34. Click **Next** in the Database and Log Folders and Shared System Volume dialogs.

35. Select **Install and configure the DNS server on this computer, and set this computer to use this DNS server as its preferred DNS server** in the DNS Registration Diagnostics window and click **Next**.

36. Select **Permissions compatible only with Windows 2000 or Windows Server 2008** in the Permissions dialog (this is to maximize security) and click **Next**.

37. Specify a password in the Directory Services Restore Mode Administrator Password dialog and click **Next**.

Remember this password. Set this password carefully and record it for future use in case there are problems with the Active Directory.

38. Click **Next** in the Summary dialog and wait for the configuration process to finish.

39. When the configuration is complete, click **Finish** and choose to Restart Windows.

40. As windows starts, the following message should appear:

```
This Server is Now a Domain Controller
```

Click **Finish**.

41. Open Administrative Tools in Windows Control Panel.

42. Double-click **DNS** and verify that only the Forward lookup zone has been created.

43. Right-click **Reverse lookup zone** and choose **New Zone**.

44. Click **Next** in the Welcome dialog.

45. Select **Primary** in the Zone Type dialog.

46. Make sure that **Store the zone in Active Directory** is enabled in the Zone Type dialog and click **Next**.

47. Select **To all domain controllers in Active directory domain <Your Domain>** in the Active Directory Zone Replication Scope dialog and click **Next**.

48. Enter the Network ID for the primary network for this computer; for example: 172.16.4.1, in the Reverse Lookup Zone Name dialog and click **Next**.

49. Select **Allow only secure dynamic updates** in the Dynamic Update dialog and click **Next**.

50. Click **Finish** in the Completing the New Zone Wizard dialog.

51. If there is a redundant network, repeat Step 43 through Step 48 to add a Reverse Lookup Zone for the secondary network. Enter the network ID for secondary network; for example: 172.17.4.1.

If configuring just one Domain Controller, the configuration is complete. To configure a second Domain Controller, continue to Active Directory Domain Services on Second Forest Root Domain Controller.

Active Directory Domain Services on Second Forest Root Domain Controller

The following procedure was prepared using *Install AD DS on the Second Domain Controller* as provided by Microsoft at:

http://technet.microsoft.com/en-us/library/cc771411(WS.10).aspx

The instructions included here are for the preferred method of installing Active Directory Domain Services (AD DS). Refer to the Microsoft article if planning on using alternate methods.

The interface in Windows Server 2008 provides two wizards for installing the AD DS:

- **Add Roles Wizard -** accessible from Server Manager.

- **Active Directory Domain Services Installation Wizard (Dcpromo.exe) -** accessible by:

    – Clicking the link to launch the Active Directory Domain Services Installation Wizard when the Add Roles Wizard completes (recommended).

    – Selecting **Start > Run**, typing `dcpromo.exe`, and clicking **OK**.

> Membership in the Domain Admins group for the domain in which the second Domain Controller is being installed is the minimum required to complete this procedure. Details about using the appropriate accounts and group memberships can be found at http://go.microsoft.com/fwlink/?LinkId=83477.

To install AD DS on a Domain Controller in an existing domain:

1. Select:

    Start > Server Manager

2. Click **Add Roles** in the Roles Summary dialog box.

3. Review the information in the Before You Begin dialog box (if necessary) and click **Next**.

4. Select the **Active Directory Domain Services** check box in the Select Server Roles dialog box and click **Next**.

5. Review the information in the Active Directory Domain Services dialog box and click **Next**.

6. Click **Install** in the Confirm Installation Selections dialog box.

7. Click **Close this wizard and launch the Active Directory Domain Services Installation Wizard (dcpromo.exe)** in the Installation Results dialog box.

8. Click **Next** in the Welcome to the Active Directory Domain Services Installation Wizard dialog box.

9. Select **Existing Forest** and **Add a domain controller to an existing domain** in the Choose a Deployment Configuration dialog box and click **Next**.

10. Type the name of the existing domain in the forest and then take the following actions:

    a. Select **My current logged on credentials** or **Alternate credentials** under **Specify the account credentials to use to perform the installation** and click **Set**.

    b. Provide the user name and password for an account that can install the additional Domain Controller (it must be a member of the Enterprise Admins group or the Domain Admins group) in the Windows Security dialog box and click **Next**.

11. Select the domain of the new Domain Controller in the Select a Domain dialog box and click **Next**.

12. Select a site from the list, or select the option to install the Domain Controller in the site that corresponds to its IP address in the Select a Site dialog box and click **Next**.

13. Make the following selections in the Additional Domain Controller Options dialog box and click **Next**.

    –   **DNS Server:** This option is selected by default when AD DS integrates the DNS server service in to the domain so that the Domain Controller can function as a DNS server (this is the preferred method).

    It is recommended that DNS be installed when the Active Directory Domain Services Installation Wizard is run (keep the default selected), so that the wizard creates the DNS zone delegation automatically.

    –   **Global Catalog:** This option is selected by default. It adds the global catalog, read-only directory partitions to the Domain Controller, and it enables global catalog search functionality.

    –   **Read-only domain controller:** This option is not selected by default. It makes the additional Domain Controller read-only. For more information about read-only domain controllers, refer to:

        http://go.microsoft.com/fwlink/?linkID=92728

14. Use the default locations in the Location for Database, Log Files, and SYSVOL dialog box and click **Next**.

15. Type and confirm the restore mode password in the Directory Services Restore Mode Administrator Password dialog box and click **Next**.

> This password must be used to start AD DS in Directory Service Restore Mode for tasks that must be performed offline.

16. Review the selections in the Summary dialog box. Click **Back** if it is necessary to change any selections.

17. Click **Export settings** to save the selected settings to an answer file that can be used to automate subsequent AD DS operations.

18. Type the name for the answer file and click **Save**.

19. Click **Next** to install AD DS when the selections are accurate.

20. Click **Finish** in the Completing the Active Directory Domain Services Installation Wizard dialog box.

21. A prompt appears asking to restart the server. Select either the **Reboot on Completion** check box to restart the server automatically or clear the check box to restart the server manually to complete the AD DS installation.

> *System 800xA Network Configuration (3BSE034463*)* includes examples of a correctly configured DNS Server.

22. More information about installing a new Windows Server 2008 forest can be found at:

http://technet.microsoft.com/en-us/library/cc732156(WS.10).aspx

Users and Groups

> Refer to *System 800xA Administration and Security (3BSE037410*)* for detailed descriptions of users, user groups, and user roles and permissions.

> Refer to Users, Groups, and Rights Assignments on page 79 for listings of 800xA System default User Groups and Users.

This section describes how to create the Windows domain users and groups in the Active Directory on the Domain Server node.

> Since the 800xA System user credential concept is built on Windows domains, local user accounts must never be created and used on the client nodes. Clients will always connect to the 800xA System using domain accounts. The only exception is for single node systems, Windows Workgroups where domains are not used, and the ABB Controller User Group used for Base Software for SoftControl functionality in 800xA for AC 800M. In these cases all users and groups are local.

> Before setting up Industrial IT users and user groups, verify that a domain has been created by setting up a Domain Controller and DNS server as described in Domain Controller and DNS Server on page 65.

> This procedure requires being logged in as domain administrator. A default domain administrator is created when the Domain Controller and domain is set up as described in Domain Controller and DNS Server on page 65.

During the following procedure two (or more) domain accounts with administrator privileges will be created. One account will be reserved for use by 800xA System services. This account will NOT be used for installation, administration, configuration, or any other system related procedures. A second administrator account must be created and used to complete the 800xA System software installation and post installation procedures. Create other user accounts for other 800xA System activities such as Application Engineer, System Engineer, and Operator.

> ⚠ Define separate accounts and different passwords for the 800xA Service User and the 800xA installing User.

Domain Administrator users are powerful for administrative purposes but could by this also be dangerous from a security perspective. For security reasons the number of users in the Domain Administrator group should be kept to a minimum.

The 800xA Service User and 800xA Installing User do not need to be members of the Domain Administrators group. They both need to be members of the Builtin Administrators group on the 800xA System nodes but not on the Domain Controller, unless it is combined with an 800xA Server.

The 800xA Installing User could be a Domain Administrator but should be set to passive after the installation of the System. The 800xA Service User should not be a Domain Administrator and also not a local administrator on the Domain Controller.

The various users and groups required by the 800xA System are described in Table 3. All groups/users must reside on the 800xA System domain.

This setup may be performed yourself, or the domain administrator may perform the setup. In either case, use the guidelines in Table 3, and follow the step-by-step procedures following Table 3.

Table 3. Domain Groups/Accounts Required by 800xA System

Groups/Users	Description
IndustrialITAdmin Group	Create the IndustrialITAdmin Group. All 800xA System administrators (including the 800xA Service User) must be a member of the IndustrialITAdmin group.
IndustrialITUser Group	Create the IndustrialITUser Group. All 800xA System users must be a member of the IndustrialITUser group.

Table 3. Domain Groups/Accounts Required by 800xA System (Continued)

Groups/Users	Description
800xA Service User	Create a new user for 800xA System services. Make this user a member of the IndustrialITAdmin Group, the IndustrialITUser Group, and the local administrator group on every system node. All 800xA System services will run under this account. Make the name easy to recognize (for example: **800xAService1**). **NOTE 1:** Creating this user requires being logged in as domain administrator. Adding this user to the local administrator group on every system node requires being logged in as local administrator. **NOTE 2:** The 800xA Service User must not be a member of the Domain Administrator group. These users should be members of the Built-in Administrators group on the Domain Controller node. **NOTE 3:** Define separate accounts and different passwords for the 800xA Service User and the 800xA installing User.
Installing User	Create a user for installing software, and performing system administration procedures. Make this user a member of the IndustrialITAdmin Group, the IndustrialITUser Group, and the local administrator group on every system node. **NOTE 1:** Creating this user requires being logged in as domain administrator. Adding this user to the local administrator group on every system node requires being logged in as local administrator. **NOTE 2:** Define separate accounts and different passwords for the 800xA Service User and the 800xA installing User.
Other 800xA System users	Create additional users for system configuration and operation. These users are added to the IndustrialITUser Group.

New Organizational Unit

This organizational unit is not mandatory; however, it may be helpful to put all 800xA System groups and users into one container. To create a new unit:

1. Select:

    Start > Programs > Administrative Tools > Active Directory Users and Computers

2. In the left pane, right-click on the newly created domain server name, and select:

    New > Organizational Unit

    from the context menu that appears.

3. Assign this organization unit the name **Industrial IT**.

Groups

ℹ This procedure assumes the Industrial IT organization unit has been created.

To create the required groups:

1. Right-click on the **Industrial IT** folder in the left pane and select:

    New > Group

    from the context menu that appears.

2. Use the New Object - group dialog box to assign the group a name (for example, **IndustrialITAdmin**).

3. Set the Group scope to **Global**, and the Group type to **Security**.

4. Perform Step 1 through Step 3 for each of the two required groups:

    –   IndustrialITAdmin.
    –   IndustrialITUser.

ℹ It is recommended to keep the default names of these groups.

Users, Groups, and Rights Assignments

This topic defines the default User Groups and Users for the 800xA System.

Windows Workgroups set up the same groups and users as a domain. The user rights are also the same as in a domain, except all domain policies must be defined on each local node. No additional policies are required for Windows Workgroups.

User Groups and Users

All users must be members of the IndustrialITUser group if they require the ability to start a workplace in Process Portal.

Table 4 lists the default User Groups and Users.

Table 4. Default User Groups and Users

Organizational Unit	User Group	User Account	Description
Industrial IT	IndustrialITAdmin	800xAService	800xA System service account
		800xAInstaller	800xA System installer account
		Administrator	System installer default account
		Customer Admin	Additional customer administrators
	IndustrialITUser	800xAService	800xA System service account
		800xAInstaller	800xA System installer account
		ApplicationEngineer	Default application engineer
		SystemEngineer	Default system engineer
		MaintenanceSupervisor	Default maintenance supervisor
		MaintenanceEngineer	Default maintenance engineer
		MaintenanceTechnician	Default maintenance technician
		Operator	Default operator 1
		Operator2	Default operator 2
		Administrator	System installer default account
		Customer Users	Additional customer users

Local Groups and Members on Each Node

Table 5 lists the local and domain User Groups and Users for each system node.

Table 5. Local Groups and Members on Each Node in System

Local Group/User	Domain Group/User
Administrators (standard default)	800xAService
	800xAInstaller
HistoryAdmin (IM Server node only)	800xAService
	800xAInstaller
ORA_DBA (IM Server node only)	800xAService
	800xAInstaller

User Assignment Rights

Table 6 lists the user assignment rights.

Table 6. User Rights Assignments

Policy	Security Setting
Domain Security Policy	
None defined	
Domain Controller Security Policy	
None defined	
Local Security Policy (each node)	
Access this node from the network	IndustrialITAdmin IndustrialITUser
Allow log on locally (Windows Server 2008)	IndustrialITAdmin
Change system time	IndustrialITAdmin

Table 6. User Rights Assignments (Continued)

Policy	Security Setting
Local Security Policy (each node) (continued)	
Log on as batch job	800xAService 800xAInstaller
Log on as service	800xAService 800xAInstaller
Log on locally (Windows 7)	IndustrialITAdmin
Impersonate a client after authentication	SERVICE (Default) Administrators (Default) Users that require logover (Process Portal)
Additional Local Security Policies on Batch Server	
Act as part of operating system	800xAService
Adjust memory quotas for a process	
Bypass traverse checking	
Replace a process level token	
Additional Local Security Policies for Harmony/Melody Servers	
Act as part of operating system	800xAService
Generate security audits	
Impersonate a Client after Authentication	
Log on as Service	

800xA Service User

Define separate accounts and different passwords for the 800xA Service User and the 800xA installing User.

This procedure assumes the Industrial IT organization unit has been created.

Creating this user requires being logged in as domain administrator. Adding this user to the local administrator group on every system node requires being logged in as local administrator.

Create the 800xA Service User. This is the user account that all 800xA System services will run under. Make this new user a member of the following groups:

- IndustrialITAdmin Group
- IndustrialITUser Group
- Local Administrator group on every system node
- Builtin Administrators group on the Domain Controller node.

To create this user:

1. Right-click on the **Industrial IT** organizational unit in the left pane and select:

   New > User

   from the context menu that appears.

2. In the New Object - User dialog box specify the user name and login name. Make the name meaningful and easy to recognize (for example: **800xAService1**).

3. Click **Next** when finished.

4. Specify the user password. Enable the **Password never expires** check box, and make sure the password for this user is NEVER CHANGED.

5. Click **Next** when finished with the password specification.

6. Click **Finish** in the next dialog box to complete the user specification.

7. Make this user a member of the IndustrialITAdmin Group.

   a. Select the **Industrial IT** organizational unit in the left pane.

   b. Right-click on the **IndustrialITAdmin** group in the right pane and choose **Properties** from the context menu that appears (or double-click the group name).

> c. Select the **Members** tab in the Properties dialog box.
>
> d. Click **Add**. This displays the Select Users, Contacts, or Computers dialog box.
>
> e. Select the new user (for example, **800xAService1**) and click **Add**.
>
> f. Repeat Step e to add other users to the IndustrialITAdmin group.
>
> g. Click **OK** when finished.
>
> h. Click **OK** on the **Members** tab of the Properties dialog box.

8. Add this user to the Builtin Administrators group on the Domain Controller node.

9. Add this user to the local administrator group on every system node.

In order to limit the abilities of the 800xA Service User, the 800xA Service User may be included in the *Deny Logon Locally* policy on every system node. However, this will prevent logging in as the 800xA Service User on Report Scheduling Server nodes (Scheduling Server nodes that need to run Excel reports). On these nodes, the 800xA Service User must be logged in to add the DataDirect add-ins to Excel for this user. In this case, the 800xA Service User may be included in the *Deny Logon Locally* policy after adding the add-ins, but not before.

User Account for Installation

Define separate accounts and different passwords for the 800xA Service User and the 800xA installing User.

Create an administrator account for installing all 800xA System software and performing all post installation procedures. Follow the procedure for 800xA Service User on page 83. The only difference is that this account should be configured so that the password will expire, and will need to be changed periodically.

User Account Privileges for Building Graphic Displays

Building Graphic Displays on a node in a domain requires that the user belong to the Administrators local user group. Refer to *System 800xA Administration and Security (3BSE037410*)* for information on how to add users to this group.

Other Users

Add other IndustrialIT users and make them members of the IndustrialIT User Group. Set passwords according to company policy, and change them frequently.

Adding Nodes to a Domain

This is required for all member nodes in the 800xA System (not applicable for single node installations, for example Information Management consolidation node, or Windows Workgroups). Perform this procedure at each node that needs to be added to the domain.

> This procedure requires an administrator user name and password defined for the domain. Have this information available before proceeding.

1. Log on to the node as a local administrator.

2. Configure the IP address of this node as described in Network Adapters on page 63. Make sure the DNS server address points to the IP address of the DNS server.

3. From the desktop, right-click on **My Computer** and choose **Properties** from the context menu that appears.

4. For Windows Server 2008, perform Step a through Step e. For Windows 7, perform Step f and Step g.

    a. Select the **Computer Name** tab and click **Change**.

    b. In the Computer Name Changes dialog box, select **Domain Controller**.

    c. Type the name of the domain in the Domain field.

    d. Click **OK** until all dialog boxes are closed.

    e. Click **Yes** when asked to reboot.

    f. Select the **Computer Name** tab and click **Network ID**.

    g. This launches the Network Identification Wizard. Follow the Wizard to add the node to the domain. A domain administrator user name and password is required during this procedure.

5. Repeat this procedure to add additional nodes to the domain.

Adding 800xA Domain Users to the Local Administrator Group

The 800xA Service User and 800xA Installing User accounts defined in the domain must be added to the local Administrator Group on every node in the domain, including the Domain Controller node. There are three different procedures depending on the node type:

• Windows 7.
• Windows Server 2008.
• Domain Controller Node.

Windows 7

1. Log on as a local administrator.

2. Right-click **My Computer** on the Windows desktop and select **Manage** from the context menu that appears.

3. The Computer Management dialog box appears. In the left pane, navigate to:

        Computer Management (Local) > System Tools > Local
        Users and Groups > Groups

4. Double-click on **Administrators** to open the Administrators Properties dialog box.

5. Click **Add**. This opens the Select Users, Computers or Groups dialog box.

6. Click **Locations**, select the domain in the Locations dialog box **and click OK**.

7. Enter the names of the 800xA Service User and Installing User in the text box and click **Check Names**.

8. When the dialog box indicates the names have been found, click **OK**.

9. To finish, click **OK** in the Administrators Properties dialog box.

Windows Server 2008

1. Log on as a local administrator.

2. Right-click **My Computer** on the Windows desktop and select **Manage** from the context menu that appears.

3. The Server Manager appears. In the left pane, navigate to:

    ```
    Server Manager (node name) > Configuration > Local
    Users and Groups > Groups
    ```

4. Select Configuration in the left pane.

5. Double-click on **Administrators** to open the Administrators Properties dialog box.

6. Click **Add**. This opens the Select Users, Computers or Groups dialog box.

7. Click **Locations**, select the domain in the Locations dialog box **and click OK**.

8. Enter the names of the 800xA Service User and Installing User in the text box and click **Check Names**.

9. When the dialog box indicates the names have been found, click **OK**.

10. To finish, click **OK** in the Administrators Properties dialog box.

Domain Controller Node

1. Select:

    Start > Control Panel

2. Double-click **Administrative Tools**.

3. Double-click `Active Directory Users and Computers` to launch the Active Directory Users and Computers dialog box.

4. In the left pane, navigate to:

    ```
    Active Directory Users and Computers > Domain Name >
    Builtin
    ```

5. Double-click `Administrators` in the right pane to launch the Administrators Properties dialog box.

6. Select the **Members** tab.

7. Click **Add**. This opens the Select Users, Computers or Groups dialog box.

8. Click **Locations**, select the domain in the Locations dialog box **and click OK**.

9. Enter the names of the 800xA Service User and Installing User in the text box and click **Check Names**.

10. When the dialog box indicates the names have been found, click **OK**.

11. To finish, click **OK** in the Administrators Properties dialog box.

Other Third Party Software

The remainder of this section details the installation of other third party software.

The software that requires additional licenses is not included in the 800xA Common Third Party Install Tool. This section contains information about those software programs. Software programs installed by the 800xA Common Third Party Install Tool are not described here.

800xA Common Third Party Install Tool

The 800xA Common Third Party Install Tool is a standalone tool that installs almost all required third party software automatically. It installs third party software that is common to every node in the 800xA System (including the Domain Controller nodes). To run the tool:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   **Manual Installation > 3rd Party Software & Tools >
   800xA Common Install**

2. Follow the Installation Wizard to complete the installation.

Microsoft Office Professional

The 800xA System supports the U.S. English version Microsoft Office Professional 2007 or 2010.

Microsoft Word

When installing Microsoft Word it is required to select Office Shared Features from the Installation Options dialog box and to accept the default subfeatures under the Office Shared Features selection.

Microsoft Word, which is part of the Microsoft Office Professional suite, must be installed on all nodes where the following functions will be used:

- Process Graphics (for Reference Documentation Tool).
- Engineering Studio (for Document Manager Functions).
- Control Builder M (for Project Documentation Functions).

This software is available from any Microsoft reseller. Follow the installation procedure described in the documentation provided by Microsoft.

Macro Security for Microsoft Word. Perform the following procedure for every Industrial IT User on every node, after installation of Microsoft Word and before continuing installing or working on the Engineering Platform:

1. Start Microsoft Word.

2. Click the Office button in the upper left corner.

3. Click **Word Options** to open the Word Options dialog box.

4. Select **Trust Center** in the left pane of the Word Options dialog box.

5. Click **Trust Center Settings** to open the Trust Center.

6. Select **Macro Settings** in the left pane of the Trust Center.

7. Select **Disable all Macros Except Digitally Signed Macros** in the right pane of the Trust Center.

8. Click **OK** to close the Trust Center.

9. Click **OK** to close the Word Options dialog box.

10. Repeat this procedure for every Industrial IT User on every node.

Microsoft Excel

When installing Microsoft Excel 2007 or 2010 it is required to select Office Shared Features from the Installation Options dialog box and to accept the default subfeatures under the Office Shared Features selection.

When installing Microsoft Excel, select the Custom installation. When the Installation Options dialog box appears. select the Visual Basic for Applications option under Shared Features.

Microsoft Excel, which is part of the Microsoft Office Professional 2007 suite, must be installed on all 800xA System nodes where engineering tools or Excel based reports will be used. This can include the following:

- Process Graphics (for Display Documentation Tool).
- Engineering Studio (for Bulk Data Manager Functions).
- DataDirect - Excel Data Access.
- Information Management.
- Asset Optimization Server.
- Batch Management.
- 800xA for Harmony.
- 800xA for AC 870P/Melody.

This software is available from any Microsoft reseller. Follow the installation procedure described in the documentation provided by Microsoft.

Macro Security for Microsoft Excel. Perform the following procedure for every Industrial IT User on every node, after installation of Microsoft Excel and before continuing installing or working on the Engineering Platform:

1. Start Microsoft Excel.

2. Click the Office button in the upper left corner.

3. Click **Excel Options** to open the Excel Options dialog box.

4. Select **Trust Center** in the left pane of the Excel Options dialog box.

5. Click **Trust Center Settings** to open the Trust Center.

6. Select **Macro Settings** in the left pane of the Trust Center.

The macro security setting must be set to **Enable all Macros** for every Industrial IT User on every node in the 800xA System if any of the following are true:
- 800xA for Harmony or 800xA for AC 870P/Melody is installed on any node in the 800xA System.
- Engineering templates will be used on any node in the 800xA System.

7. Select **Disable all Macros Except Digitally Signed Macros** in the right pane of the Trust Center.

8. Click **OK** to close the Trust Center.

9. Click **OK** to close the Excel Options dialog box.

Crystal Reports

Install Crystal Reports on any node where the Application Scheduler will be installed, if Crystal Reports will be used as the reporting package on that node. Crystal Reports does not have to be installed on nodes where the Application Scheduler is running where Crystal Reports will not be used as the reporting package.

Refer to the SAP Business Objects web site for more information and to purchase and download the software.

The current supported version of Crystal Reports is Crystal Reports 2008 Service Pack 3 (SP3) Full Build with Fixpack 3.3. The installation sequence is as follows:

1. Install Crystal Reports 2008 SP3 Full Build.

2. Install Crystal Reports 2008 Fix pack 3.3. This can be found under the hotfix section on the web site.

- Components from Meriam Process Technologies (if DMS Calibration Integration is selected):

    - DMS Server software for installation on the node that will serve as the AO Main Server.

Asset Optimization DMS Calibration Integration 800xA 5.1 functions with DMS software Version 2.6.

    - DMS Client software for installation on all other nodes where the DMS Calibration Integration system extension is registered.

Refer to DMS installation instructions for detailed DMS software requirements and installation instructions.

Process Engineering Tool Integration Specific Requirements

The following are requirements that exist only for Process Engineering Tool Integration. Before installing Process Engineering Tool Integration software, install the following prerequisites, if required:

- **INtools/SPI:** Must be installed on a non-800xA node. If installing the Web Services component on this node, Microsoft IIS with FrontPage server extensions must be installed.

- For viewing external CAD drawings, one of the following software components is required to be installed on the 800xA System node on which the 800xA Client component of Process Engineering Tool Integration is installed:

  – **Autodesk DWG TrueView 2:** Recommended to be used for viewing of AutoCAD files. Autodesk DWG TrueView 2 (`SetupDWGTrueView2.exe`) is available on 800xA System Installation DVD 1 in the following directory:

    `3rd_Party_SW\AutoDesk`

The latest version of DWG TrueView 2 can be downloaded free of charge at:

http://www.autodesk.com

  – **AutoCAD**.

Information Management Specific Requirement

Oracle 11gR2 server software is required for the Information Management historical services. The Oracle Client installation provides the client server information access for the applications that requires the ODBC connection to the System 800xA Information Manager. The applications includes reporting, data access to the information such as event, historical data and production data. Oracle Client Software is installed on the node that requires access to the Information Manager.

The Information Management installation wizard (refer to Information Management Server Installation on page 208) installs all Information Management software on the system drive. Install the Oracle program files on the system drive as well (recommended). If desired, designate different drives for storing Oracle data files, and file-based numeric log data.

Users must have their default passwords changed in order to prevent unauthorized access. Replace this password that conforms with the organization's security policy at the first possible opportunity. Failure to replace the default password makes the system susceptible to unauthorized access.

Default user accounts are created when Information Management and required third party software are installed. To add, remove, or otherwise edit any user accounts after installation, refer to *System 800xA Information Management Configuration (3BUF001092*)*. This includes certain Windows and Oracle users installed with the system. These users must have their default passwords changed in order to prevent unauthorized access.

The Oracle software is accessible from the latest System Revision DVD. To install Oracle Server software:

1.   Insert the latest system revision DVD into the DVD drive.

2.   Use Windows Explorer to locate and run `OracleInstaller.exe` in the following location:

     `\3rd_Party_SW\Oracle\Oracle11R2`

3.   If a Windows Security Warning - Open File dialog box appears, click **Run** to continue.

4.   The Oracle Installer Wizard (Figure 11) containing the following components appears:

     – **Oracle (11.2.0.2)**.
     – **Oracle CPU Patch 1**.
     – **TNS Listener.**

The Oracle Server, CPU, and TNS Listener are enabled for installation, by default. The status for the Oracle components is displayed as shown in Figure 11 for a fresh installation.

5.   Select the Oracle Component - Server/Client.

6.   Select the path to install the Oracle Server.

7.   Click **Install** to install the oracle components.

8.   A dialog box appears with the following message:

     ```
     Are you sure you would like to install the following
     Components?

     Oracle 11 Server

     Critical Patch Update

     Oracle TNS Listener
     ```

     Click **Yes** to continue.

9.   An Information message dialog box (Figure 12) is displayed describing the actions to be taken in the following steps. Click **OK** to continue.
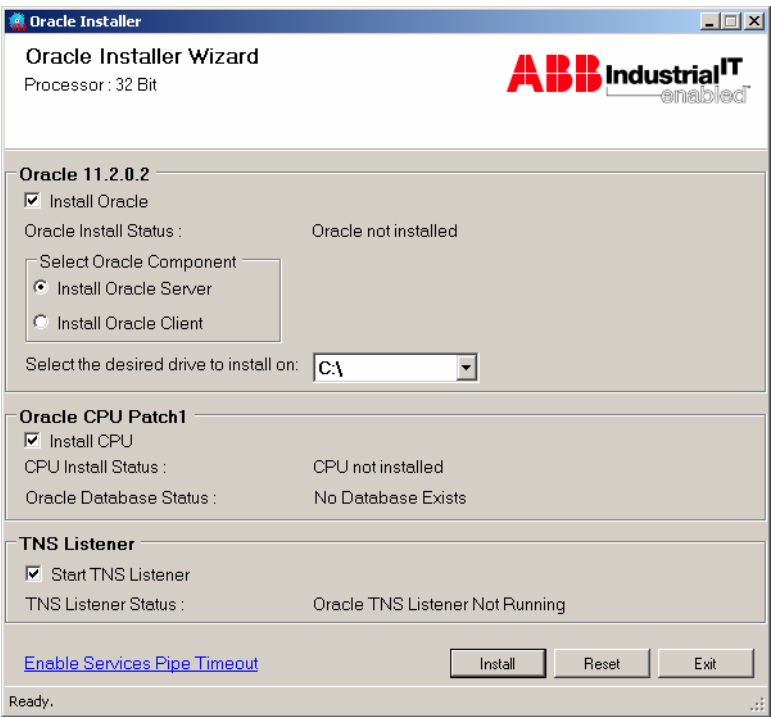
Figure 11. Oracle Installer Wizard
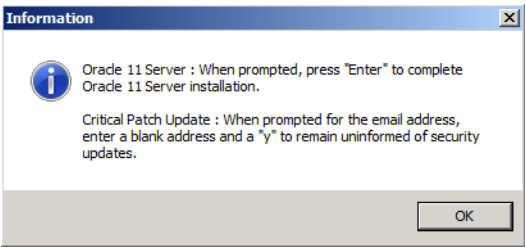
Figure 12. Oracle Information Dialog Box

10. A Console Window is displayed with the installation information, the log file location, and the installation progress. When the Console Window indicates that the Oracle installation is complete and displays the message `Please press Enter to exit`, press **Enter** to exit.

11. The CPU installation starts in a Console Window and indicates for the following inputs:

    a. E-mail Address/User Name: Enter a **Blank** address and then **Enter** to continue.

    b. Do you wish to remain uninformed of Security issues ([Y] es, [N]o): Press **Y** and then **Enter** to continue.

    Perform the actions described in Figure 12.

12. The Console Window indicates `Is local system ready for patching`. Press **y** and then **Enter** to continue.

13. The Installer starts to configure the TNS Listener. The TNS Listener is configured and running, the Oracle Home Name and Home path is displayed.

14. The status message is displayed as **Ready**, which indicates the Installation is complete.

15. Click **Finish** to exit the Oracle Installer.

To install Oracle Client software:

1. Perform Step 1 through Step 4 from the Server Installation.

2. On the Oracle Installer Wizard, select **Install Oracle Client.**

The Oracle Client is installed on a separate machine.

3. Click **Install** to install the oracle components.

4. A dialog box is displayed with the following message:

        Are you sure you would like to install the following
        Components?
        Oracle 11 Client
        Critical Patch Update

Click **Yes** to continue.

TNS Listener is not installed with Oracle Client

5. Perform the Step 7 through Step 10 from the Server Installation to install the Oracle and CPU patch.

Database password is not required for the CPU Installation.

6. The status message is displayed as **Ready**, which indicates the Installation is complete.

7. Click **Finish** to exit the Oracle Installer.

Backup Software

It is recommended that a third party backup/restore and/or disk imaging utility be used to save (and restore if necessary) server and workstation hard drives. A valid backup insures that the system can be restored.

Group Policy Management

The following procedure must be performed on the Primary Domain Controller in a domain environment, and on every node in a Windows Workgroup environment. The procedures differ depending on the environment (domain or Windows Workgroup).

Domain Environment

Perform this procedure before installing 800xA System and Functional Area software.

Disabling Protected Mode. Perform the following procedure to disable the Windows Protected Mode feature:

This procedure only applies to Windows Server 2008 nodes in domain environments. Refer to Windows Workgroup Environment on page 101 to disable protected mode on every Windows Server 2008 node in Windows Workgroups.

1. Select:

    Start > Run

2. Enter `gpmc.msc` in the Run dialog box and click **OK**.

3. Navigate to the following in the tree view:

    Domains > Current Domain Name > GroupPolicy Objects

4. Right-click the `Default Domain Policy` object and select **Edit** from the context menu to launch the Group Policy Management Editor.

5. Navigate to the following in the tree view:

    User Configuration > Policies > Windows Settings > Internet Explorer Maintenance > Security

6. Select the security object.

7. Double-click **Security Zones and Content Ratings** in the right pane.

8. Select **Import the current security zones and privacy settings** in the Security Zones and Privacy section.

9. The Internet Explorer Enhanced Security Configuration dialog box appears. Click **Continue**.

10. Click **Modify Settings**.

11. Open the **Security** tab.

12. Select **Local Intranet Security**.

13. Clear the **Enable Protected Mode** check box.

14. Close all dialog boxes, making sure to click **OK** and not **CANCEL**.

Group Policy. This procedure must be performed on the Primary Domain Controller. It should be performed after all 800xA System nodes have been added to the domain so that the new Group Policy will replicate out to all nodes in the selected domain via the active directory. However, if the system is expanded at a later time, the Group Policy will replicate to the nodes added during the expansion.

1. Select:

    Start > Run

2.   Enter `gpmc.msc` in the Run dialog box and click **OK** to launch the Group
     Policy Management Console.

⚠ *Do not* modify the default Group Policy Object itself. Create, link and modify a
new Group Policy Object.

3.   Right-click the domain name in the left pane of the Group Policy Management
     Console, and select **Create a GPO in this domain, and Link it here...** from
     the context menu to open the New GPO dialog box.

4.   Type in a name for the new Group Policy Object in the New GPO dialog box;
     for example, `IntranetName` and click **OK** to return to the Group Policy
     Management Console.

5.   Right-click on the new Group Policy Object in the left pane of the Group
     Policy Management Console, and select **Edit** from the context menu to open
     the Group Policy Object Editor.

6.   Navigate to the following in the left pane of the Group Policy Object Editor:

         User Configuration > Windows Settings > Internet
         Explorer Maintenance > Security

7.   Double-click the following in the right pane of the Group Policy Object Editor:

         Security Zones and Content Ratings

     to open the Security Zones and Content Ratings dialog box (Figure 13).

Figure 13. Security Zones and Content Ratings Dialog Box

8. Select the **Import the current security zones and privacy settings** option in the Security Zones and Privacy frame.

9. The Internet Explorer Enhanced Security Configuration dialog box appears. Click **Continue**.

10. Click **Modify Settings** in the Security Zones and Content Ratings dialog box to open the Internet Properties dialog box with the **Security** tab selected.

11. Select the Local Intranet icon.

12. Click **Sites** to open the Local Intranet dialog box (Figure 14).
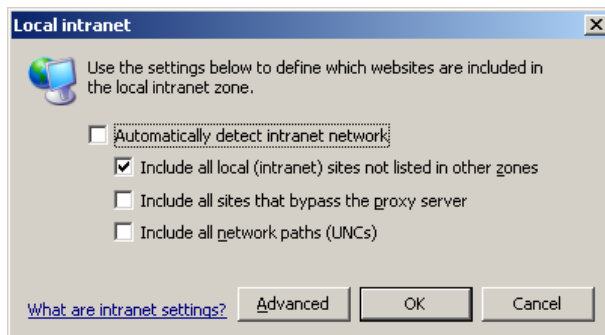
Figure 14. Local Intranet Dialog Box

13. Clear the **Automatically detect intranet network** check box.

14. Select the **Include all local (intranet) sites not listed in other zones** check box.

15. Verify that all other check boxes are cleared.

16. Click **OK** three times to close all open dialog boxes.

17. Close the Group Policy Object Editor.

18. Reboot the node.

Adding Workstations to the Domain Policy. Perform the following in order to prevent any user from being able to add workstations to the domain.

1. Select:

    Start > Run

2. Enter `gpmc.msc` in the Run dialog box and click **OK** to launch the Group Policy Management Console.

3. Navigate to the following:

        Forest: *Domain Name* > Domains > *Domain Name* > Group
        Policy Objects > Default Domain Controllers Policy

4. Right-click `Default Domain Controllers Policy` and select **Edit** from the context menu to launch the Group Policy Management Editor.

5. Navigate to the following:

    ```
    Default Domain Controllers Policy > Computer
    Configuration Policies > Windows Settings > Security
    Settings > Local Policies > User Rights Assignment
    ```

6. In the right pane, double-click `Add workstations to domain` to launch the Add workstations to domain Properties dialog box.

7. Select `Authenticated Users` and click **Remove**.

8. Click **Add User or Group** to launch the Add User or Group dialog box.

9. Click **Browse** to launch the Select Users, Computers, or Groups dialog box.

10. Select the users and/or groups that are to have the authority to add workstations to the domain and click **OK** twice to return to the Add workstations to domain Properties dialog box.

    Click **Find Now** in the Select Users, Computers, or Groups dialog box to display the available users and groups.

11. Click **Apply** and then **OK** to close the dialog box.

12. Close the Group Policy Management Editor.

Windows Workgroup Environment

Perform this procedure before installing 800xA System and Functional Area software.

Disabling Protected Mode. Perform the following procedure to disable the Windows Protected Mode feature:

This procedure only applies to Windows Server 2008 nodes in Workgroup environments.

1. Select:

    Start > Run

2. Enter `gpedit.msc` in the Run dialog box and click **OK** to launch the Local Group Policy Editor.

3. Navigate to the following in the tree view:

   User Configuration > Windows Settings > Internet Explorer Maintenance > Security
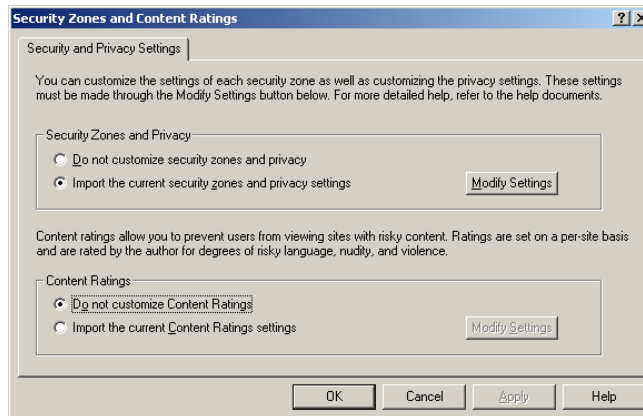
4. Select the security object.

5. Double-click **Security Zones and Content Ratings** in the right pane.

6. Select the **Import the current security zones and privacy settings** option in the Security Zones and Privacy section.

7. The Internet Explorer Enhanced Security Configuration dialog box appears. Click **Continue**.

8. Click **Modify Settings**.

9. Open the **Security** tab.

10. Select **Local Intranet**.

11. Clear the **Enable Protected Mode** check box.

12. Close all dialog boxes, making sure to click **OK** and not **CANCEL**.

Group Policy. This procedure must be performed on every node in the Windows Workgroup. If the system is expanded at a later time, this procedure must be performed on each node added during the expansion.

1. From the Windows Taskbar, select:

   Start > Run

2. Enter `gpedit.msc` in the Run dialog box and click **OK** to open the Local Group Policy Editor.

3. Navigate to the following in the left pane of the Group Policy Object Editor:

   ```
   User Configuration > Windows Settings > Internet
   Explorer Maintenance > Security
   ```

4. Double-click the following in the right pane of the Group Policy Object Editor:

   ```
   Security Zones and Content Ratings
   ```

to open the Security Zones and Content Ratings dialog box (Figure 13).

5. Select the **Import the current security zones and privacy settings** option in the Security Zones and Privacy frame.

6. Click **Modify Settings** in the Security Zones and Content Ratings dialog box to open the Internet Properties dialog box with the **Security** tab selected.

7. Select the Local Intranet icon.

8. Click **Sites** to open the Local Intranet dialog box (Figure 14).

9. Clear the **Automatically detect intranet network** check box.

10. Select the **Include all local (intranet) sites not listed in other zones** check box.

11. Verify that all other check boxes are cleared.

12. Click **OK** three times to close all open dialog boxes.

13. Close the Local Group Policy Editor.

14. Reboot the node.

Adding Privileges to the 800xA Service User

This procedure only applies to the following node types. If these node types are not present in the system this procedure can be skipped.

- 800xA for Harmony Configuration Server nodes.
- 800xA for Harmony Connectivity Server nodes.
- 800xA for Harmony Configuration Server with Connectivity Server nodes.
- 800xA for AC 870P/Melody Configuration Server nodes.
- 800xA for AC 870P/Melody Connectivity Server nodes.

There are some services that run under the 800xA Service User account for the listed node types. Perform the following procedure to add the proper privileges to the 800xA Service User account.

1. Log off the 800xA Installing User account.

2. Log on the 800xA Service User account.

3. Log off the 800xA Service User account.

4.   Log on the 800xA Installing User account.

Windows Updates and Hot Fixes

Refer to *Third Party Software System 800xA (3BUA000500*)* to install the listed operating system updates and hot fixes. This document is accessible from ABB SolutionsBank.

Section 3 Central Licensing System (CLS)

Introduction

The Central Licensing System (CLS) also has a Central Licensing System extension that will add the License Usage aspect to the 800xA System. This can be used to view the currently allocated licenses. Refer to Central Licensing System Extension on page 112.

Set up a License Server by installing the CLS Server on the Primary Aspect Server node. Install the CLS Client on all other 800xA System nodes, except Domain Server nodes.

Certain 800xA System functions must be licensed before use. These functions will not operate until their licenses are installed. The software is licensed by relating a software key for each feature with a unique machine identifier. Software keys are obtained from the ABB Software License Administration System (SOFA). This section describes how to install the licensing software and use the License Entry program to apply for software keys. The software keys must be installed on the node where the Central Licensing Server software is installed when they are received from ABB. Section 29, Licensing 800xA System Software explains how to install and manage the software keys.

Licensing Overview

The 800xA System uses a licensing mechanism called the Central Licensing System (CLS). One designated node, typically the Primary Aspect Server node, should contain the License Server (CLS Server), thus becoming the License Server node. This server dynamically distributes the available licenses as they are needed to all other nodes within the system. As an alternative, licenses may also be reserved for use by a particular node.

Software keys are generated by ABB, and are uniquely associated with the machine identifier (ID) of the License Server node. The machine ID may be an Ethernet address or a hardware dongle ID. For the software to run, the machine ID used to generate the software key must be present on the License Server node. The License Server software periodically checks that the machine ID is still present. A single machine ID supports multiple software keys for different features and for different applications.

The machine ID is sent to ABB when a license key request is made. After receiving the software keys, they can be entered in the License Entry program for proper software operation.

License Server Setup

Unless otherwise specified, log on as the Installing User from this point through the completion of the installation and post installation process.

Set up a License Server by installing the CLS Server component on the Primary Aspect Server node.

To install the required licensing components on the designated License Server:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Base Functionalities > Licensing > Central Licensing

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Select Components dialog box:** Select the **Server** option. All required client components are also installed as part of the server installation.

    b. **Username and Password dialog box:** Enter the username and password for the 800xA Service User (refer to Users and Groups on page 75). Use the domain\user syntax to specify a domain account.

    c. **InstallShield Wizard Complete dialog box:** Select the **Start LCC Service** check box.

3. Continue with Obtaining the Machine ID.

Obtaining the Machine ID

There are two types of machine IDs that the ABB licensing program supports: a removable hardware key, called a dongle, or the fixed Ethernet address of a network adapter. Each of the machine ID types has advantages and disadvantages. Using the Ethernet address as a machine ID is generally more convenient. However, if the network adapter is ever replaced or permanently removed from the node, a new set of software keys will be required.

The Rainbow SentinelSuperPro hardware key, or dongle, is a copy protection device that comes in two formats - the parallel port version attaches to the 25-pin parallel port of the node, and the USB version attaches to a USB port of the node. Some advantages of a dongle are:

- The dongle can be moved to another node without needing to get new software keys. However, dongles can only be attached to a single node at any given time.

- Other machine IDs may need to be replaced to upgrade the software. New software keys must then be requested. However, there is no need to replace the dongle with another one.

- The parallel port version of the Rainbow SentinelSuperPro dongle allows sharing of the parallel port with most other parallel port devices.

To use a dongle as the machine ID, order it from ABB. When received, record the dongle number on the ABB licensing registration form and install the dongle.

In most cases, ABB software licensing functions support multiple dongles that are daisy chained together. The dongle for the 800xA System can be anywhere in the daisy chain. USB dongles can not be daisy chained, but they can be plugged into multiple USB ports.

If the licensing software is installed on the License Server, use the License Entry program to obtain the machine ID.

To obtain the machine ID without installing the License Server (software not available), use the method described in Obtaining the Ethernet Address on page 108 (applicable if using the Ethernet address) or Reading the Machine ID from a Dongle on page 109 (applicable if using a dongle).

To use the License Entry program to obtain the machine ID:

1. To launch the License Entry program, select:

    Start > All Programs > ABB Industrial IT 800xA > System > Licensing > License Entry

2.   Select:

Machine IDs > Available IDs...

from the menu to display the Installed Machine IDs dialog box.

3.   Record the machine ID displayed in the Machine IDs dialog box.

4.   Proceed to Requesting Software Keys on page 109.

Obtaining the Ethernet Address

If the Ethernet address will be used as the machine ID and the License Server has not been installed, use this procedure.

This method is only applicable if using the Ethernet address as the machine ID.

1.   Launch a Windows Command Prompt window.

2.   Enter: **ipconfig/all**.

3.   Read the line for Physical Address under the information for the network adapter. If the node has two network adapters, two addresses will be shown.

Do not use the Ethernet address as the machine ID if there is a chance that one of the network adapters will be removed or replaced. The permanent license is tied to the submitted machine ID. If the network adapter is removed or replaced, the license will be invalidated.

4.   Record the machine ID (without the hyphens) on the Software Key Request Form.

5.   Proceed to Requesting Software Keys on page 109.

Reading the Machine ID from a Dongle

ℹ️ This method is only applicable if using a dongle as the machine ID.

Each parallel port or USB dongle is labeled with its unique machine ID. The label looks like Figure 15, where the machine ID is as indicated.

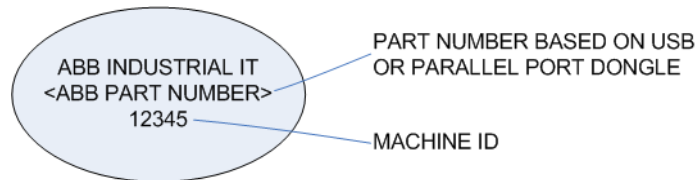ABB INDUSTRIAL IT
<ABB PART NUMBER>
12345

PART NUMBER BASED ON USB
OR PARALLEL PORT DONGLE

MACHINE ID

Figure 15. Dongle Machine ID

6.   Proceed to Requesting Software Keys.

Requesting Software Keys

To request software keys (unless told otherwise by an ABB representative):

1.   Obtain the machine ID of the License Server node (refer to Obtaining the Machine ID on page 107).

2.   Locate and have available the registration license numbers found on the license certificate form shipped with the software.

3.   Complete the Software Key Request Form shipped with the software. Follow the instructions found on this form.

ℹ️ Be sure to enter a valid e-mail address on the Software Key Request Form.

4.   Fill in the Software Key Request Form as necessary.

5.   Send the Software Key Request Form to the ABB Software License Administration System using one of the methods on the registration form.

6.   Wait for the software keys to be returned. The method by which the software keys will be returned is selected on the Software Key Request Form:

–   Internet mail.
–   Postal mail.
–   Fax.

Internet mail is recommended so the software keys will be returned as an attached license (.sla) file. This is the format required by the License Entry program. Detach the file from the Internet mail and save it to a location on the License Server node where it may be accessed by the License Entry program.

License Client

Perform this procedure on every 800xA System node that will be a client to the License Server. It must not be installed on the node where the CLS Server is installed or on Domain Controllers, unless the Domain Controller is running other 800xA System software.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Base Functionalities > Licensing > Central Licensing

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Select Components dialog box:** Select the **Client** option.

    b. **Select CLS Server Location dialog box:** Enter the name of the License Server node.
    -or-
    Click **Browse...** to browse for the node.

    c. **Username and Password dialog box:** Enter the username and password for the 800xA Service User (refer to Users and Groups on page 75). Use the domain\user syntax (for Windows Workgroups use computer\user syntax).

    d. InstallShield Wizard Complete dialog box: Disable the **Start LCC Service** check box.

3. Proceed to Central Licensing System Extension.

CLS Standalone Option

If the CLS Standalone option is used the server name can not be changed through the License Status Viewer.

The CLS Standalone option is an addition to the existing Server and Client options (Figure 16). This option appears when the License Client software installation is initiated. The objective of this feature is to enable installation of Client Licensing software on a standalone workstation without being dependent on Internet Information Services (IIS). This makes it possible to install and use the Client Licensing software without enabling IIS.
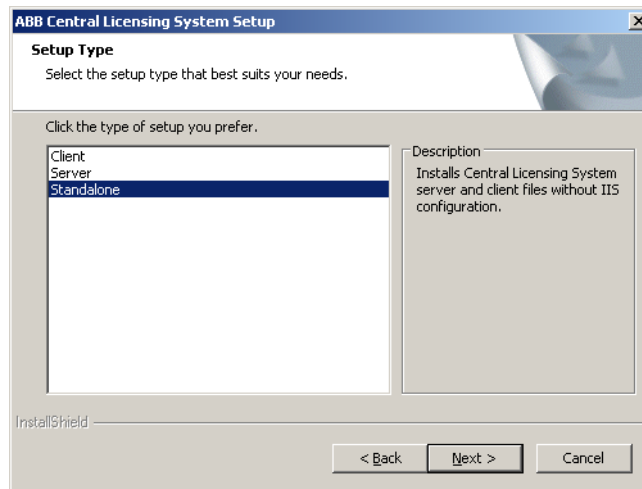
Figure 16. CLS Standalone Option

The CLS Standalone option installs all License Client and Server components except the IIS configuration and the ASP.NET files. All communications through IIS are bypassed. This option is useful for installations on any single node workstation, laptop, etc.

The CLS Standalone option does not provide the License Assignment Editor, therefore the total *in use* count for each feature can be seen through the License Usage Aspect and the SFA Tester.

Figure 17 shows the Modify option of the maintenance mode, where the existing installation type can be modified.
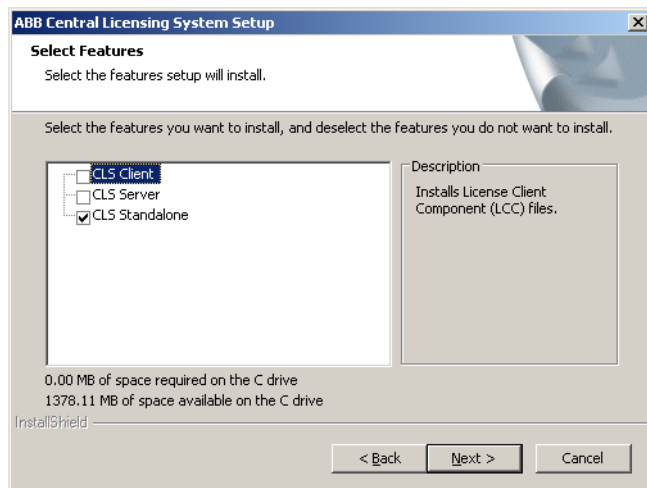
Figure 17. CLS Modify Option

The limitations of the Modify option are:

•   The CLS Standalone option can not be selected in combination with CLS Client and CLS Server.

•   The CLS Server should be selected in combination with the CLS Client.

Central Licensing System Extension

The Central Licensing system extension must be installed before it can be loaded into the 800xA System.

Install the Central Licensing System Extension on all 800xA System nodes:

1.   This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Base Functionalities > Licensing > Licensing System Extension

2.   Follow the Installation Wizard to complete the installation.

Section 4 800xA Base System

Introduction

This section describes how to install the 800xA Base System. This installation includes Redundant Network Routing Protocol (RNRP). This software is provided on 800xA System Installation DVD 1 and must be installed on all 800xA System nodes.

This section also describes how to install the following other Base System functions:

- Excel Data Access (DataDirect).
- Application Scheduler.
- Calculations.
- SoftPoint Server.

These components are provided on 800xA System Installation DVD 1 and may be installed when this functionality is required.

Before installing the 800xA System software, the applicable Windows operating system and other software prerequisites must already be installed according to Section 2, Prerequisites.

Verify the domain is functioning properly before installing any 800xA System software.

Do NOT change IP addresses or node names on Domain Controllers or any 800xA Server node after it has been added to the system.

Base System

This procedure installs Process Portal, RNRP, and other Base System functionality, including the trend function, Graphics Builder, Instrumentation ActiveX Library, and Symbol Factory. This installation is required by all 800xA System nodes, except separate Domain Server nodes.

To install this software:

1. This software is accessible from the Installation AUTORUN screen (refer to) by selecting:

    Manual Installation > Base Functionalities > Base System

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Verify that the **800xA Base 5.1** check box is enabled in the Welcome dialog box.

    b. **Installation Selection dialog box:** Select the components to install. All components are selected by default. This is the recommended configuration.

c. **System Software User Settings dialog box (Figure 18):** Specify groups and users. Refer to Table 7 for guidelines.

TC08203A

Figure 18. System Software User Settings Dialog Box

Table 7. System Software User Settings

Setting	Description
System Admin and System User group names	Retain the default User Group names for these parameters (**IndustrialITAdmin** and **IndustrialITUser**).
	For multiple node configurations, the domain name must be entered (use the NetBIOS name of the domain; for example, PTTDOMAIN and not the fully qualified domain name pttdomain.abb.com). Leave these fields blank for single node configurations, for example when setting up an Information Management Consolidation node.
	For Windows Workgroups, use the local machine name as the domain name.
Service Account	Enter the 800xA Service user name as configured in Users and Groups on page 75. The syntax is domainName\username (local node name\username for Windows Workgroups).
Password	Enter the password for the Service Account. This ensures that the services are running on a secured account.
Autostart System on Windows startup	Enabling this option causes the 800xA Base System to start up when Windows is started. **This is recommended**.
Apply these settings to Application logging, too	Enabling this option causes the AppLog function to be configured at the same time as the system software user settings, with the same settings.
	The configuration of AppLog can be done manually in the Configuration Wizard after system creation if necessary.

3. If any of the Base System Functions are to be installed, continue with Base System Functions; otherwise, continue installing 800xA Base System and Functional Area software in the order presented in this instruction manual on a node-by-node basis.

SoftPoint Server

Install the SoftPoint Server on all nodes in the 800xA System, except separate Domain Controller nodes.

To install the SoftPoint Server:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Base Functionalities > SoftPoint Server

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Setup Type dialog box:** Select **Complete**.

Base System Functions

The following Base System functions are provided on 800xA System Installation DVD 1 and may be installed when this functionality is required:

Only components for which licenses have been purchased and installed can be used.

• Calculations. Refer to Redundant Calculation Servers on page 118 for information on using the redundant Calculation Server option.

• Excel Data Access (DataDirect).

• Application Scheduler.

• SoftPoint Server (refer to SoftPoint Server on page 116).

When installing the 800xA Base System software for an Information Management Server node, it is acceptable to defer installing these basic system functions, except for the SoftPoint Server, and install them with the Information Management Server software. All of these components, except SoftPoint Server, are also installed with the Information Management Server software.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Base Functionalities > Calculations

    for Calculations (refer to Redundant Calculation Servers on page 118 if redundant Calculation Servers will be set up),

    Information Management > DataDirect

    for DataDirect.

Base Functionalities > Scheduler

for Application Scheduler.

2.   Follow the wizard to complete the installation of the selected application.

Redundant Calculation Servers

The redundant Calculation Server option allows for a primary Calculation Server running in Service mode and a redundant Calculation Server running in Standby mode during normal operation. When the primary is down, the standby will become the primary and begin scheduling/executing the Calculations assigned to its Service Group. Calculations can only be assigned to Service Groups, not Service Providers.

There are three valid configurations:

- Two Information Management nodes.
- Two nodes where one is an Information Management node.
- Two non-Information Management nodes.

After installing the software in the desired configuration, refer to *System 800xA Post Installation (3BUA000156*)* to perform the required post installation procedures.

Section 5 RNRP

Introduction

This section describes how to install Redundant Network Routing Protocol (RNRP) on separate Domain Controllers. RNRP is included in the Base System. It is not required to install it on any node that has the Base System installed.

ℹ The only additional 800xA System software that should run on separate Domain Controller nodes is the Diagnostics Collection Tool (DCT) and the 800xA Common Third Party Install Tool. If it is desired to gather diagnostics data from the Domain Controller node, refer to Section 8, Diagnostics Collection Tool.

Installation

To install this software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Base Functionalities > RNRP

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Enable the **RNRP** check box.

ℹ Since RNRP service is mandatory in System 800xA installation, ensure to enable the RNRP check box.

Verification

To verify that RNRP is installed:

1. Reboot the node.

2. Check that there is an RNRP icon in the system tray (Figure 19). Click it and verify that the RNRP monitor is started.

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Figure 19. RNRP Icon

3. Right-click the RNRP icon to verify that the RNRP Wizard is started.

4. When RNRP has been installed and configured on all servers and clients and they have been connected to the network, use the RNRP monitor to verify the node names and IP addresses.

RNRP software on the Domain Server (or any other node that requires RNRP independent of the 800xA Base System software) may need to be configured after completing all procedures in this instruction manual. Refer to *System 800xA Network Configuration (3BSE034463*)*.

Section 6 Structured Data Logger (SDL)

Introduction

This section contains installation instructions for the Structured Data Logger (SDL) software.

The SDL software contains:

- SDL database functionality.
- The SDL service software.
- The Client software.

A typical SDL installation includes one SQL Server installation with one SDL database. The data flow into the database is provided by the SDL service. This is an 800xA service running in 800xA Service Provider nodes. The data can be viewed by the client software that needs to be installed in every 800xA System node.

Select the complete installation on precisely one Application Server node (nonredundant) that will run the SDL service. Do not activate the SDL Service on any 800xA for Harmony or 800xA for AC 870P/Melody Connectivity Server or Configuration Server nodes.

Select the typical installation for all other 800xA System nodes, except separate Domain Server nodes.

Installation

Software for the SDL system extension must be installed on all nodes where SDL will be used, including client nodes. Different parts of the software must

be installed depending on the node type and desired functionality according to Table 8.

Table 8. SDL Software to Install Depending on Node Type

Node Type	Structured Data Logger[1]	Database Components
800xA Server w/SDL	X	
800xA Client w/SDL	X	
800xA Application Server w/SDL	X	X

NOTE:

1. Includes afw service with SDL Collector. **Run only on nonredundant nodes.**

To install this software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Information Management > Structured Data Logger

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Enable the **Structured Data Logger** check box.

    b. **Setup Type dialog box:** Select the components to install according to Table 8 and the following:

    –   **SDL Server:** Selecting this setup type will install SQL Server 2008 on the node.

    –   **SDL Client:** Selecting this setup type will install SQL Server 2008 Native Client on the node.

c.   **Message box:** The message box differs depending on what was selected in the Setup Type dialog box in Step b. Figure 20 shows the message box for the SDL Server installation type and Figure 21 shows the message box for the SDL Client installation type. Click **Yes** to continue with the installation. Proceed to Step d for SDL Server installations and proceed to Step m for SDL Client installations.
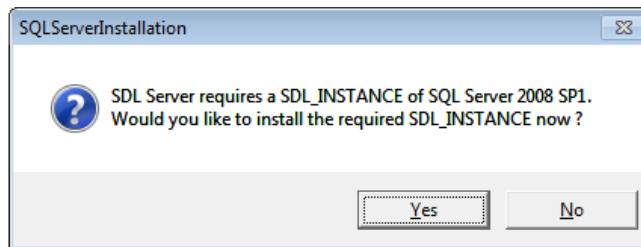
Figure 20. Message Box for SDL Server Installation Type
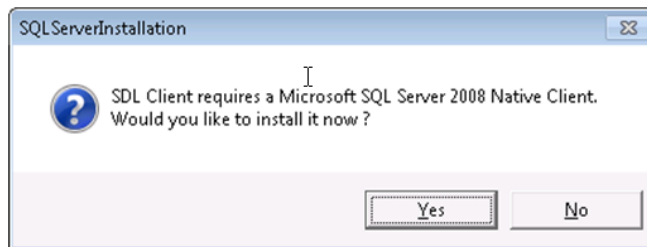
Figure 21. Message Box for SDL Client Installation Type

d.   **Browse for Service Account dialog box (Figure 22): ** Use this dialog box
     to enter the Service Account information for the SDL_INSTANCE.

It is recommended to use the 800xA Service User account and password,
although it is permissible to use a customer-specific Service Account.

Figure 22. Browse for Service Account Dialog Box

e.   It is possible to either:

–   Enter the Service Account user name and password in the Browse for
     Service Account dialog box (Figure 22), click **Next**, and skip to Step m.

     -or-

      f.   Click **Browse** to launch the Browse for a User Account dialog box shown in Figure 23.
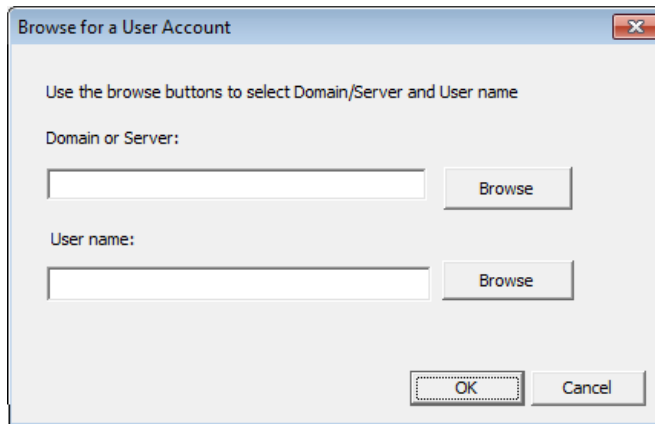
Figure 23. Browse for a User Account Dialog Box

      g.   Click **Browse** for the Domain or Server.

      h.   A Select a Domain or Server dialog box similar to the one shown in Figure 24 appears. There will be one or more possible selections. Select the correct Domain or Server and click **OK** to return to the Browse for a User Account dialog box.
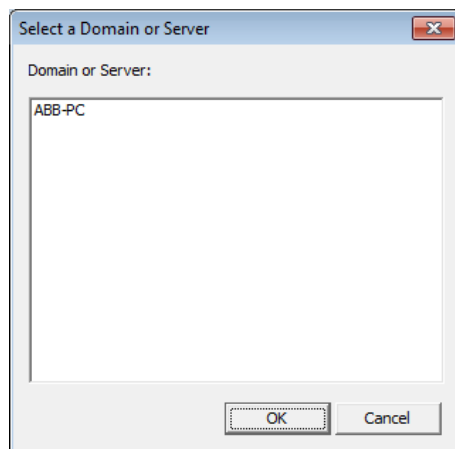
Figure 24. Select a Domain or Server Dialog Box

     i.   Click **Browse** for the User Name.

     j.   A Select a User Name dialog box similar to the one shown in Figure 25 appears. Select the Service User.
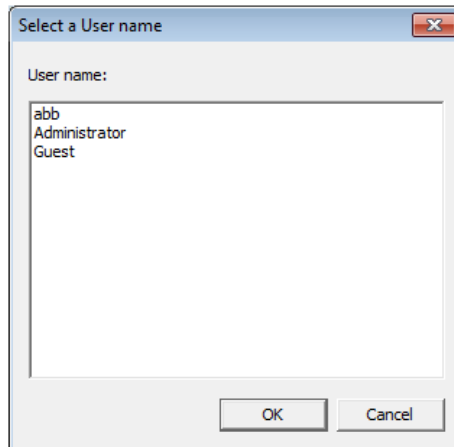
Figure 25. Select a User Name Dialog Box

     k.   Click **OK** to return to the Browse for Service Account dialog box (Figure 22).

     l.   Enter the password and click **Next**.

     m.   A Browse for Folder dialog box similar to the one shown in Figure 26 appears. Browse to the following folder on 800xA System Installation DVD 1:

        \3rd_Party_SW\Microsoft_SQL_Server

Click **OK** and the installation will complete.
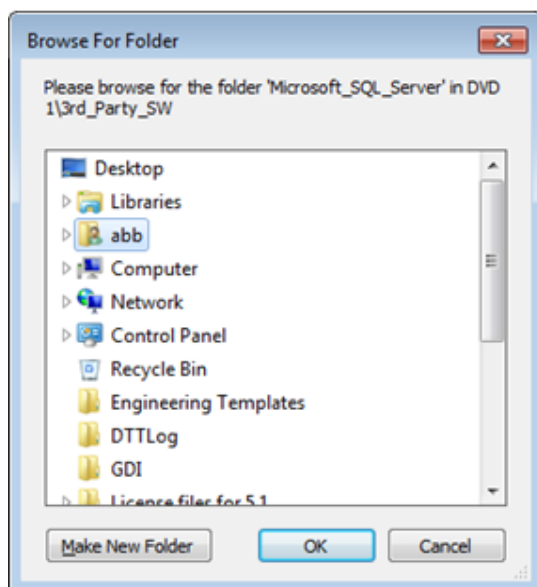
Figure 26. Browse for Folder Dialog Box

Section 7 800xA Instructions

Introduction

The 800xA System and Functional Area instructions and Release Notes are included on the System Version 5.1 Released Documents CD for access before installing the 800xA System software.

Installation

To install 800xA System and Functional Area instructions:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > 800xA Documentation

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Enable the **800xA Instructions** check box.

    b. **Installation Type dialog box:**

    –   Select **Complete** and click **Next** if installing the documentation on the Primary Aspect Server node or any Engineering Workplace nodes. This will install all 800xA user and reference instructions.

    –   Select **Typical** and click **Next** if installing the documentation on any other 800xA System node. This will install only the 800xA user instructions.

Section 8 Diagnostics Collection Tool

Introduction

This section contains installation procedures for the Diagnostics Collection Tool software. Install this software on every node in the 800xA System, including the Domain Controller node (only if it is desired to gather diagnostics data from the Domain Controller node).

Installation

To use one node to remotely retrieve diagnostics from other nodes:

- The 800xA Base System must be installed on the Diagnostics Collection Tool Client in order to retrieve Process Portal diagnostics data from a remote node.

To install the software:

ℹ️ Specify an Administrative user name and password for the DCT Service account during installation of the Diagnostics Collection Tool on a Domain Controller node. Use domain\user name syntax to specify the domain account.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Base Functionalities > Diagnostic Collection Tool

2. Follow the Installation Wizard to complete the installation.

Section 9 SFC Viewer

Introduction

This section describes how to install the SFC Viewer software.

Installation

Feature Pack Functionality _____

ℹ️ The features of SFC Viewer in 800xA 5.1 Feature Pack depends on the 800xA 5.1 Revision A installation of Engineering Studio and Control Builder.

_____

To install the software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Base Functionalities > SFC Viewer

2. Follow the Installation Wizard to complete the installation.

Section 10 SMS and e-mail Messaging

Introduction

This section describes how to install SMS and e-mail Messaging. Install this software on all nodes in the 800xA System.

Installation

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Base Functionalities > SMS and e-mail Messaging

2. Follow the Installation Wizard to complete the installation.

Section 11 800xA for AC 800M

Introduction

This section describes how to install 800xA for AC 800M software. It covers:

- **AC 800M Connect:** Required on all nodes in a system using AC 800M controllers. Refer to AC 800M Connect on page 137.

ℹ️ AC 800M Connect must be installed on the Engineering Workplace in order to install Control Builder M.

- **Control Builder M:** Installed on all nodes requiring engineering functionality. Refer to Control Builder M on page 139.

- **OPC server for AC 800M:** Required on 800xA for AC 800M Connectivity Servers. Refer to OPC Server for AC 800M on page 139.

- **SoftController:** Enables simulating an application without a real controller. SoftController can also be used as a controller, though SoftController does not allow I/O connections. Refer to Base Software for Soft Control on page 141.

- HI Controller: Installs the AC 800M HI extension. Refer to AC 800M High Integrity on page 141.

AC 800M Connect

AC 800M Connect provides the connection/integration between 800xA for AC 800M and the 800xA System workplaces. Install AC 800M Connect on all 800xA System nodes, except separate Domain Server nodes. The installation of AC 800M Connect will also install the MMS Server for AC 800M, needed for data exchange with controllers. To install AC 800M Connect:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

**Manual Installation > Connectivities > 800xA for AC 800M >
800xA for AC 800M Connect**

2. Follow the Installation Wizard to complete the installation. Perform the
    following when the indicated dialog boxes appear:

    Read the text in each dialog box for important information concerning steps to be
    taken during installation. For normal use, the default settings are recommended.

    a. **Installation Type dialog box:**

    –   Select **Typical** and click **Next** to install the AC 800M Time Adaptor. Do
        not install the AC 800M Time Adaptor on 800xA for Advant Master
        Connectivity Server nodes (including PU410 or PU515).

    –   Select **Compact** to automatically disable the AC 800M Time Adaptor or
        choose **Custom** to manually disable the AC 800M Time Adaptor.

    –   If performing this procedure as part of an upgrade, and older versions of
        libraries are needed, then select the relevant features according to the
        following options:

        –Select **Custom** and enable **AC 800M Classic Libraries** to install prior
            library versions other than SB 2.1/2 libraries.

    If the AC 800M Time Adaptor is installed by mistake, and it needs to be removed:

    1. Select: **Start > Control Panel**.
    2. Select **Programs and Features**.
    3. Select: **AC 800M Connect > Change**.
    4. Select **Modify** and disable **Time Adaptor**.

    When **Modify** is selected, the check boxes indicate the selected features and not
    the installed features. Example: if the Time Adaptor has been uninstalled, the
    next time **Modify** is selected, the check box for the Time Adaptor will be enabled
    even if it is not installed. The default features that are enabled when selecting
    Modify are the same as when selecting **Typical** for a new installation.

3. To install Control Builder M, continue to Control Builder M. To install OPC
    Server for AC 800M, proceed to OPC Server for AC 800M on page 139. If
    SoftController is desired, proceed to Base Software for Soft Control on page
    141.

Control Builder M

Control Builder M is the tool for configuring AC 800M controllers and I/O, and control applications for the controllers. Install this software on all nodes requiring this functionality. The installation of Control Builder M will also install the MMS Server for AC 800M, needed for data exchange with controllers.

To install the Control Builder M software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    **Manual Installation > Engineering & Development >
    Control Builder M**

2. Follow the Installation Wizard to complete the installation.

Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the default settings are recommended.

3. If OPC Server for AC 800M is required, proceed to OPC Server for AC 800M. If SoftController is desired, proceed to Base Software for Soft Control on page 141.

OPC Server for AC 800M

OPC Server for AC 800M enables access to data and events in the controllers. Install this software on all AC 800M Connectivity Servers. The Connectivity Server may be single or in parallel operation, and the OPC Server for AC 800M will then also be single or parallel. The installation of OPC Server for AC 800M will also install the MMS Server for AC 800M, needed for data exchange with controllers.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    **Manual Installation > Connectivities > 800xA for AC 800M >
    OPC Server for AC 800M**

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog box appears:

💡 Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the default settings are recommended.

a. **Setup Wizard:** The Setup Wizard is automatically started with the Service Account options preselected. Use the dialog box shown in Figure 27 to specify that the OPC server use the Domain\800xA Service User account (as specified in System software user settings dialog box when the 800xA Base System was installed). Click **Apply** and then **Close** when finished.
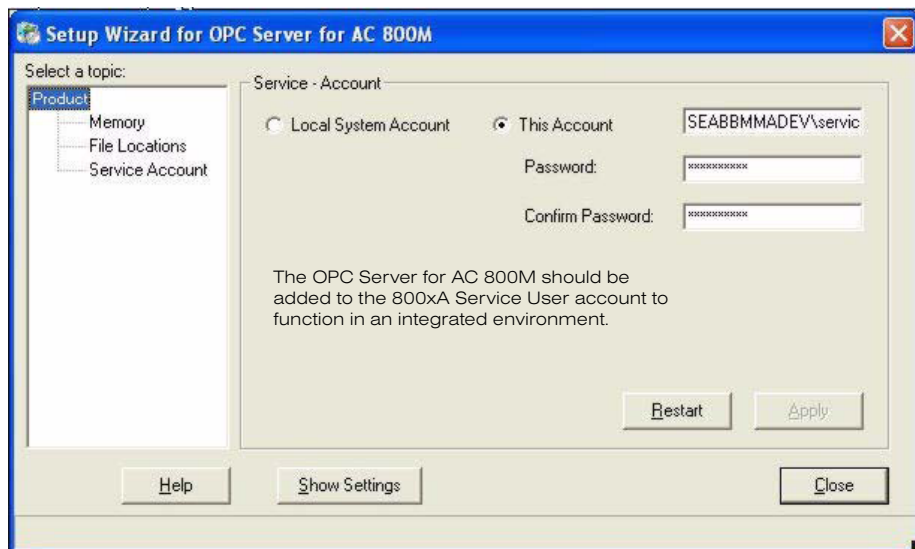
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Figure 27. Service Account Setup

3. If SoftController is desired, proceed to Base Software for Soft Control.

Base Software for Soft Control

SoftController enables simulating an application without a real controller. SoftController can also be used as a controller, though SoftController does not allow I/O connections. The installation of Base Software for SoftControl will also install the MMS Server for AC 800M, required for data exchange with controllers.

To install the Base Software for SoftControl:

ℹ SoftController requires a separate software license.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Engineering & Development > Soft Controller

2. Follow the Installation Wizard to complete the installation.

💡 Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the default settings are recommended.

AC 800M High Integrity

To install the AC 800M High Integrity extension:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Connectivities > 800xA for AC 800M > 800xA for AC 800M High Integrity

2. Follow the Installation Wizard to complete the installation.

Section 12 800xA for Advant Master and 800xA for Safeguard

Introduction

This section describes how to install 800xA for Advant Master and 800xA for Safeguard. Install these system extensions on all nodes in the 800xA System except separate Domain Controller nodes.

System Configuration

800xA for Advant Master uses a Real Time Accelerator (RTA) board with the Connectivity Server, either an external PU410 RTA Unit or a PU515A PCI-type board. The application specific software on the RTA board is automatically loaded when the 800xA for Advant Master software is started in the Connectivity Server.

If PU515A is used, it must be installed before installing the 800xA for Advant Master software. More information about PU410 and PU515A (how to configure the Network Interface required for PU410) can be found in Appendix I of *800xA for Advant Master Configuration (3BSE030340*)*.

The RTA configuration, dialogs, and status indications do not differ depending on the type of hardware used once the installation is complete. The term *RTA Board* in 800xA for Advant Master represents either a PU515A RTA Board or a PU410 RTA Unit.

When replacing a PU515A RTA Board with a PU410 RTA Unit, the PU515A must be removed before using Change program features.

Figure 28 shows an example of a control system with MB 300 Control Network.
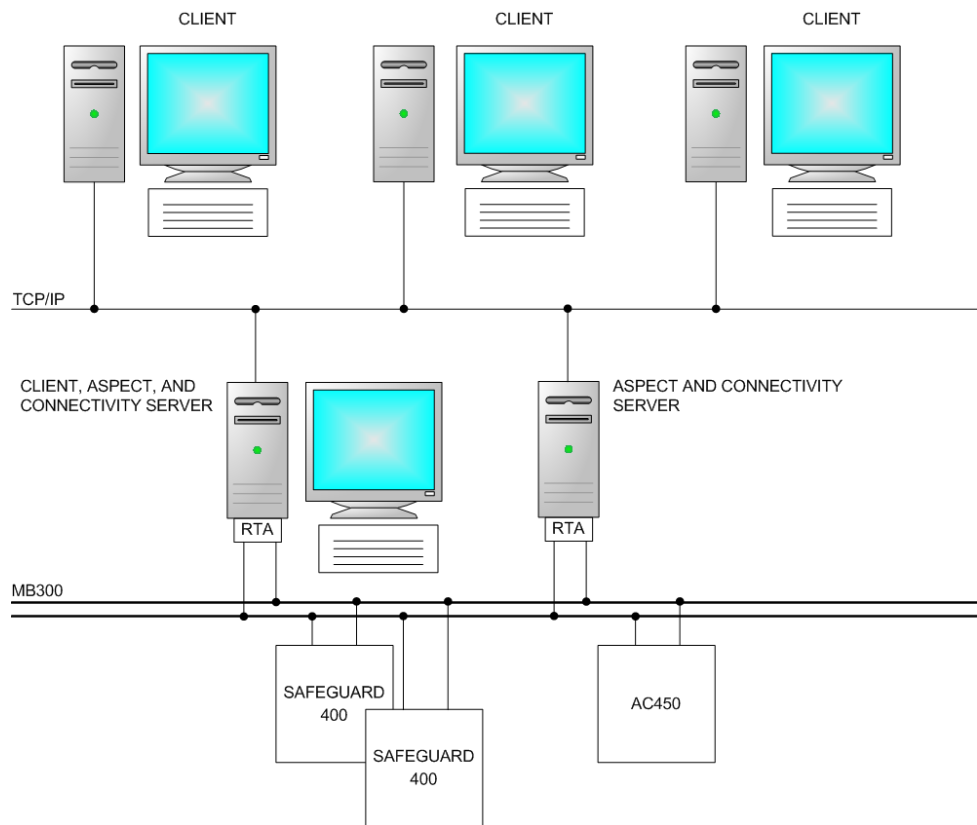
Figure 28. Control System with MB 300 Control Network Example

800xA for Advant Master Software Installation

To install the software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Connectivities > 800xA for Advant Master

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Enable the **800xA for Advant Master** check box.

    b. **Installation Already Running dialog box (Figure 29):** Click **OK** to continue.
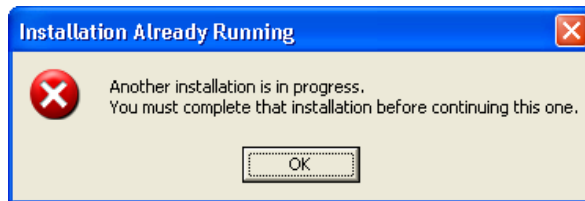
Figure 29. Installation Already Running Dialog Box (Click OK)

c. **Select Components dialog box:** Select which features to install (Figure 30). Use this dialog box to select the RTA Board Support.
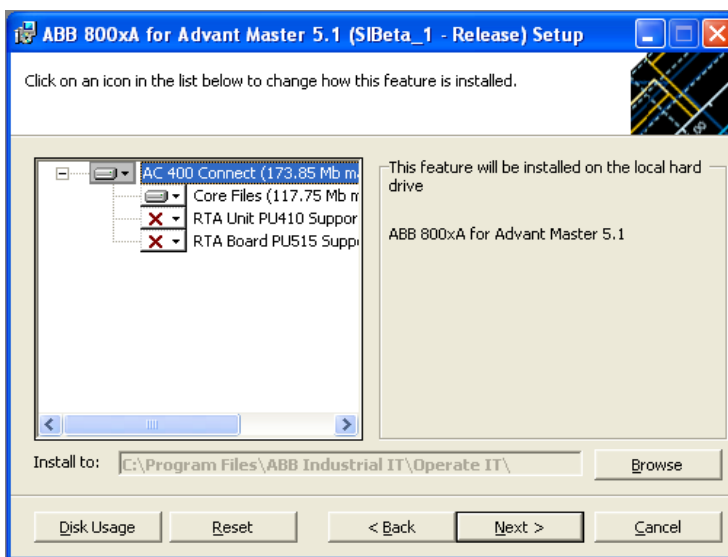
Figure 30. Select Components Dialog Box for 800xA for Advant Master

– If the node will be used as a Connectivity Server or a combined Aspect Server and Connectivity Server, select either RTA Unit PU410 Support or RTA Board PU515 Support, and click **Next**.

– If the node will be used as a Client or Aspect Server only, click **Next**.

d. **RTA Driver Install dialog box:** If the RTA Board PU515 Support is to be installed, the message shown in Figure 31 will appear.

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Figure 31. RTA Driver Install Message

e. **Windows Security dialog box:** The Windows Security dialog box shown in Figure 32 will appear once if PU515 was selected and twice if PU410 was selected. Click **Install this driver software anyway** to continue.
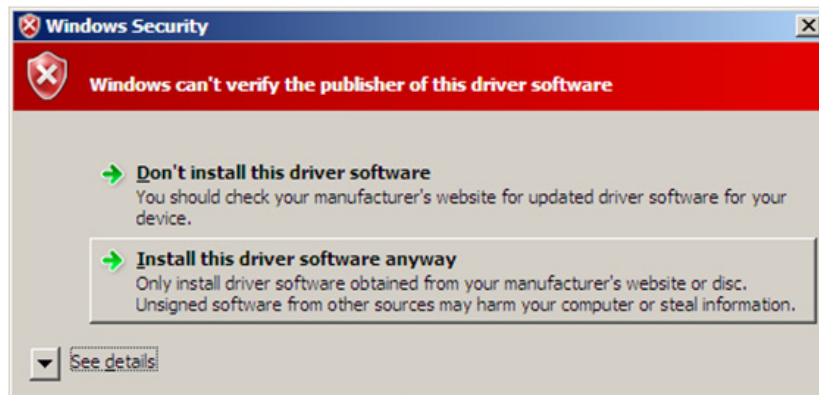
Figure 32. Windows Security Dialog Box

The driver installation will take a few minutes and create 40 driver instances and 40 WudfHost processes that will be visible in the Windows Task Manager if PU410 was selected.

f.   **Installation Successful dialog box:** Click **Finish** to proceed. When a dialog box appears after the Installation Successful dialog box, asking to restart the computer now, click **No**.

If 800xA for Advant Master is uninstalled an not reinstalled a messages will appear each time the VBPG Graphics Builder is opened.

3.   Proceed to 800xA for Safeguard Software Installation if Safeguard controllers are included in the system.

800xA for Safeguard Software Installation

To install the software:

1.   This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

Manual Installation > Connectivities > 800xA for SafeGuard

2.   Follow the Installation Wizard to complete the installation.

Section 13 800xA for Harmony

Introduction

This section describes how to install the 800xA for Harmony, Harmony Batch, and Advanced Harmony Control System Monitoring software.

Install the client component on all 800xA System nodes, except separate Domain Server nodes as a minimum for all 800xA for Harmony installations. All setup types include the client components.

If, during an update/upgrade, or if the Harmony Connectivity Server software has to be uninstalled for any reason, a reboot must be performed before reinstalling the software.

800xA for Harmony

Close all open applications before installing any 800xA for Harmony software.

To install the 800xA for Harmony software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Connectivities > 800xA for Harmony > Harmony Connect

2.   Follow the Installation Wizard until reaching the Setup Type Selection dialog box (Figure 33). Select the setup type based on the node type where the software is currently being installed.

⚠ Setup type 3 (`Connectivity Servers`) can not be installed until setup type 1 (`Configuration Server`) or setup type 2 (`Configuration Server w/ Connectivity Server`) is installed.

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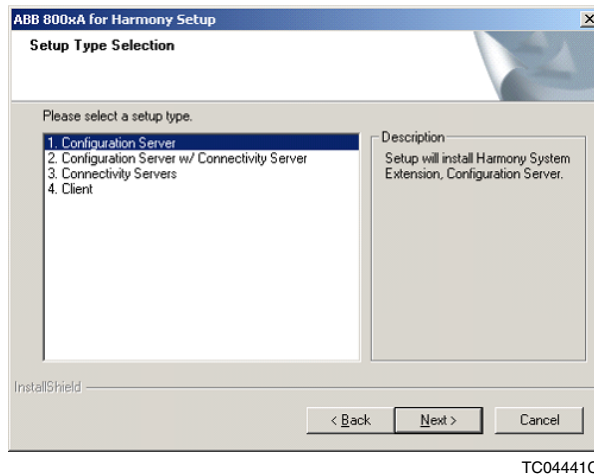
Figure 33. Setup Type Selection

3.   Click **Next** and proceed to the heading of the selected setup type:

   –   Configuration Server on page 150.
   –   Configuration Server with Connectivity Server on page 151.
   –   Connectivity Server on page 152.
   –   Client on page 153.

Configuration Server

Perform the following steps to install the Configuration Server software:

1.   When the Security Setup dialog box appears:

   a.   If this is a domain installation, enter the 800xA Service User name and password and click **Next**.

b. If this is a Windows Workgroup installation, enter *machine name***\800xA Service User** for the name.

2. Read the Important Installation Information dialog box when it appears. Click **Yes** to continue the installation or **No** to abort.

3. The Configuration Server Setup dialog box appears. Select the location for the Harmony SQL database disk partition and click **Next**.

4. Click **Finish** in the InstallShield Wizard Complete dialog box.

5. If needed, install Harmony Batch on page 153 and/or Advanced Harmony Control System Monitoring on page 154.

Configuration Server with Connectivity Server

Perform the following steps to install the Configuration Server with Connectivity Server software:

1. When the Security Setup dialog box appears:

    a. If this is a domain installation, enter the 800xA Service User name and password and click **Next**.

    b. If this is a Windows Workgroup installation, enter *machine name***\800xA Service User** for the name.

2. Read the Important Installation Information dialog box when it appears. Click **Yes** to continue the installation or **No** to abort.

3. The Configuration Server Setup dialog box appears. Select the location for the Harmony SQL database disk partition and click **Next**.

4. Set the ICI device name in the SemAPI dialog box.

> If the intention is to immediately update to 800xA 5.1 REV A, do not configure the ICI device for semAPI communication. The semAPI software is replaced with Harmony API (hAPI) software with the 800xA for Harmony 5.1 RU1 release. Follow the 800xA for Harmony 5.1 REV A Post Install steps to install and configure the Harmony API.

5. Select **Save**, **OK**, then **Quit** from the SemAPI dialog box.

6. Click **Finish** in the Setup Complete dialog box.

7. If needed, install Harmony Batch on page 153 and/or Advanced Harmony Control System Monitoring on page 154.

ℹ The PC, Network and Software Monitoring Server and Client installation type must be installed on all Harmony Configuration Server with Connectivity Server nodes (refer to Section 19, PC, Network and Software Monitoring).

Connectivity Server

Perform the following steps to install the Connectivity Server software:

1. The Select the Harmony Server Role dialog box will appear (Figure 34).

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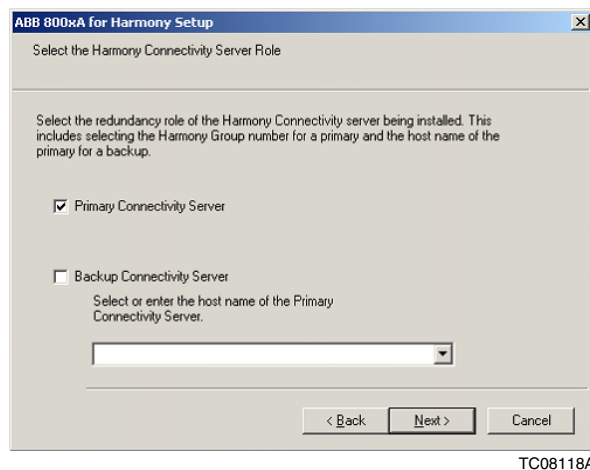
Figure 34. Connectivity Server Role

a. Select **Primary Connectivity Server** or **Backup Connectivity Server** depending on the role of the current node.

b. If **Backup Connectivity Server** is selected, select the host name of the Primary Connectivity Server from the drop-down list box and click **Next**.

2. When the Security Setup dialog box appears:

a. If this is a domain installation, enter the 800xA Service User name and password and click **Next**.

     b.   If this is a Windows Workgroup installation, enter *machine name***\800xA Service User** for the name.

3.   Select the name of the Configuration Server in the drop-down list box and click **Next**.

4.   Set the ICI device name in the SemAPI dialog box.

> **i** If the intention is to immediately update to 800xA 5.1 REV A, do not configure the ICI device for semAPI communication. The semAPI software is replaced with Harmony API (hAPI) software with the 800xA for Harmony 5.1 RU1 release. Follow the 800xA for Harmony 5.1 REV A Post Install steps to install and configure the Harmony API.

5.   Select **Save**, **OK**, then **Quit** from the SemAPI dialog box.

6.   Click **Finish** in the Setup Complete dialog box.

7.   If needed, install Harmony Batch on page 153 and/or Advanced Harmony Control System Monitoring on page 154.

> **i** The PC, Network and Software Monitoring Server and Client installation type must be installed on all Harmony Connectivity Server nodes (refer to Section 19, PC, Network and Software Monitoring).

Client

Perform the following steps to install the client software:

1.   Follow the Installation Wizard to complete the installation.

2.   If needed, install Harmony Batch on page 153 and/or Advanced Harmony Control System Monitoring on page 154.

Harmony Batch

Install Harmony Batch software on all nodes in the 800xA System, except separate Domain Server nodes.

> **(!)** Batch Management software must be installed on all nodes in the 800xA System, except separate Domain Server nodes in order to use Harmony Batch software. Refer to Section 26, Batch Management for more information.

To install the Harmony Batch software:

1.   This software is accessible from the Installation AUTORUN screen (refer to
     Installation AUTORUN on page 33) by selecting:

         **Manual Installation > Connectivities > 800xA for Harmony >
         Harmony Batch**

2.   Follow the Installation Wizard to complete the installation.

Advanced Harmony Control System Monitoring

Install Advanced Harmony Control System Monitoring software on nodes in the
800xA System that require this functionality.

⚠ Asset Optimization software must be installed as Advance Harmony Control
System Monitoring software in order to use Advanced Harmony Control System
Monitoring software. Refer to Section 18, Asset Optimization for more
information.

To install the Advanced Harmony Control System Monitoring software:

1.   This software is accessible from the Installation AUTORUN screen (refer to
     Installation AUTORUN on page 33) by selecting:

         **Manual Installation > Connectivities > 800xA for Harmony >
         Harmony CNAM**

2.   Follow the Installation Wizard to complete the installation.

Section 14 800xA for AC 870P/Melody

Introduction

This section describes how to install 800xA for AC 870P/Melody software (this product was referred to as 800xA for Melody prior to 800xA 5.1).

Install 800xA for AC 870P/Melody on all 800xA System nodes, except separate Domain Server nodes when using Melody controllers.

Install the Configuration Server component on the Configuration Server, the Connectivity Servers component on Connectivity Servers, and the client component on all other 800xA System nodes. Installation type selection is covered later in the installation procedure.

If, during an update/upgrade, or if the Melody Connectivity Server software has to be uninstalled for any reason, a reboot must be performed before reinstalling the software.

800xA for AC 870P/Melody

Close all open applications before installing 800xA for AC 870P/Melody software.

Refer to Figure 35 for an overview of the necessary installation sequence of the server and operator workstations.
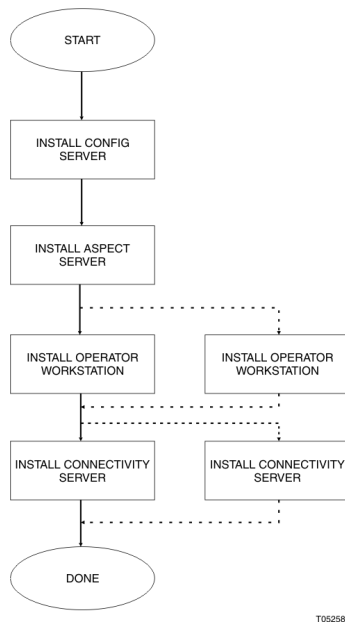
Figure 35. Installation Overview Flowchart

To begin the 800xA for AC 870P/Melody software installation:

1. This software is accessible from the Installation AUTORUN screen by selecting:

    Manual Installation > Connectivities > 800xA for AC 870P/Melody

2. Follow the Installation Wizard until reaching the Setup Type Selection dialog box.

3.   Use the Setup Type Selection dialog box, Figure 36, to select the correct setup type based on the node type where the 800xA for AC 870P/Melody software is currently being installed. Refer to Table 9 for guidelines.

Table 9. Setup Type Selections

Setup Type	Software Description
Configuration Server	For the Configuration Server. Refer to Configuration Server on page 157.
Client	For Aspect Servers, and other system nodes that are not a Melody Connectivity or Configuration Server. Refer to Client on page 158.
Connectivity Servers	For Melody Connectivity Servers. Refer to Connectivity Servers on page 158.
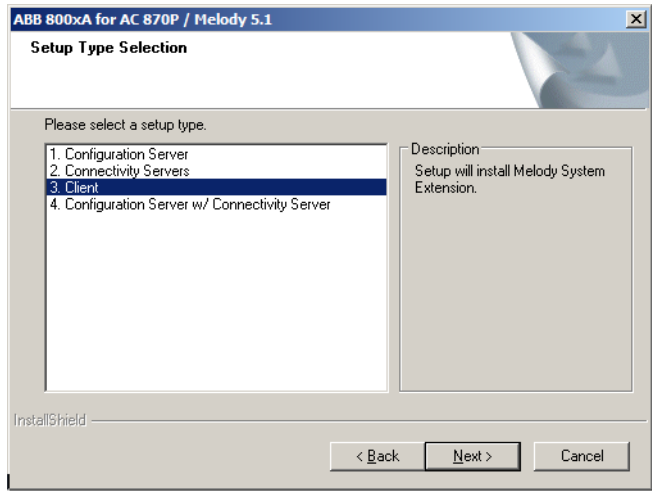
Figure 36. Setup Type Selection Dialog Box

Configuration Server

This installs the Melody Configuration Server (Table 9):

1.   Select the **Configuration Server** setup type and click **Next**.

2.   When the Security Setup dialog box appears, enter the 800xA Service User name and password and click **Next**.

In a Windows Workgroup, enter (computer name\800xA Service User) for the name.

3.   Select the SQL Database Disk Partition.

4.   Read the Important Information dialog box when it appears. Click **Yes** to continue the installation or **No** to abort.

5.   Click **Finish** when prompted that the 800xA for AC 870P/Melody software installation is complete.

6.   Continue with Configure Access Rights on page 159.

Refer to *800xA for AC 870P/Melody Configuration (3BDD011741*)* and finalize the configuration of the Melody ConfigServer before the installing the Melody Connectivity Server.

Client

This installs the Melody system extensions:

1.   Select the **Client** setup type and click **Next**.

2.   Click **Finish** when prompted that the 800xA for AC 870P/Melody software installation is complete.

Connectivity Servers

To install the Melody Connectivity Server:

1.   Select **Connectivity Servers** in the Setup Type dialog box and click **Next**.

2.   When the Security Setup dialog box appears, enter the 800xA Service User name and password and click **Next**.

In a Windows Workgroup, enter (computer name\800xA Service User) for the name.

3. Choose the **ConfigServer** location as shown in Figure 37, and click **Next**.
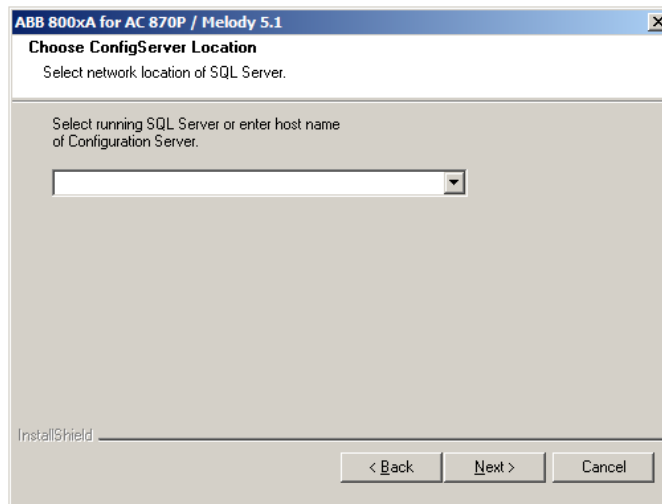
Figure 37. Selecting Configuration Server as SQL Server Location

4. Click **Finish** when the 800xA for AC 870P/Melody installation is complete.

The PC, Network and Software Monitoring Server and Client installation type must be installed on all Melody Connectivity Server nodes (refer to Section 18, Asset Optimization).

Configure Access Rights

All Industrial IT users require read access to the Configuration server and SQL Server databases for 800xA for AC 870P/Melody. To configure access rights for read access, perform the following steps on the 800xA for AC 870P/Melody Configuration Server. These steps can be repeated on each 800xA for AC 870P/Melody Connectivity Server after it receives a copy of the Configuration Server database (after the Melody Executive Service Provider is configured and started). *Refer to System 800xA Post Installation (3BUA000156*) for more information.*

The Melody Tag Importer requires write access to the Configuration Server database on the 800xA for AC 870P/Melody Configuration Server node. The following steps can be used in a similar way to configure an Industrial IT

administrator as db_datawriter for the Configuration Server database. Refer to *800xA for AC 870P/Melody Configuration* (3BDD011741*) for more information.

1. Select:

    Start > (All) Programs > Microsoft SQL Server 2008 > SQL Server Management Studio

2. Connect to current node\MELODY_INSTANCE.

3. Expand the listing to view the `Security\Logins` in the Microsoft SQL Server Management Studio dialog box (Figure 38).
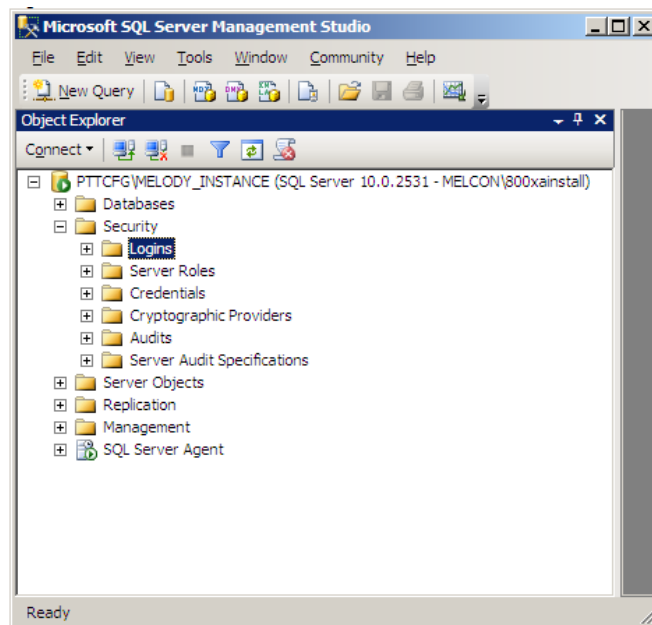
Figure 38. Microsoft SQL Server Management Studio Dialog Box

4. Select `Logins` and right-click to select **New Login** from the context menu.

5. Add the Industrial IT user group as the login name in the General page.

6. On the User Mapping page, select the **db_datareader** check box for the
    `ConfigServer` and `model` databases (Figure 39).
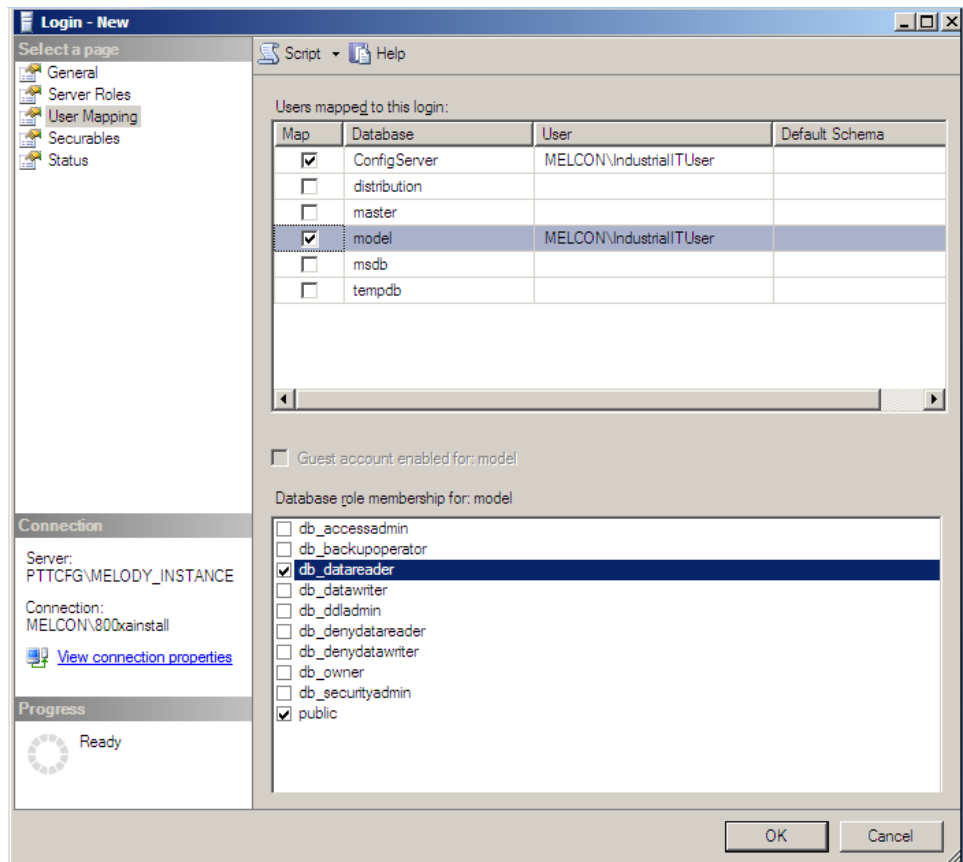
*Figure 39. Selecting **db_datareader** for the ConfigServer and Model Databases*

7. Click **OK**.

Section 15 800xA for MOD 300

Introduction

This section describes how to install the 800xA for MOD 300 software on an 800xA System. 800xA for MOD 300 provides integration of the 800xA System and the Advant OCS/MOD 300 control network (DCN or eDCN).

After completing all procedures in this instruction manual, and if the system will contain 800xA for MOD 300 functionality, MOD 300 Connectivity Servers, Clients, and the associated Domain Controller all need to be set up to handle getting time from the MOD 300 system through the Real-Time Accelerator (RTA) on the Connectivity Servers. Refer to the System Level Tasks and 800xA for MOD 300 sections in *System 800xA Post Installation (3BUA000156*)*.

Prerequisites and Requirements

The following prerequisites and requirements are necessary to support the 800xA for MOD 300 software.

MOD 300 System Requirements

The Advant OCS System must be at Version 14.6/x for proper connectivity and operation with 800xA for MOD 300.

One node with AdvaBuild 3.3/2 P2 or later for Windows is required by the MOD Importer application to populate the Aspect Server with MOD 300 tag data.

Software Requirements

MOD 300 Client software can be loaded on top of application software packages such as Information Management.

Table 10 summarizes the required software and the nodes to install the software on.

Table 10. Software Requirements by Node Type

Software	Client	Connectivity Server	Aspect Server
800xA - 800xA Base System 5.1	X	X	X
ABB PAS System Services		X	
800xA for MOD 300	X	X	X

> 🛈 800xA for MOD 300 can coexist in a system with 800xA for AC 800M; however, the 800xA for MOD 300 Connectivity Servers and 800xA for AC 800M Connectivity Servers can not be combined in the same node.

> 🛈 800xA for MOD 300 can coexist in a system with 800xA for Harmony; however, the 800xA for MOD 300 Connectivity Servers and 800xA for Harmony Connectivity Servers can not be combined in the same node.

RTA Requirements

The Real-Time Accelerator (RTA) is required to connect the MOD 300 Connectivity Server to the Advant OCS Control Network (MOD 300 DCN/eDCN). Install the internal RTA board or external RTA unit before installing the ABB PAS System Services software. Refer to Real-Time Accelerator Board Installation on page 165 or Real-Time Accelerator Unit Installation on page 166.

> 💡 More detailed information about the Real-Time Accelerator Unit installation can be found in *Industrial IT, System 800xA for MOD 300 - RTA Unit PU410 and PU412 User's Guide, Technical Data and Installation Information (3BUA001442*).*

Installation Procedure

The following installations are supported by the 800xA for MOD 300 installation wizard.

- 800xA for MOD 300 Connectivity Server with 800xA for MOD 300 Client/Server.

- Any other 800xA System node type with the 800xA for MOD 300 Client.

Follow this general procedure to load the 800xA for MOD 300 software.

1. Install the RTA board on the 800xA for MOD 300 Connectivity Server or connect the RTA unit to access the Advant OCS Control Network (MOD 300 DCN). The RTA can provide time from the MOD 300 system. Setting up time synchronization is a post installation activity. Refer to *System 800xA Post Installation (3BUA000156*)*.

   If the RTA Board is the method of communication hardware used, refer to Real-Time Accelerator Board Installation on page 165. If the RTA unit is the method of communication hardware used, refer to Real-Time Accelerator Unit Installation on page 166.

2. Insert the installation media and install the 800xA for MOD 300 software using the installation wizard. Refer to 800xA for MOD 300 Installation Wizard on page 167.

   ABB PAS System Services is installed on the 800xA for MOD 300 Connectivity Server with 800xA for MOD 300 Client/Server node. Refer to ABB PAS System Services on page 168.

3. Complete the post installation activities. Refer to *System 800xA Post Installation (3BUA000156*)*.

Real-Time Accelerator Board Installation

This topic is only required if installing an internal PCI RTA board on an 800xA for MOD 300 Connectivity Server with 800xA for MOD 300 Client/Server node. Refer to the applicable computer documentation to determine the physical, electrical, and environmental requirements for the computer.

The PU514 or PU515 PCI RTA boards require a 5V PCI slot. Do not put the PU514 or PU515 RTA board in a PCI slot that uses the PCI-X133 standard. Also, do not use the USB capable PU518 or PU519.

The latest PU514A or PU515A PCI RTA boards use a PCI-X133 slot and are backward compatible to earlier PCI slot specifications. These cards can not be used in PCI-X266 or higher, or in PCI Express slots. PU514A and PU515A RTA boards replace PU514 and PU515 RTA boards respectively.

To install the PCI RTA board:

1.   Disconnect the computer power cord from the power line.

Remove the computer power cord from the power line before removing the cover. There are unisolated and potentially fatal power line voltages present under the cover.

2.   Remove the computer cover. Refer to the computer hardware manual for details.

Wear a properly grounded antistatic wrist strap and handle the PCI RTA board with care. Static discharges may damage the PCI RTA board when it is removed from the antistatic bag. Do not touch connectors with bare hands.

3.   Unpack the PCI RTA board.

4.   Detach the plastic handle from the PCI RTA board, if required.

5.   Remove the cover plate of any PCI slot and mount the PCI RTA board in the slot.

6.   Install the computer cover. Refer to the computer hardware manual for details.

7.   Connect the computer power cord into the power line.

8.   Turn on the computer.

Windows will detect the PCI RTA board as new hardware will attempt to configure it. Cancel any attempts by Windows to configure the PCI RTA board. The ABB PAS System Services software install will configure the PCI RTA board (refer to ABB PAS System Services on page 168).

Real-Time Accelerator Unit Installation

This topic is only required if installing an external RTA unit to be connected to an 800xA for MOD 300 Connectivity Server with 800xA for MOD 300 Client/Server node. If upgrading a node that previously had an RTA board, it is required that the RTA board be removed prior to the installation of the PAS System Services software.

It is required to remove the existing PCI RTA board prior to installing the PAS System Services (refer to ABB PAS System Services on page 168). If a PCI RTA board exists, PAS will detect that board as the hardware interface and will install the PU511 drivers rather than the PU410 drivers needed for the RTA unit.

More detailed information about the Real-Time Accelerator Unit installation can be found in *Industrial IT, System 800xA for MOD 300 - RTA Unit PU410 and PU412 User's Guide, Technical Data and Installation Information (3BUA001442R0001)*.

1. Unpack the RTA unit.

2. Install the RTA unit as a floor mount, desktop mount, or using the brackets for rack mount.

Place the communication unit so that the connectors and the reset button are within reach if using the brackets for rack mounting.

3. The RTA unit has two ports called PC 1 and PC 2 for connection to the Connectivity Server. The default IP addresses of the RTA unit are as follows:

   – PC 1 port = 172.16.168.50
   – PC 2 port = 172.17.168.50

4. The recommended IP addresses for the NIC cards in the Connectivity Server are:

   172.16.168.1 with subnet mask 255.255.252.0 and 172.17.168.1 with subnet mask 255.255.252.0.

   The default IP address of the RTA unit and identical IP address of the NIC can be used in multiple Connectivity Servers as:

   172.16.168.x and 172.17.168.x which are *local* IP addresses.

The status of the redundant connection can be viewed in the RNRP network event monitor.

5. The RTA unit communicates at 100 Mbit/sec on the PC 1 and PC 2 ports. It is recommended to configure the network interface card in the 800xA for MOD 300 Connectivity Server to 100 Mbit/sec full duplex.

800xA for MOD 300 Installation Wizard

To install the software:

1. This software is accessible from the Installation AUTORUN screen by selecting:

   Manual Installation > Connectivities > 800xA for MOD 300

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Select the following as appropriate:

    –   For MOD 300 Connectivity Servers with 800xA for MOD 300 Client/Server nodes select: **ABB PAS - System Services** and **ABB MOD300 Connect**.

    –   For all other nodes select: **ABB MOD300 Connect**.

3. Refer to ABB PAS System Services for MOD 300 Connectivity Server with 800xA for MOD 300 Client/Server installations.

4. Refer to 800xA for MOD 300 Software (MOD 300 Connect) for all installations.

ABB PAS System Services

1. The InstallShield Wizard for ABB PAS System Services dialog box appears, as shown in Figure 40.

2. Select **MOD 300 Connection** as the installation type and then click **Install Now**. This installs the MOD 300 Software and Drivers required for MOD 300.

3. The Installing ABB System Services dialog box appears. During the installation, the RTA device driver is installed. Wait for the installation status screen to complete.
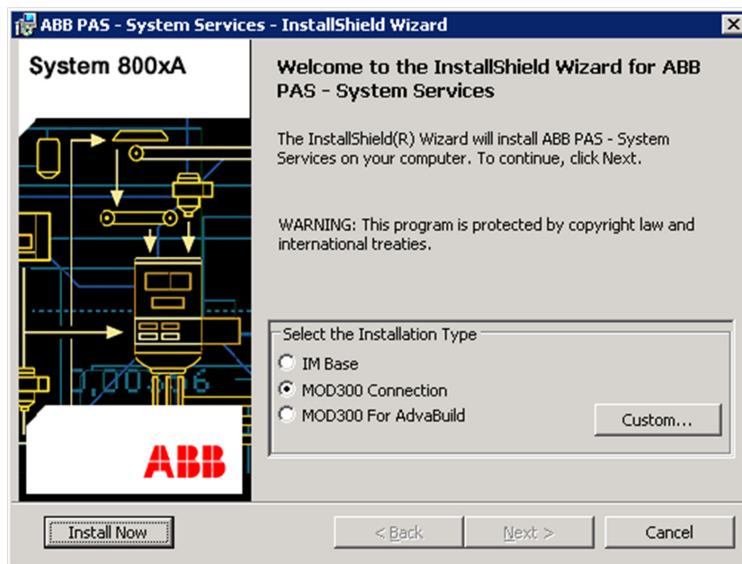
Figure 40. Welcome Dialog Box for ABB PAS System Services

a. **Windows Security dialog box:** The Windows Security dialog box shown in Figure 41 will appear once if PU515 was selected and twice if PU410 was selected. Click **Install this driver software anyway** to continue.

Figure 41. Windows Security Dialog Box

ℹ The driver installation will take a few minutes and create 40 driver instances and 40 WudfHost processes that will be visible in the Windows Task Manager if the external PU410/PU412 is being used.

b. Select **NO** If the `System Settings Change` restart message appears. This usually happens because of an uninstall/reinstall of ABB PAS System Services. The reboot will be necessary later.

c. Select **Continue Anyway** if the Hardware Installation dialog with the following message appears. This message may only appear if the installation includes the PU515 (internal RTA board).

    ```
    The software you are installing for this hardware: RTA
    Board PU510/PU511 has not passed Windows Logo testing
    to verify its compatibility with Windows 2008.
    ```

4. The InstallShield Wizard Complete dialog box appears. Click **Finish** to complete the installation.

    This opens an information dialog box asking if you want to restart. Select **No** (Do NOT restart at this time). A restart for configuration changes made by the ABB PAS System Services software will be made later.

ℹ If you select **Yes** to restart, then you will have to run the MOD 300 Installation Wizard again and install MOD 300.

    The windows installer now prepares for the 800xA for MOD 300 install.

800xA for MOD 300 Software (MOD 300 Connect)

The 800xA for MOD 300 installation adds the support files required for importing and using the MOD 300 interface. Some post installation activities are also required.

1.   The ABB MOD300 Connect Setup dialog box appears. The installer
     determines the correct installation type, as shown in Figure 42.
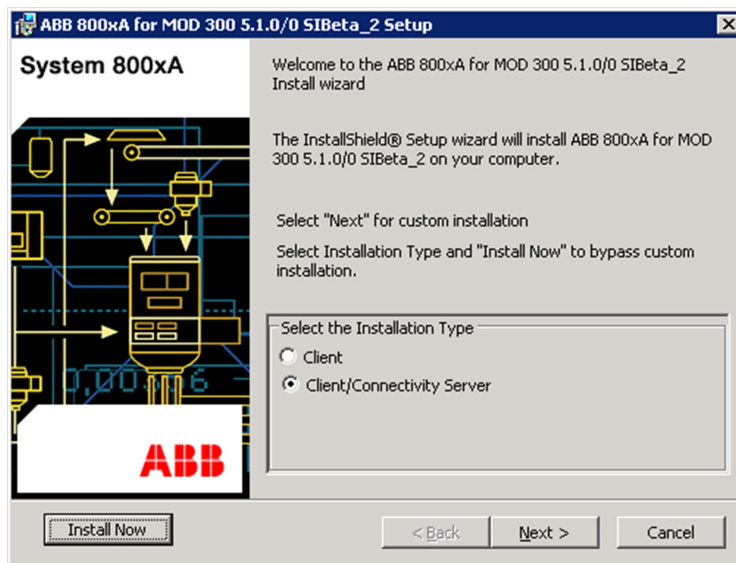
Figure 42. MOD 300 Setup Dialog Box

2.   If the preselected installation type is correct (Client or Client/Connectivity
     Server), select **Install Now**. Client is preselected for all node types except when
     ABB PAS System Services is present and then the MOD 300 Client/Server
     install is used.

> Do not select the Client/Connectivity Server option if installing on a client node.
> This will install server components that are not needed.

3.   To change the default destination folder, perform the following steps.
     Otherwise, skip to Step 4.

     a.   Alternately, select **Next** to continue past the welcome window (ABB
          MOD 300 Setup).

     b.   Read the license agreement. Select *I accept the terms in the license
          agreement* and select **Next** to continue. Selecting the *I do not accept*
          option will not allow you to select **Next**.

     c.   Select **Next** to use the default destination folder or use the **Change ...**
          button to use another folder location. The default file path is:

```
C:\Program Files\ABB Industrial IT
```

   d.   Select the type of node 800xA for MOD 300 is being installed on and then select **Next**. The install process begins.

4.   The MOD 300 Server Security Setup dialog box appears. Enter the domain\user name and password of the 800xA Service User when requested, as shown in Figure 43 (password is case sensitive) and Select OK. Some registering occurs before the next step.
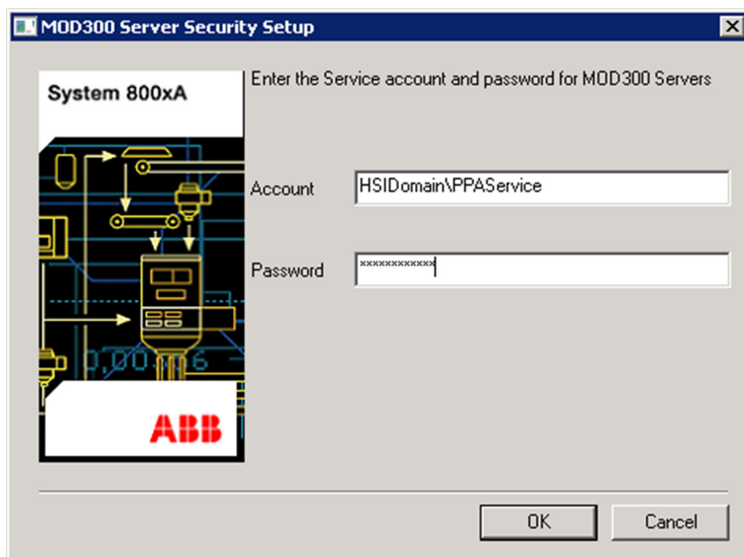
Figure 43. Security Login

5.   Select **Finish** to close the Setup program.

6.   Select: **Start > Run** to open the **Run** dialog box.

7.   Enter **pasPwdAdmin.exe** in the Run dialog box and click **OK** to open the Set PAS Service Account dialog box.

8.   Enter the service account, password (and confirm the password) and click **OK** to close the dialog box.

9.   Select **Yes** to Restart Windows for Connectivity Servers. This is required so that configuration changes take effect.

Section 16 PLC Connect

Introduction

This section describes how to install the PLC Connect software.

Installation

Install PLC Connect on all nodes in an 800xA System, except separate Domain Server nodes.

1. Log on with Administrator privileges on a node with the 800xA System installed.

2. Exit all Windows programs.

3. This software is accessible from the Installation AUTORUN screen by selecting:

    Manual Installation > Connectivities > PLC Connect

4. Follow the Installation Wizard. Perform the following when the indicated dialog boxes appear:

    a. **Setup Type dialog box:** Select either:

    – **Typical**. Typical installation with no options installed. Follow the Wizard to complete the installation.

    – **Custom**. Allows available options to be selected for installation. Continue with Step b.

b.   **Custom Setup dialog box:** Specify which features to install. Make sure to specify that the features are to be installed on the local hard drive. Available features are:

–   **PLC Connect Basics:** Follow the Wizard to complete the installation.

–   **IEC60870:** This requires a separate license. Continue with Step c.

–   **Basic Process Objects:** Obsolete Basic Process Objects - Not supported. Do not select this feature.

Click **Help** for information on how to specify the features, **Space** for information on current disk space, or **Change** to change the installation path.

c.   **IEC 60870 Licensing dialog box:** Enter the License ID for the IEC driver option, or the order number and then follow the Wizard to complete the installation.

Section 17 IEC 61850 Connect

Introduction

This section describes how to install the IEC 61850 Connect software, which consists of:

- **IEC 61850 OPC Server:** IEC 61850 OPC Data Access (DA) and Alarm and Event (AE) Server, and the Communication Engineering Tool (CET) used to configure the OPC Server.

- **ABB IEC 61850 Connect:** 800xA Object Types compliant to the IEC 61850 Standard, Alarm and Event Configuration, and the IEC 61850 Uploader aspect.

- **Substation Configuration Language (SCL) Components Setup:** A set of libraries used to parse the Substation Configuration Description (SCD) file.

Installation

To install IEC 61850 Connect:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Connectivities > 800xA for IEC61850

2.   Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

   a.   **Welcome to the IEC 61850 Connect Installation Wizard dialog box:**

   –   **IEC 61850 Connectivity Server nodes:** Enable the **SCL Components Setup**, **ABB IEC 61850 Connect**, and **IEC 61850 OPC Server** check boxes.

   –   **Every other node in the 800xA System (except separate Domain Server nodes:** Enable the **SCL Components Setup** and **ABB IEC 61850 Connect** check boxes.

   b.   **Confirm Selection dialog box:** Verify that the desired components are selected before clicking **Next**. One the selection is made, it is not possible to go back and change the selections.

   For IEC 61850 Connect, ensure the **Suppress Reboot** checkbox is cleared (Default Setting).

3.   Depending on the selections made in Step 2, proceed to one of the following in the order listed:

   –   IEC 61850 OPC Server on page 176.
   –   ABB IEC 61850 Connect on page 177.
   –   SCL Components Setup on page 178.

IEC 61850 OPC Server

To install IEC 61850 OPC Server (if selected):

1.   Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

   a.   **Account Information dialog box**: `800xAService` appears by default in the User Name text box. If the 800xA Service User name defined in 800xA Service User on page 83 is not 800xAService, type the 800xA Service User name in manually.

   To browse for the 800xA Service User, click **Browse** in the Account Information dialog box and then use the Browse for User, Select Domain or Server, and Select a User dialog boxes.

b. **Select the Desired Installation Type dialog box: Typical** is the default and recommended selection.

c. **ABB IEC 61850 OPC Server has been successfully installed dialog box:** Click **Finish** to complete the OPC Server installation. This will automatically launch the SQL Server 2008 installation. Wait until the installation completes.

> If the ABB IEC 61850 OPC Server installation is manually aborted, make sure to abort the installation of SQL Server 2008.

2. Proceed to ABB IEC 61850 Connect.

ABB IEC 61850 Connect

There are two conditions for starting the ABB IEC 61850 Connect installation:

*   If the IEC 61850 OPC Server installation was selected, the Welcome to ABB IEC 61850 Connect dialog box appears automatically after completion of IEC 61850 OPC Server installation and, if installed, the MSDE installation.

*   If the IEC 61850 OPC Server was not selected, the Welcome to ABB IEC 61850 Connect dialog box appears after clicking **Install** in the Welcome to the IEC 61850 Connect Installation Wizard dialog box (Step 2 under Installation).

To install ABB IEC 61850 Connect:

1. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Select Features dialog box (Figure 44):** Retain the default root feature selection. Retain the default path in the Install to text box (recommended), or click **Browse** and select the desired install folder.

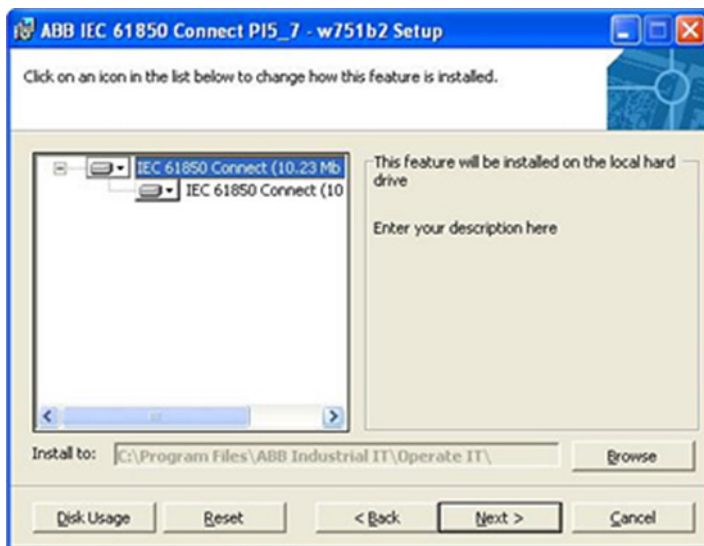2. Proceed to SCL Components Setup.

Figure 44. Select Features Dialog Box (Retain Default Root Features)

SCL Components Setup

The SCL Components Setup installation begins automatically after completion of ABB IEC 61850 Connect installation.

Follow the Installation Wizard to complete the installation.

Section 18 Asset Optimization

Introduction

This section provides procedures for installing Asset Optimization software.

Asset Optimization Installation

This procedure describes installation of Asset Optimization software.

The system extensions are loaded only one time on the Aspect Server node using the Configuration Wizard. Refer to *System 800xA Post Installation (3BUA000156*)* to load the system extensions.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Asset Optimization > Asset Optimization

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

   a. **Setup Type dialog box:** Make the selection based on the following:

   – Select **Server** to install AO Server components on all Asset Optimization Server nodes.

   – Select **Client** to install Asset Optimization files on all nodes in the 800xA System other than Asset Optimization Server nodes.

Defining the System Environment for CMMS Integration

Perform this procedure only if you are using CMMS (Maximo and SAP/PM) Integration functionality.

Network Topology

Record the following information for use during installation and/or configuration:

- Gather Maximo or SAP Server information including:

  – Maximo or SAP Server node hostname/address.
  – Connection user name and password.

- Identify network security devices (For example: firewalls) that may isolate the Maximo or SAP Server node or ECS node from the node that will serve as the AoWebServerNode. If present, these devices need to support the network protocol used by the Maximo or SAP Integration system extension.

System Security

Record the following information for use during installation and/or configuration:

- Define a set of Windows users that are granted access to the Industrial IT system product and its Maximo or SAP Integration system extension aspects.

- Define a corresponding set of user accounts in the Maximo or SAP Server node with the appropriate privileges: e.g. some users may only view active work orders while others are authorized to submit new ones.

- Define the Industrial IT user to Maximo or SAP user mapping. This mapping is implemented by adding one Maximo or SAP Credentials aspect in the Industrial IT User object (refer to *System 800xA Asset Optimization Configuration (3BUA000118*)*).

Accessing Maximo Server Version 6.2 and SAP Server Version 4.7

cpmPlus Enterprise Connectivity Version 4.0 (ECS 4.0) must be installed in order to access Maximo Server Version 6.2 and SAP Server Version 4.7.

> ECS 4.0 is only required if using CMMS Integration.

> Install the Execution Service, Process Definition Tool, and Documentation features. Do not install Clients and 800xA Connectivity features.

> **i** Enable IIS6 Metabase Compatibility in order to install ECS 4.0 - Web Service Access

1. Verify that the procedure for IIS 6.0 Management Compatibility Components was performed on the node that will serve as the AO Main Server node (refer to Windows Server 2008 on page 57 under Internet Information Services.

2. Perform the following procedure to install ECS 4.0 on the node that will serve as the AO Main Server node:

    a. Double-click `ABB cpmPlus Enterprise Connectivity (ECS) 4.0.exe`. Refer to *cpmPlus Enterprise Connectivity 40 Installation and Maintenance (3BSE045766)* for detailed information.

    b. Install the ECS 4.0 - Web Service. ECS 4.0 Web Service is located in the following directory:

       `ECS4.0\WebService`

    c. Double-click `ABB cpmPlus Enterprise Connectivity (ECS) 4.0 - Web Service Access.exe`.

> **i** Verify that `ABB cpmPlus Enterprise Connectivity (ECS) 4.0.exe` is installed before proceeding with the web service installation. Install the web service on the same node where ECS version 4.0 is installed (the AO Main Server node).

    d. Follow the Installation Wizard to complete the installation. Accept all defaults while installing the software.

> **i** Ensure that the ABB cpmplus Enterprise Connectivity services is started after restarting the node.

Feature Pack Functionality _____

Accessing Maximo Server and SAP Server

cpmPlus Enterprise Connectivity Version 4.2 (ECS 4.2) must be installed in order to access Maximo Server and SAP Server. ECS can be installed on a separate network

node designated as a ECS Server or can be combined with 800xA Asset Optimization Server Node.

ℹ The ABB cpmPlus Enterprise Connectivity Software is available in the DVD 1 in the following location: `<Drive>\3rd_Party_SW\ABB\ECS`

Perform the following steps to install ECS 4.2:

1. Double-click ABB cpmPlus Enterprise Connectivity (ECS) 4.02.0000.exe. Refer to *cpmPlus Enterprise Connectivity 4.2 Installation and Maintenance (3BSE065556*)* for detailed information.

2. Select the following features from the **Setup Settings** dialog box in the installation wizard:
    – Documentation.
    – ECS Core.
    – ECS Process Definition Tool.
    – External System Integration.
    – ECS Client.

ℹ Do not install 800xA Connectivity, and Operations Management Functionality features.

3. Follow the Installation Wizard to complete the installation. Accept all defaults while installing the software.

Section 19 PC, Network and Software Monitoring

Introduction

This section provides procedures for installing PC, Network and Software Monitoring, which includes Basic Computer Monitoring. It also includes installation procedures for the Network Monitor.

ℹ️ SNMP Services must be enabled on server nodes before installing the PC, Network and Software Monitoring Server software. Refer to Enable SNMP Service on page 60.

ℹ️ Do not halt the installation process part way through a step; however, it is possible to halt the installation process between steps.

ℹ️ The PC, Network and Software Monitoring Server and Client installation type must be installed on all Harmony and Melody Connectivity Server nodes, and Harmony Configuration Server with Connectivity Server nodes.

PC, Network and Software Monitoring Software

There are two possible installation scenarios for PC, Network and Software Monitoring (PNSM):

• **800xA Systems running only PNSM Basic Computer Monitoring:** It is recommended that the PNSM Server (the **Server and Client** selection during installation) be installed on a Connectivity Server node. It does not have to be on its own Connectivity Server node but it simplifies future upgrade procedures if it is installed on a node other than the Aspect Server node. The footprint of Basic Computer Monitoring is small and should not affect the other software running on the Connectivity Server.

- **800xA Systems with additional PNSM assets besides those used for Basic Computer Monitoring:** Always install PNSM on its own Connectivity Server node per the PNSM installation recommendations.

The PC, Network and Software Monitoring software should be installed on each 800xA node in the system.

When PC, Network and Software Monitoring is installed, an additional component is provided:

- Network Monitoring.

This can also be installed independently of PC, Network and Software Monitoring (refer to Network Monitor Installation on page 186).

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

      Manual Installation > Asset Optimization > PC, Network and Software Monitoring

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. **Welcome dialog box:** Enable the **PC, Network and Software Monitoring** check box.

3. **Select an Installation Type dialog box:** Refer to Table 11.

Table 11. PC, Network and Software Monitoring Setup Types

Setup Type	Software Description
Server and Client	Installs PC, Network and Software Monitoring Server, aspects, system extension components, and Network Monitor on PC, Network and Software Monitoring Server, 800xA for Harmony Connectivity Server/Configuration Server with Connectivity Server, and/or single engineering nodes. The single engineering node type includes the PC, Network and Software Monitoring Server and Client. Refer to Server and Client Installation on page 185.
Client	Client node - Install on all nodes except where a Server and Client installation has been performed. Refer to Client Installation on page 185.

Server and Client Installation

1. Select **Server and Client** in the **Select an Installation Type dialog box**.

ℹ️ During installation, a dialog box may occasionally appear to blink as multiple command windows are opened and closed. This is normal behavior. Do not manually close any command windows or the installation could be interrupted.

   a. **Set OPC Server User Account dialog box:** Enter the 800xA Service User user name and password. Prefix the user name with the domain name (domain\user) if specifying an account on a domain.

2. Restart the node.

3. Proceed to the Client Installation to use the Client Installation on other node types.

Client Installation

1. Select **Client** in the **Select an Installation Type dialog box**.

2. Follow the Wizard to complete the installation.

3. Restart the node.

4. Proceed to Network Monitor Installation on page 186 to install the Network Monitor. The Network Monitor can be installed independently onto a node other than one on which the PC, Network and Software Monitoring Server and Client install was performed.

Upgrading a PNSM Client Installation to a PNSM Server Installation

It is possible to upgrade a PNSM Client installation to a PNSM Server installation using Programs and Features.

ℹ️ SNMP services must be enabled before installing the PNSM Server software on a server node. Refer to Enable SNMP Service on page 60.

1. Open Programs and Features from Windows Control Panel.

2. Select `ABB PC, Network and Software Monitoring`.

3. Click **Change**.

4. Select the **Change program features** option and click **Next**.

---

5.   Select the **Server** option and the PNSM Server software will be installed on the local hard drive.

6.   Select the Dependencies option and Dependencies will be installed on the local hard drive.

7.   Click **Next**.

8.   Click **Update Now**.

Network Monitor Installation

The Network Monitor can be installed independently onto a node other than one on which the PC, Network and Software Monitoring Server and Client install was performed.

Refer to *System 800xA Site Planning (3BUA000285*)* for planning and preparation considerations to be taken into account before installing the network monitor. The purpose of those considerations is to ensure that all network traffic to be monitored goes past the nodes that are doing the monitoring.

There are no new menu items created by this install. There is only a new process running on the workstation or server.

1.   Insert 800xA System Installation DVD 1 into the DVD drive.

2.   Use Windows Explorer to locate `Setup.exe` in the following directory:

        Asset Optimization\PC, Network and Software
        Monitoring\Network Monitor

3.   Double-click `Setup.exe` to begin the installation.

4.   Follow the Wizard to complete the installation.

Section 20 Device Library Wizard

Introduction

For easy integration of fieldbus devices into the 800xA environment, ABB provides a continuously increasing set of pre-integrated device types for FOUNDATION Fieldbus, HART, and PROFIBUS protocol.

The Device Library Wizard is a tool that is used for adding these separately delivered device types to the device libraries of an 800xA System.

The Device Library Wizard can be used only in connection with Device Management FOUNDATION Fieldbus (refer to Section 21, Device Management FOUNDATION Fieldbus) and/or Device Management PROFIBUS & HART (refer to Section 23, Device Management PROFIBUS & HART).

It contains the following components:

- **Device Library Wizard - Client:** offers the graphical user interface to install, extend, or restore device types in the 800xA System.

- **Device Library Wizard - Server:** implements a Windows service on the Aspect Server node required by the Device Library Wizard - Client component.

Installation

The Device Library Wizard consists of a Server and a Client component available in the Welcome dialog box. By default the Client component, which must be installed on all 800xA System nodes, is selected. The Server component must be selected and installed only on all Aspect Server nodes (including redundant Aspect Server nodes).

Install the software on all Aspect Server nodes first and then on the other 800xA System nodes. Close all programs before starting the installation.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Device Management > Device Library Wizard

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

    a. In the Welcome dialog box, the **ABB Device Library Wizard Client** check box is enabled by default.

    –   Leave the **Install Device Library Wizard - Client** check box enabled on all 800xA System nodes.

    –   **Enable the Install Device Library Wizard - Server** check box on all Aspect Server nodes (including redundant Aspect Server nodes).

    Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the suggested default settings are recommended.

3. When the installation is finished, a green check mark for each component appears in the Welcome dialog box. The check mark indicates that the component has been processed.

Section 21 Device Management FOUNDATION Fieldbus

Introduction

Use the Device Library Wizard to add separately delivered Device Types into the 800xA System. Refer to *System 800xA Device Management Device Library Wizard (2PAA102573*)* for details.

Device Management FOUNDATION Fieldbus integrates the FOUNDATION Fieldbus architecture into the 800xA System environment. It consists of these components:

- **Fieldbus Builder FF:** integrates the FOUNDATION Fieldbus configuring and commissioning into the 800xA System environment.

- **OPC Server FF:** makes data from FOUNDATION Fieldbus devices available to any desired OPC Client.

Installation

Close all open applications before installing Device Management FOUNDATION Fieldbus.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Device Management > FOUNDATION Fieldbus

2. Follow the Installation Wizard to complete the installation.

   a. In the Welcome dialog box the check boxes for all components are selected by default. Clear the check boxes for the components that are not necessary.

Install **Fieldbus Builder FF** on all Aspect Server nodes, FF Connectivity Server nodes, Workplace Client nodes, and Engineering Workplace nodes.

Install **OPC Server FF** on all FF Connectivity Server nodes.

b.   If the message:

```
One or more processes occupy ports which are used by
this application: Port nnnn is used for xxx by the
process with PID nnn. It is recommended to close them
before you continue this setup. Retry port check?
```

is displayed either select **No** to continue, or, if familiar with the Windows Operating System, first stop the mentioned process and then click **Yes** to continue.

If **No** is selected, an additional message:

```
You must restart your system ...
```

at the end of the installation procedure will prompt for the necessary reboot.

If **Yes** is selected, no reboot is necessary, but the stopped process must be restarted after the installation has finished.

c.   During the installation the Configure dialog box for entering hardware and software settings is displayed. In the left-hand side, select the components to be configured and enter the settings in the fields on the right per the remaining instructions.

These settings can also be made or altered after installation is finished by selecting:

Start > All Programs > ABB Industrial IT 800xA > Device Mgmt > FOUNDATION Fieldbus > Configure

General Settings

When **General Settings** is selected, the dialog box shown in Figure 45 appears. Refer to Table 12 for details.

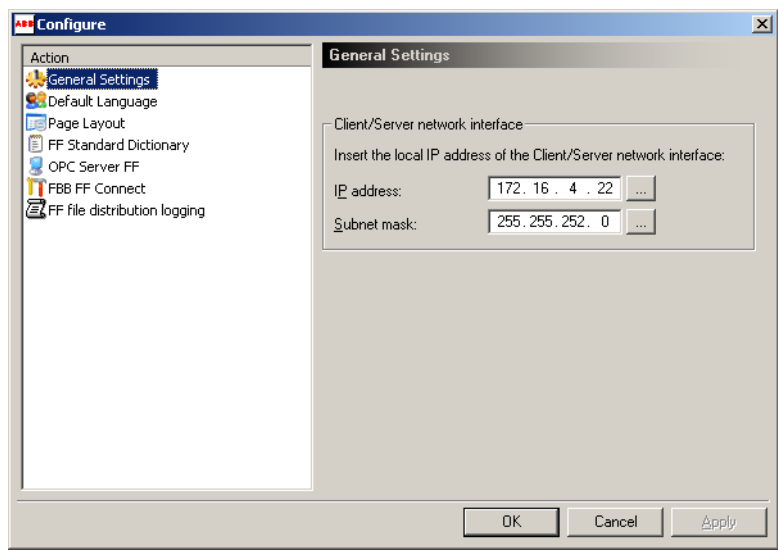Contact the network supervisor before entering or changing IP settings.

Figure 45. Network Settings Dialog Box

Table 12. Network Address Settings

Dialog Box Element	Description
Client/Server Network Interface	**IP Address:** Local IP address of this node in the Client/Server Network, i.e. the IP address of the network adapter to which the Client/Server Network is connected.
	Subnet Mask: A node on a TCP/IP network is identified by its 32-bit IP address. The IP address consists of NetID and HostID. The subnet mask specifies the boundary between NetID and HostID.

OPC Server FF Settings

When **OPC Server FF** is selected, the dialog box shown in Figure 46 appears. Refer to Table 13 for details.

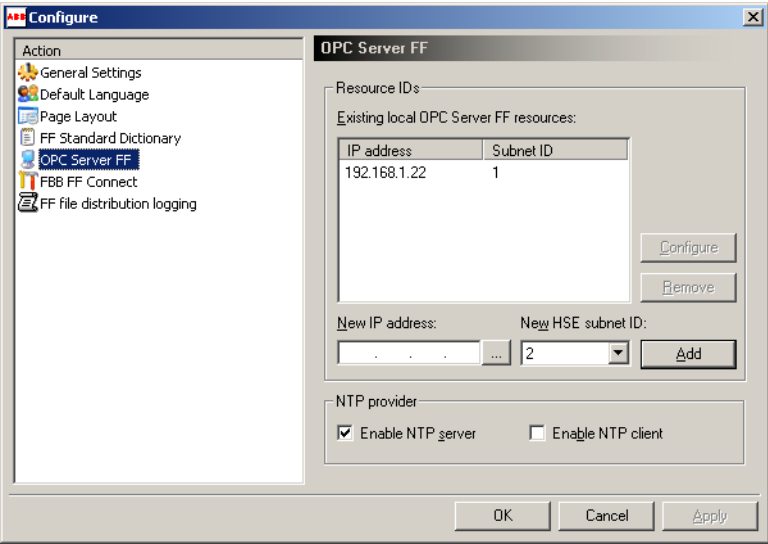The settings under OPC Server FF are only required on those nodes that are going to act as an FF Connectivity Server.

Figure 46. OPC Server FF Configuration

Table 13. OPC Server Resource IDs

Dialog Box Element	Description
Resource IDs	A number of OPC Server FF instances can run simultaneously in one node. Each component must be given a unique resource identification number so that it can be uniquely addressed. The same HSE subnet ID must be used on both Connectivity Server nodes to create a redundant OPC Server FF. The Subnet ID for the OPC Server FF can range from 1 to 20. An OPC Server FF will only be available on this node if a Subnet ID is created.
Configure	Used to configure the user account for the selected OPC Server FF. By default the account information of the Service Account is used. It is not recommended to change this. Click **OK** to close the dialog box. Clicking **Cancel** will not set the account information.
Remove	Used to delete the instance of the OPC Server FF and its corresponding Subnet ID from the node.
Add	Used to create OPC Server FF instances (OPC Server FF *Subnet ID*) on those nodes that are going to act as a FF Connectivity Server.
Enable NTP Server	Enable NTP (Network Time Protocol) Server is the default setting. This enables this node to act as a timeserver for the linking devices on its HSE subnet. The node itself is time synchronized by the selected Process Portal mechanisms.
Enable NTP Client	Enable NTP Client to synchronize this node with an external time source if this functionality is not provided by standard Process Portal mechanisms, e.g. for a Single Node System. Additional Windows configuration might be necessary.

To manually configure the user account for the OPC Server FF:

1. Select the Subnet ID in the list and click **Configure**. The User Account OPC Server FF dialog box is displayed.

2. Enter the 800xA Service User user name in the User: field.

3. Enter the 800xA Service User password in the Password: field and the Repeat Password: field and click **OK**.

FF File Distribution Logging

This dialog box is used to set paths and log file size for logging purposes. Refer to Table 14 for details.

Table 14. FF File Distribution

Dialog Box Element	Description
Server Log	Type in or browse for a local path to store server log files. For example: `C:\Program Files\ABB Industrial IT\Engineer IT\Fieldbus Builder FF\log\FFDSD.log`
Server Trace	Type in or browse for a local path to store Server Trace files. For example: `C:\Program Files\ABB Industrial IT\Engineer IT\Fieldbus Builder FF\log\Trace.log`
Client Trace	Type in or browse for a local path to store Client Trace files. For example: `C:\Program Files\ABB Industrial IT\Engineer IT\Fieldbus Builder FF\log\TraceClt.log`
Max Log Size	Set the maximum log file size for logging purposes. Recommendation: 2048 KB.

Section 22 Engineering Studio

Introduction

This section describes how to install Engineering Studio. Install this software on all 800xA System nodes, except separate Domain Server nodes.

⚠️ If the Engineering Studio system extensions are loaded on the Aspect Server, install the related Engineering Studio products on every other 800xA System node (the license can be used from every client). Otherwise, there will be error messages and some functions; for example, copying of objects with related aspects, will not work. The Engineering Studio system extensions are listed in *System 800xA Post Installation (3BUA000156*)*.

Dependencies

The following dependencies between the different components of Engineering Studio exist:

- Function Designer requires:
  - **Document Manager:** included in a typical installation of Engineering Platform.
  - **Control Builder M**, **AC 800M Connect**, and **Signal Extension for AC 800M Connect:** used to configure AC 800M Controllers on Function diagrams.
  - The following dependency is optional. It is only applicable for users of Device Management PROFIBUS & HART.

    Device Management PROFIBUS & HART with the Fieldbus Builder PROFIBUS/HART and PROFIBUS/HART Device Integration Library - Basics system extensions loaded on the Aspect Server: used to configure PROFIBUS and HART devices on Function diagrams.

- Topology Designer requires:

  – **Document Manager:** included in a typical installation of Engineering Platform.

  – **Control Builder M** and **AC 800M Connect:** used to view AC 800M control networks on Topology diagrams.

> An Engineering Workplace is only available on a client when Engineering Studio is installed on this client and the Engineering Base system extension is loaded on the Aspect Server.

Installation

> Use of Engineering Studio requires an Engineering Workplace license. Additionally, the use of the Script Manager Professional Function requires a Script Manager Professional license, and the use of Reuse Assistant requires a Reuse Assistant license. The installation procedure for Script Manager and Script Manager Professional is exactly the same.

> The `Engineering & Development\Engineering Studio` folder on 800xA System Installation DVD 1 contains the components of Engineering Studio. Other Engineering components can be found in other `Engineering & Development` folders.

The Engineering Studio installation installs both the server and client components. To install the Engineering Studio software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Engineering & Development > Engineering Studio

2. The Welcome dialog box appears with the **ABB Engineering Studio 5.1.0/0** check box enabled by default. Leave it enabled for every node in the 800xA System.

3. Click **Install** and follow the Installation Wizard until the Installation Type dialog box appears. To install the **Typical** installation, proceed to Typical

Installation on page 197. To install a Custom installation, proceed to Custom Installation on page 197. Return to this procedure when complete.

ℹ️ If Engineering Studio 5.1.0/0 is installed on Microsoft Office 2010, the message `The dependency of 800xA with Microsoft Office 2007` is displayed. Click **OK** to continue with the Engineering Studio 5.1.0/0 installation.

4. Follow the Installation Wizard to complete the installation. When the installation is complete, if the system asks to reboot the node, click **Yes** to reboot.

Typical Installation

The default selection is **Typical**. This installs all software components covered by an Engineering Workplace license, except for the Reuse Assistant. If the Reuse Assistant is desired, proceed to Custom Installation. If **Typical** is the desired selection, click **Next** and follow the Wizard to complete the installation. When the installation is complete:

– If the current node is not an Aspect Server node, but will be used as a workplace with Document Manager - AutoCad Integration, proceed to Document Manager - AutoCAD Integration on page 200.

Custom Installation

To install Reuse Assistant, or to disable installation of certain components:

1. Select **Custom** and click **Next**. This opens the Change Feature dialog box shown in Figure 47.

2. To specify the components to install, expand the subfeatures by clicking on the plus sign (if available) on the left of the tree.

3. Select, by clicking on the down arrow (next to the hard drive symbol), either:

   ```
   Will be installed on local hard drive
   ```

   -or-

   ```
   Entire feature will be installed on local hard drive
   ```
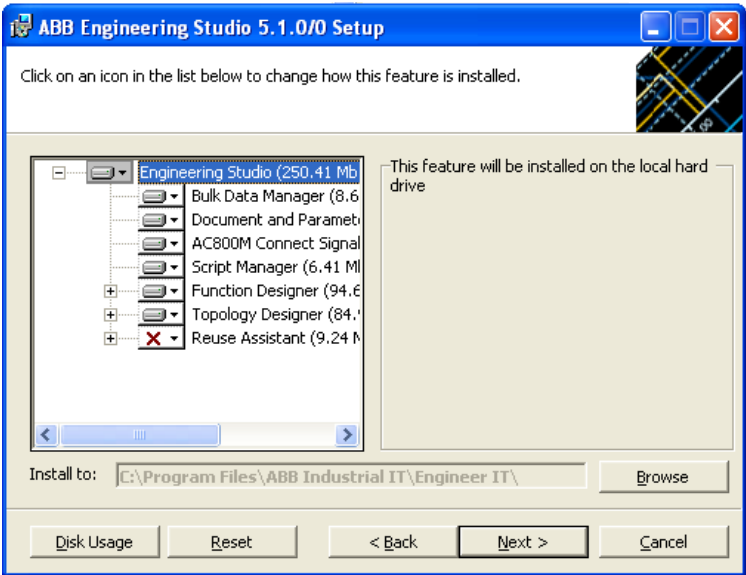
Figure 47. Engineering Studio Change Feature Dialog Box

Use the second alternative to install the feature and all subfeatures.

> The selections `Run (all) from Network` and `Installed on First Use` are not applicable.

4. Table 15 lists and describes the features and subfeatures (if available) that can be selected or deselected for installation. When the desired selections have been made, click **Next**.

> If it is necessary to change back to the default (Typical) installation, click **Reset** before clicking **Next**.

Table 15. Engineering Studio Features

Feature	Description
Bulk Data Manager	Contains the Excel add-in that supports list oriented bulk data operations and integrates Excel spreadsheets into Aspect Objects.

Table 15. Engineering Studio Features (Continued)

Feature	Description
Document and Parameter Manager	Document Manager provides functionality for comprehensive document handling and insertion of references into documents. Parameter Manager supports the handling of engineering data. They provide interfaces both for bulk and single data manipulation. The supplied system extension is **DM and PM Application**.
AC 800M Connect Signal Extension	Contains signal objects for use by AC 800M Connect, I/O Allocation, Bulk Data Manager, and Function Designer. It is required for the **Function Designer** for **AC 800M Connect** system extension.
Script Manager	Adds scripting capabilities to Aspect Objects using VBScript language. The supplied system extension is **Script Manager**.
Function Designer	Engineering portal for plant-oriented engineering across Aspect Systems. The supplied system extension is **Function Designer**. Optional system extensions that are available are **Function Designer for AC 800M Connect** and **Function Designer for Fieldbus Builder PROFIBUS/HART**.
Function Designer for AC 800M Connect	Enhances libraries and object types of the **AC800M Connect** system extension and signal objects of the **Signal Extension for AC800M Connect** system extension for use by Function Designer.
Function Designer for FieldbusBuilder P/H	Enhances object types of the **Fieldbus Builder PROFIBUS/HART** system extension and the **PROFIBUS/HART Device Integration Library - Basics** system extension for use by Function Designer.

Table 15. Engineering Studio Features (Continued)

Feature	Description
Topology Designer	Graphical diagram based, configurable Status Viewer for the Control Network. The supplied system extension is **Topology Designer**. An optional system extension that is available is **Topology Designer for AC800M Connect**.
Topology Designer for AC 800M Connect	Enhances hardware unit Object Types of the **Signal Extension for AC800M Connect** system extension for use by Topology Designer.
Reuse Assistant	Provides functions to design Reuse Instructions and to implement solutions based on defined Reuse Instructions. The supplied system extension is **Reuse Assistant**.
Examples	Provides three examples showing possible designs of Reuse Instructions.

5. Follow the Wizard to complete the installation. When the installation is complete:

–   If the current node will be used as a workplace with Document Manager - AutoCad Integration, proceed to Document Manager - AutoCAD Integration on page 200.

Document Manager - AutoCAD Integration

For AutoCAD Integration in Document Manager one of the following is required:

*   AutoCAD 2004, AutoCAD 2005, or AutoCAD 2006 (to be purchased separately).

*   DWG TrueView 2.0 or later is recommended to be used for viewing of AutoCAD dwg-files created from AutoCAD version 2002 and newer. Autodesk DWG TrueView 2 (`SetupDWGTrueView2.exe`) is available on 800xA System Installation DVD 1 in the following directory:

    `3rd_Party_SW\AutoDesk`

The latest version of DWG TrueView 2 can be downloaded free of charge at:
    http://www.autodesk.com

Section 23 Device Management PROFIBUS & HART

Introduction

This section describes how to install Device Management PROFIBUS & HART, a set of software components for efficient planning, operation, and monitoring of PROFIBUS and HART field devices within the 800xA System. It consists of the following:

- **Fieldbus Builder PROFIBUS/HART with OPC Server:** Aspect System according to FDT 1.2 standard for engineering of PROFIBUS and HART devices within the 800xA System. The OPC Server provides for easy data exchange between smart field devices and Asset Optimization applications without special adjustments.

- **Basic HART DTM**: Generic Device Type Manager for configuration, observation, diagnostic display, etc. of HART compatible field devices.

- **Basic PROFIBUS DTM**: Device Type Manager for configuration, commissioning, and diagnosis of generic PROFIBUS devices.

- **S800 I/O DTM:** Device Type Manager for configuration, observation, maintenance, etc. of S800 I/O modules and communication interfaces.

- **S900 I/O DP DTM:** Device Type Manager for configuration, observation, maintenance, etc. of a S900 Station.

- **HART Device Integration Library**: Library providing easy access to built-in system extensions, such as Asset Management.

- **PROFIBUS Device Integration Library**: Library providing easy access to built-in system extensions such as Asset Management.

- • **HART Multiplexer Connect:** Support of HART Multiplexer for configuration, calibration, diagnosis etc. of HART devices, connected to non-800xA System DCS/PLCs.

Install this software on all 800xA System nodes when PROFIBUS and HART field devices are being used. For this software release, all components are installed on all 800xA System node types.

Installation

To install the Device Management PROFIBUS & HART software:

Install the Device Management PROFIBUS & HART software components from the Meta setup window. Individual installation of each component is not allowed.

Use the Device Library Wizard for adding separately delivered Device Types into the 800xA System. Refer to *System 800xA Device Management Device Library Wizard (2PAA102573*)* for details.

1. This software is accessible from the Installation AUTORUN screen (refer to) by selecting:

   Manual Installation > Device Management > PROFIBUS & HART

2. Follow the Installation Wizard to complete the installation.

   a. In the Welcome dialog box the check boxes for all components except the **HART Multiplexer Connect** component are enabled by default. Do not disable any check boxes for any other components. The check box for the **HART Multiplexer Connect** component must be enabled if the HART Multiplexer Connect option is licensed and will be used in the 800xA System.

   b. Click **Install** to start the installation.

   c. If the confirmation dialog box indicates that one or several components have been installed already, ignore this warning and proceed with the installation process. The installation process will resolve this situation, described as follows:

       – Integrity and version checks are done during installation to assure that all components can be installed. For each component, a progress bar is displayed indicating the remaining time needed for installation.

       – If an equivalent version of the component is detected as already being installed, the component will be installed again and the setup will continue.

3. When the installation is finished, a green check mark for each component appears in the Welcome dialog box. The check mark indicates that the component has been processed.

AC800M Connect and AC800M High Integrity system extensions must be loaded before loading PROFIBUS Device Integration Library - Basic and HART Device Integration Library - Basic system extension. Therefore, install AC800M Connect and AC800M high Integrity also when installing Device Management PROFIBUS and HART.

Section 24 Process Engineering Tool Integration

Introduction

Process Engineering Tool Integration provides seamless data exchange between INtools 6.0 or SmartPlant Instrumentation 7.0 (INtools/SPI) and 800xA System databases.

Prerequisites

If not already installed and if required, refer to Process Engineering Tool Integration Specific Requirements on page 91 for prerequisite installation information.

Installation

To install Process Engineering Tool Integration:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    **Manual Installation > Engineering & Development >
    Process Engineering Tool Integration**

2. Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog box appears:

a. **Select Features** dialog box: Refer to Table 16 to choose the appropriate installation feature.

Table 16. Process Engineering Tool Integration Installation Features

Installation Type	Description
800xA Client	Required for synchronizing data bidirectionally between the 800xA System and INtools/SPI.
	There are two installation options:
	ℹ️ Regardless of which installation option is chosen, the 800xA Client selection **must** always be installed on the Primary Aspect Server node in order to load the system extension.
	1. Install and use Process Engineering Tool Integration on an Engineering Workplace node with Control Builder M installed. This is the preferred method in order to avoid loading the Primary Aspect Server node.
	2. Install and use Process Engineering Tool Integration on the Primary Aspect Server node (Control Builder M and Engineering Studio must also be installed on the Primary Aspect Server node).
Web Services[1,2]	Required for an online connection with the INtools/SPI database. Install this component only on the INtools/SPI node.
INtools/SPI DB Import Export Utility[1,2]	Required to import/export data from/to the INtools/SPI database via an XML file (CAEX file). Install this component only on the INtools/SPI node.

1. Prior to installing these components, use Windows Explorer to locate `intools.ini` file on the INtools/SPI node. Open the file in a text editor and make sure that UserId (created when the INtools/SPI database was created) and Password fields are filled in with appropriate information. These fields are required.

2. The installation checks to see if INtools/SPI exists on the node on which these components are being installed. The entry in the Select Features dialog box is hidden if INtools/SPI is not found on that node.

Section 25 Information Management

Introduction

This section describes how to install the Information Management (IM) software. Information Management is a client/server application. Five configurations provide five different levels of functionality:

- **IM Server:** runs services for historical data collection, archive, and open data access. Install this on the IM Server node. Refer to IM Server on page 208.

- **Information Management Consolidation node:** allows for consolidation of historical data from IM Servers in other systems on one node. Software installation is the same as for the IM Server. Refer to IM Server on page 208. The only difference is that the consolidation node is set up as a single-node system which may or may not reside in a domain.

- **Information Management Client Toolkit**: supports a user interface for configuring and managing aspect objects related to Information Management without having to install the full IM Server. Install the Client Toolkit on all non-Information Management nodes in the system. Refer to Client Toolkit on page 210.

- **Information Management Desktop Tools:** provide access to process and event data on the IM Server. For example, DataDirect is a tool for integrating process and event information from the applications into an Excel spreadsheet. Other tools that support data access are Desktop Trends and Display Services. With the proper authority historical and real-time process data can be updated via DataDirect and Display Services. The Desktop Tools are automatically installed locally on the IM Server node. They may also be installed on remote clients. The remote clients do not require 800xA System software to be installed. Refer to Desktop Tools on page 212.

- **Information Management Profiles Client:** Required for Profile Historian applications. This client provides the user interface for using the profile

displays. The Profiles Client can be installed on any node in a system that meets the requirements for Desktop tools. Refer to Information Management Profiles Client on page 214.

Prerequisites

If not already installed, refer to Information Management Specific Requirement on page 92 for Oracle installation information.

IM Server

This section describes how to install the IM Server software.

The installation wizard installs all Information Management software on the system drive. Install the Oracle program files on the system drive as well (recommended). If desired, designate different drives for storing Oracle data files, and file-based numeric log data.

Default groups are created when Information Management and required third party software are installed. To add, remove, or otherwise edit any groups after installation, refer to *System 800xA Information Management Configuration (3BUF001092*)*.

Preparation

The following steps are required to ready the node for Information Management software. Detailed instructions are provided in the following sections.

Make sure to have the required hardware and enough free disk space.

Information Management Server Installation

Do not combine a Batch Server and an IM Server in the same node if Batch redundancy is required. Refer to *System 800xA System Guide Technical Data and Configuration (3BSE041434*)* for more information.

The SoftPoint Server must be installed before installing the Information Management Server. Refer to SoftPoint Server on page 116.

The Information Management software is installed via the Information Management Installation Wizard. To install the IM Server software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Information Management > Historian

2. The Information Management Installation Wizard appears. Click **Information Management**.

3. The Information Management Prerequisites dialog box for IM Server installations appears.

    –   The Wizard scans the server to verify that all prerequisites are installed. For installed prerequisites, the wizard indicates the version number. If the version is not current enough to meet the requirements of this installation, the version number is indicated in red; otherwise the version number is indicated in black.

    –   Prerequisites that are not installed are indicated as **Not Found**. These must be installed. Prerequisites that are installed, but are out-of-date (indicated in red), must have the proper version installed.

    ⓘ   If the Microsoft Office 2010 is installed as a prerequisite, the prerequisite page in the Information Management Wizard displays the Office Version in red. Ignore this and continue the installation.

    –   If all 800xA System installation instructions have been followed, all prerequisites should already be installed. If not, use the links on the Information Management Prerequisites dialog box to install them now. When all prerequisites are installed, the **Continue** function on the Information Management Prerequisites dialog box is enabled.

4. Click **Continue** to continue installing the Information Management software. This displays the Information Management Install dialog box (Figure 48).

    ⓘ   Only components for which licenses have been purchased and installed can be used. All options are selected by default. Deselect options for which licenses have not been purchased.

5. Click **INSTALL Information Management**. This begins the Information Management software installation that installs all Information Management components, including the selected options from start to finish without any further intervention. This process will take about 10 minutes. The time may vary slightly depending on the performance of the server.
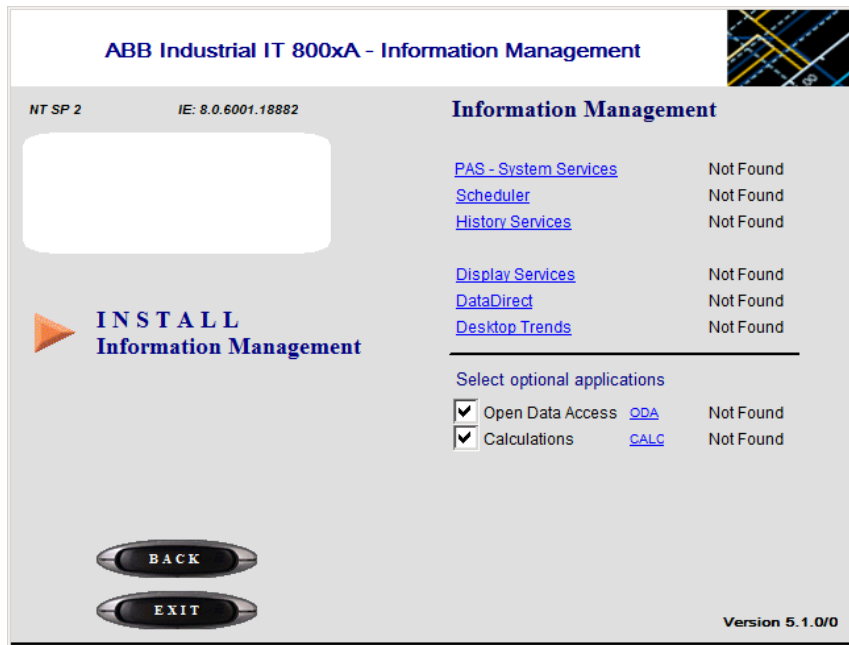
Figure 48. Information Management Install Dialog Box for IM Server

- The Wizard indicates the component that is currently being installed.

- When the installation is finished, the installed software version is indicated for each component.

a. A dialog box should appear requesting that the Service Account user name and password be entered. Enter the required information.

6. Click **Exit** and a Restart Windows prompt appears. Click **Restart Now** to restart the server and complete the installation.

Client Toolkit

The Information Management Client Toolkit supports a remote user interface for configuring Information Management services and managing aspect objects from the Plant Explorer Workplace, without having the full server functionality installed.

Install the Client Toolkit on all non-Information Management nodes in the system. This will allow for browsing and configuring Information Management objects and aspects from these nodes.

The SoftPoint Server must be installed before installing the Client Toolkit. Refer to SoftPoint Server on page 116.

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Information Management > Historian

2. The Information Management Installation Wizard appears. Click **Client Toolkit**.

3. The Information Management Prerequisites dialog box for Client Toolkit installations appears.

    –   The Wizard scans the workstation or server to verify that all prerequisites are installed. For installed prerequisites, the wizard indicates the version number. If the version is not current enough to meet the requirements of this installation, the version number is indicated in red; otherwise the version number is indicated in black.

    –   Prerequisites that are not installed are indicated as **Not Found**. These must be installed. Prerequisites that are installed, but are out-of-date (indicated in red), must have the proper version installed.

    –   If all 800xA System installation instructions have been followed, all prerequisites should already be installed. If not, use the links on the Information Management Prerequisites dialog box to install them now. When all prerequisites are installed, the **Continue** function on the Information Management Prerequisites dialog box is enabled.

4. Click **Continue** to display the Client Toolkit install screen. This screen lists the components of the Client Toolkit. These components will be installed in the order in which they are listed.

Only components for which licenses have been purchased and installed can be used. All options are selected by default. Deselect options for which licenses have not been purchased.

5. Click **INSTALL Client Toolkit**. This begins the software installation and will install all components from start to finish without any further intervention. This

process will take about five minutes. The time may vary slightly depending on the performance of the workstation or server.

– The Wizard indicates the component that is currently being installed.

– When the installation is finished, the installed software version is indicated for each component.

6. Click **Exit** to complete the installation.

7. Proceed to Desktop Tools to install Desktop Tools, or to Information Management Profiles Client on page 214 to install the Information Management Profiles Client.

Desktop Tools

Desktop Tools support data access for viewing on remote desktops. These services may be installed on all supported operating systems. These applications DO NOT require the Information Management System Services, nor do they require 800xA System software.

Desktop tools can also be installed on 32-bit (x86) versions of Windows XP SP3 and 32-bit (x86) versions of Windows Vista SP2 systems with Internet Explorer 8 and Excel 2007 or 2010.

The 800xA Common Third Party Install Tool must be run before installing desktop tools on Windows 7, Windows 2008, and Windows Vista.

The 800xA Common Third Party Install Tool does not support Windows XP. Install the following manually:

• .NET 3.5.
• Internet Explorer 8.
• Microsoft Excel 2007 or 2010.

Desktop Tools Installation Guidelines

Read the following guidelines carefully before installing the software.

• **Upgrades:** If upgrading the Desktop Tools from an earlier version, remove all existing Desktop Tools software, including the Microsoft Runtime Components. Use the Add/Remove Programs utility in the Windows Control

Panel. Install the new software as described in this section. Upgrades only apply to Windows XP nodes.

1. Launch Control Panel.

2. Select **Network and Dialup Connections**.

3. In the network and Dialup Connections list, select **Local Area Connection**.

4. In the Local Area Connection Status dialog box, click **Properties**.

5. In the LAN properties dialog box, select **Internet Protocol (TCP/IP)**, then click **Properties**.

6. In the TCP/IP properties dialog box, check the settings for:

    –   IP Address.
    –   Subnet Mask.
    –   Default Gateway.

Desktop Tools Installation

Make a backup of the system and applications before installing Information Management software.

Perform all installation and related activities as the SAME user: either a domain user with administrator privileges, or a locally-defined user with administrator privileges, depending on whether or not the client resides in a domain.

To install Desktop Tools:

1. Log in as a Windows user with administrator privileges. Use a domain user with administrator privileges if installing the node on a domain; otherwise, use a locally defined user with administrator privileges.

2. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Manual Installation > Information Management > Historian

3. The Information Management Installation Wizard appears. Click **Desktop Tools**.

4. The Information Management Prerequisites dialog box for Desktop Tools installations appears.

–   The Wizard scans the workstation to verify that all prerequisites are installed. For installed prerequisites, the wizard indicates the version number. If the version is not current enough to meet the requirements of this installation, the version number is indicated in red; otherwise the version number is indicated in black.

–   Prerequisites that are not installed are indicated as **Not Found**. These must be installed. Prerequisites that are installed, but are out-of-date (indicated in red), must have the proper version installed.

–   If all 800xA System installation instructions have been followed, all prerequisites should already be installed.

5.   Click **Continue** to display the Desktop Tools install screen. This screen lists the components of Desktop Tools. These components will be installed in the order in which they are listed.

6.   Click **INSTALL Desktop Tools**. This begins the software installation and will install all components from start to finish without any further intervention. This process will take about five minutes. The time may vary slightly depending on the performance of the workstation.

–   The Wizard indicates the component that is currently being installed.

–   When the installation is finished, the installed software version is indicated for each component.

7.   Click **Exit** to complete the installation.

Information Management Profiles Client

This application does not require the Information Management System Services or 800xA System software.

The Profiles Client can be installed on any node in a system that meets the requirements for Desktop tools.

The Profiles Client may be installed as an option to the Information Management Server, or Desktop Tools. If installing the Profiles Client independent of any Information Management software, enable the **Advanced View** option on the Information Management Installation Wizard. Figure 49 shows the Installation Wizard with the **Advanced** option enabled. This lets you install the Information

Management Profiles Client without having to install prerequisites that are not necessary for this client (i.e. Oracle or Microsoft Excel).

The Profiles Client software is installed via the Information Management Installation Wizard. To install the Profiles Client software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

    Information Management > Historian

2. The Information Management Installation Wizard appears.

3. Select the **Advanced View** option (just below Exit).

4. Click **Install PROFILES Client**.
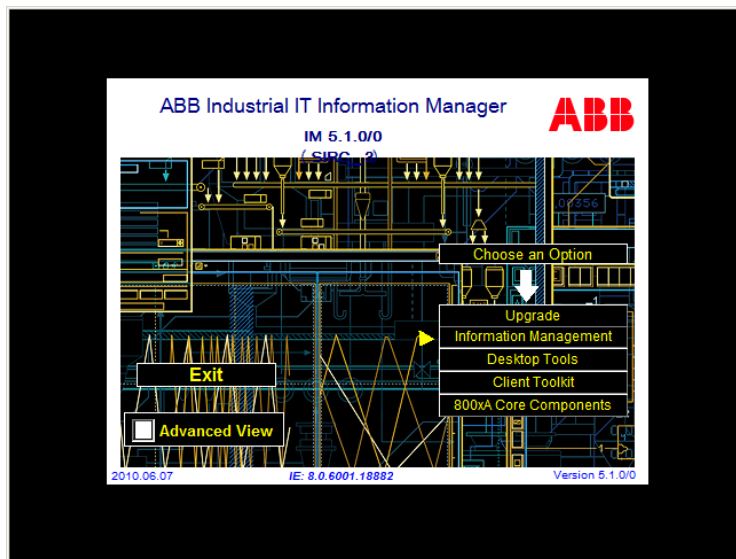
Figure 49. Profiles Client Installation

5. Click **Install Now** on the Profile Client Installation Wizard. During the installation there is a five-second opportunity to manually set ACC; otherwise, defaults are used.

6. Click **Finish** to complete the installation.

Section 26 Batch Management

Introduction

This section describes how to install Batch Management functionality.

Batch Management Installation

Batch Management is a client/server application within the 800xA System. Install the Batch Server on the Batch Management Application Server. If applicable, install the Batch Management Secondary Server on another Batch Management Application Server after the installation of the Batch Management Primary Server.

Do not combine a Batch Server and an IM Server (or other server applications) in the same node if Batch redundancy is required. Refer to *System 800xA System Guide Technical Data and Configuration (3BSE041434*)* for more information.

Install the Batch Client on all other nodes in the 800xA System, except separate Domain Server nodes.

A Batch Client is automatically installed on all Batch Servers.

Install Batch Clients on all nodes in the 800xA System (except separate Domain Server nodes) other than the Primary and Secondary Batch Server nodes.

1. This software is accessible from the Installation AUTORUN screen (refer to) by selecting:

    Manual Installation > Batch Management

2.   Follow the Installation Wizard to complete the installation. Perform the following when the indicated dialog boxes appear:

   a.   **Setup Type dialog box:** Select the components to install according to Table 17.

Table 17. Setup Type Options

Option	Requirements
Batch Management Primary Server	Install on one node. This server manages the Secondary Server and all Batch Clients. This selection will also install the BATCH_INSTANCE of SQL Server.
Batch Management Secondary Server (optional)	Install on one node. This server will take over if the Primary Server fails. This selection will also install the BATCH_INSTANCE of SQL Server.
Batch Management Client	Install on all other nodes in the 800xA System (except separate Domain Server nodes) including the 800xA Primary Aspect Server. Selecting Client will also install SQL Server Native Client.
Install VB Graphics Extensions (check box)	This option should only be selected when installing Batch Management as part of an upgrade. This will install the Batch Management VB Graphics extensions on the selected node type.

   b.   **Batch Management Software Destination Selection dialog box:** Click **Browse** to select the installation location, or accept the default.

   c.   **Batch Management Runtime Database Destination Selection dialog box (Server installations only)**: Click **Browse** to select the database installation location, or accept the default.

d. **Message box:** The message box differs depending on what was selected in the Setup Type dialog box in Step a. Figure 50 shows the message box for the Batch Management Primary or Secondary Server installations and Figure 51 shows the message box for the Batch Management Client installations. Click **Yes** to continue with the installation. Proceed to Step e for Batch Management Primary or Secondary Server installations. Wait for the installation to complete for Batch Management Client installations.
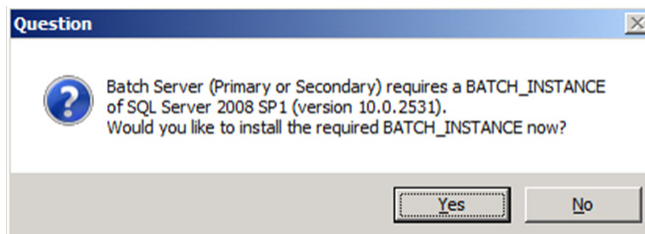
Figure 50. Message Box for Batch Management Primary or Secondary Server Installations
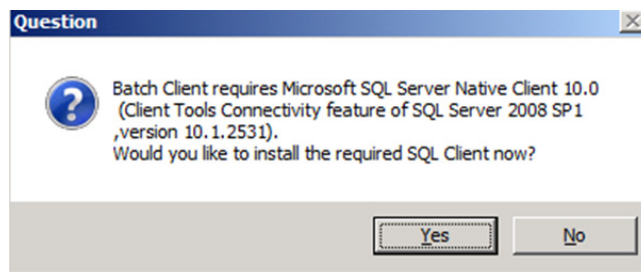
Figure 51. Message Box for Batch Management Client Installations

e.   **Browse for Service Account dialog box** (Figure 52)**:** Use this dialog box to enter the Service Account information for the BATCH_INSTANCE.

It is recommended to use the 800xA Service User account and password, although it is permissible to use a customer-specific Service Account.
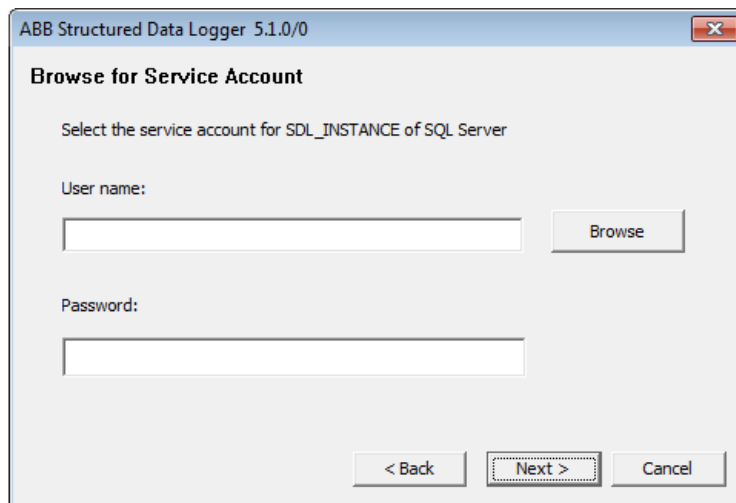
Figure 52. Browse for Service Account Dialog Box

f.   It is possible to either:

–   Enter the Service Account user name and password in the Browse for Service Account dialog box (Figure 52), click **Next**, and wait for the installation to complete.

-or-

g.   Click **Browse** to launch the Browse for a User Account dialog box shown in Figure 53.
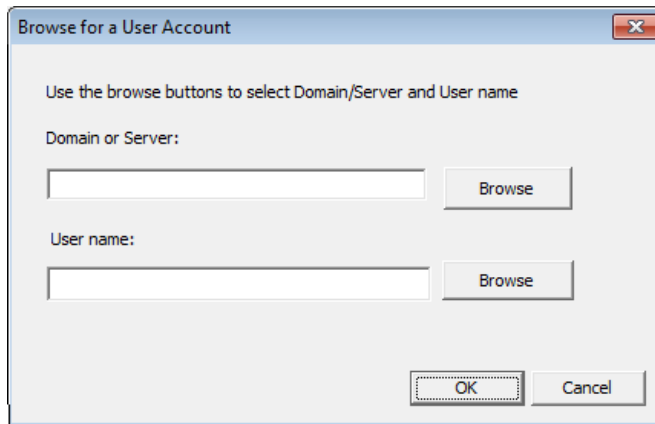
Figure 53. Browse for a User Account Dialog Box

h.   Click **Browse** for the Domain or Server.

i.   A Select a Domain or Server dialog box similar to the one shown in Figure 54 appears. There will be one or more possible selections. Select the correct Domain or Server and click **OK** to return to the Browse for a User Account dialog box.
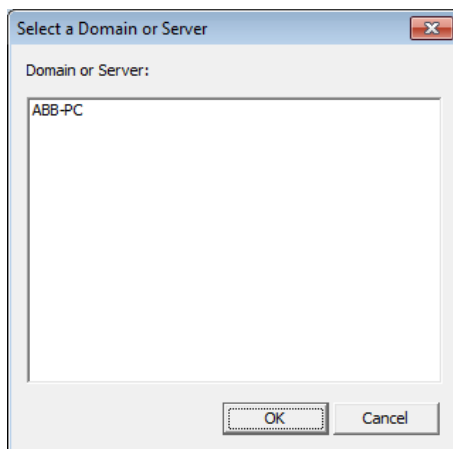

Figure 54. Select a Domain or Server Dialog Box

    j.   Click **Browse** for the User Name.

    k.   A Select a User Name dialog box similar to the one shown in Figure 55 appears. Select the Service User.
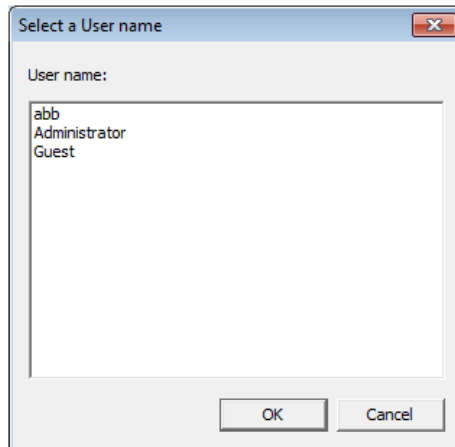
Figure 55. Select a User Name Dialog Box

    l.   Click **OK** to return to the Browse for Service Account dialog box (Figure 52).

    m.   Enter the password, click next, and wait for the installation to complete.

Restart the Batch Primary and Secondary Servers when installation is complete. Restart the primary followed by the secondary.

Section 27 Multisystem Integration

Introduction

For some applications, it is neither possible nor desirable to have all objects centralized into a single system. This may be due to geographical location, plant size, decentralized maintenance, different phases in commissioning, or other reasons. Multisystem Integration provides support for connecting multiple 800xA systems together.

Some terminology associated with Multisystem Integration is:

* **Provider System:** The 800xA System running the Remote Access Server. This is the supervised system.

* **Subscriber System:** The 800xA system running the Remote Access Client. This is the supervising system.

* **Remote Access Server:** Runs in the Provider System.

* **Remote Access Client:** Runs in the Subscriber System.

This section describes how to install the Multisystem Integration software.

Recommended Hardware Configurations

There are no special requirements on the hardware for Multisystem Integration, except the requirements for the 800xA Base System software.

However, the requirement that the time difference between a Remote Access Client and a Remote Access Server should normally be less than a minute. To achieve this time synchronization additional external equipment may be needed.

The following describes two different configurations for the Remote Access Server, used for a small and medium/large 800xA System.

Small Configuration

For a small configuration with a few hundred I/O signals, the Remote Access Server can run in the same node as the Connectivity and Aspect Servers. It is recommended to not run a Workplace on the same node.

Medium/large Configuration

For a medium/large configuration, it is recommended to run the Remote Access Server in the Connectivity Server node.

Combinations of these basic configurations can also be used. For example, if the Provider System is small, but the Subscriber System is connected to a lot of Provider Systems, the configuration for a small system may be used on the Provider side, and a medium/large configuration may be used on the Subscriber side.

Installation

To install the software:

1. This software is accessible from the Installation AUTORUN screen (refer to Installation AUTORUN on page 33) by selecting:

   Manual Installation > Base Functionalities > Multisystem Integration

2. Follow the Installation Wizard to complete the installation.

Section 28 Snapshot Reports

Introduction

The Snapshot Reports is a search engine for the System 800xA. It allows the user to configure the Snapshot Search templates in the Aspect Object database. The Snapshot Report View aspect can be used to search reports as a single report or as a combined report that includes several templates.

Installation

Refer to the *System 800xA 5.1 Snapshot Reports User Guide (3BSE060242*)* to install the Snapshot Reports.

Section 29 Licensing 800xA System Software

Introduction

Before installing the software keys, refer to Section 3, Central Licensing System (CLS) and:

- Install the Central Licensing System (CLS) software on the designated License Server and all License Clients.

- Obtain the machine IDs.

- Apply for and receive the software keys.

All software keys for 800xA System software must be installed before using the applications. Install the software keys before attempting any post installation procedures, as some procedures may require the software keys to be in place.

Software Key Installation

To install the software keys, launch the License Entry program from the license server.

1. Select:

   Start > All Programs > ABB Industrial IT 800xA > System > Licensing > License Entry

2. Select:

   File > Load/Replace Licenses...
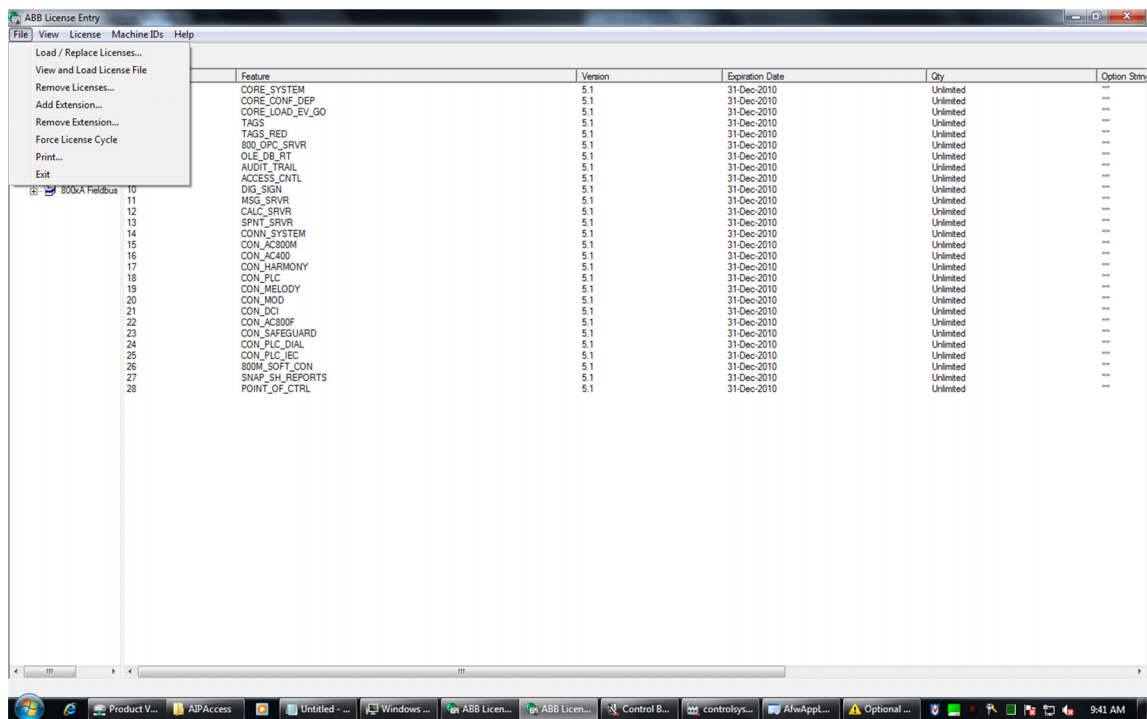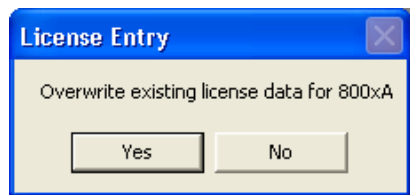
in the License Entry program as shown in Figure 56.
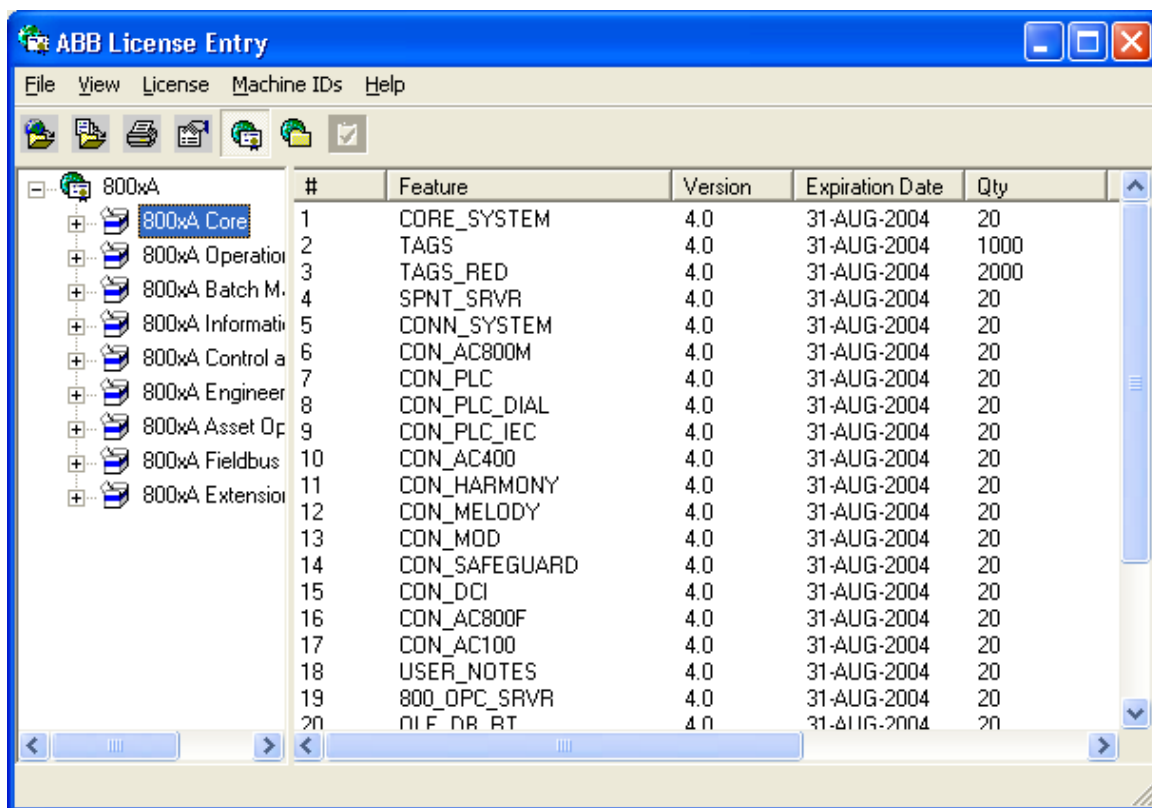

Figure 56. License Entry Program

3. The Open dialog box appears. Use it to find the license file (.sla), which contains the software keys and click **Open**.

4. If a software key has already been opened, the Overwrite prompt shown in Figure 57 appears. If necessary, click **Yes** to install the current software keys.

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Figure 57. Overwrite Prompt

5. When finished, the installed software keys may be viewed via the License
    Entry program on a License Group basis. For example, Figure 18 shows the
    software keys installed for the 800xA basic system functions.

Table 18. Browsing Licenses on a License Group Basis

6. Select:

    File > Exit

    to exit the License Entry program when finished.

Troubleshooting

Software keys are kept in a license file stored in a cache on the hard disk. Basic troubleshooting steps are to locate the license file and view its contents.

The most common problem occurs during software key installation if the software keys loaded properly, but are not valid. Refer to Software Key Installation on page 227 to load the software keys.

Locating the License File

The license file contains the individual software keys. To locate the license file:

1. Launch the License Entry program.

2. Select:

   View > **File View**

3. The expected license file name is displayed at the top level in the tree view.

4. License files are stored in:

   ```
   Install Drive:\Program Files\ABB Industrial
   IT\ABBLicense\Licenses\Cache
   ```

   Use Windows Explorer to check if the specified directory and file exist.

Unavailable Machine IDs

This section describes what to do if an option is not listed as an available machine ID.

Rainbow Dongles

If the desired Rainbow SentinelSuperPro (parallel port) or Sentinel USB (USB port) dongle is not listed as a machine ID option, verify the following:

1. Verify that the dongle was supplied by ABB. ABB software can read only ABB dongles.

2. Verify that the dongle is attached to the parallel port or USB port. In most cases, ABB software licensing functions support multiple dongles that are daisy chained together on a parallel port or are plugged into multiple USB

ports. The dongle for the 800xA System can be anywhere in the daisy chain or in any USB port.

3.   Select:

Machine Ids > Available IDs

in the License Entry program to scan for newly inserted IDs.

Ethernet Address

If the Ethernet address is not listed as a machine ID option:

•   Verify the TCP/IP protocol was properly configured during the installation of the product being licensed.

•   Verify the network adapter is functioning correctly.

Warning and Error Messages

The following situations could lead to warning messages:

•   An expired license continues to be used.

•   The license count exceeds the maximum available count in the licensing file for any feature.

The following situations could lead to error messages:

•   The CLS Client is not able to reach the CLS Server.

•   The dongle/license file (.sla) is missing.

•   Using a feature that does not exist in the license file.

•   IIS restart.

Assigning Licenses

The Central Licensing System dynamically distributes the available licenses as they are needed to all the nodes in the 800xA System. However, the License Assignment Editor allows licenses to be permanently assigned to a particular node. To assign a license to a particular node:

1. From the License Server node, select:

    Start > All Programs > ABB Industrial IT 800xA > System > Licensing> License Assignment Editor

2. This launches the License Assignment Editor as shown in Figure 58. Enter the name of the node in the Select a Node or Application field.

3. Click **Add**. The node name will appear in the Assigned Features field.

4. Select the node name in the Assigned Features field.

5. Select the type of license to be assigned in the Available Licenses field.

6. Enter the number of licenses (of the type selected) that will be assigned to the node in the Number field.

7. Click **Assign**.

8. Click **Save**. This will cause the licenses to be allocated as specified.

If necessary, licenses will be removed from existing nodes to meet the specified license allocation.
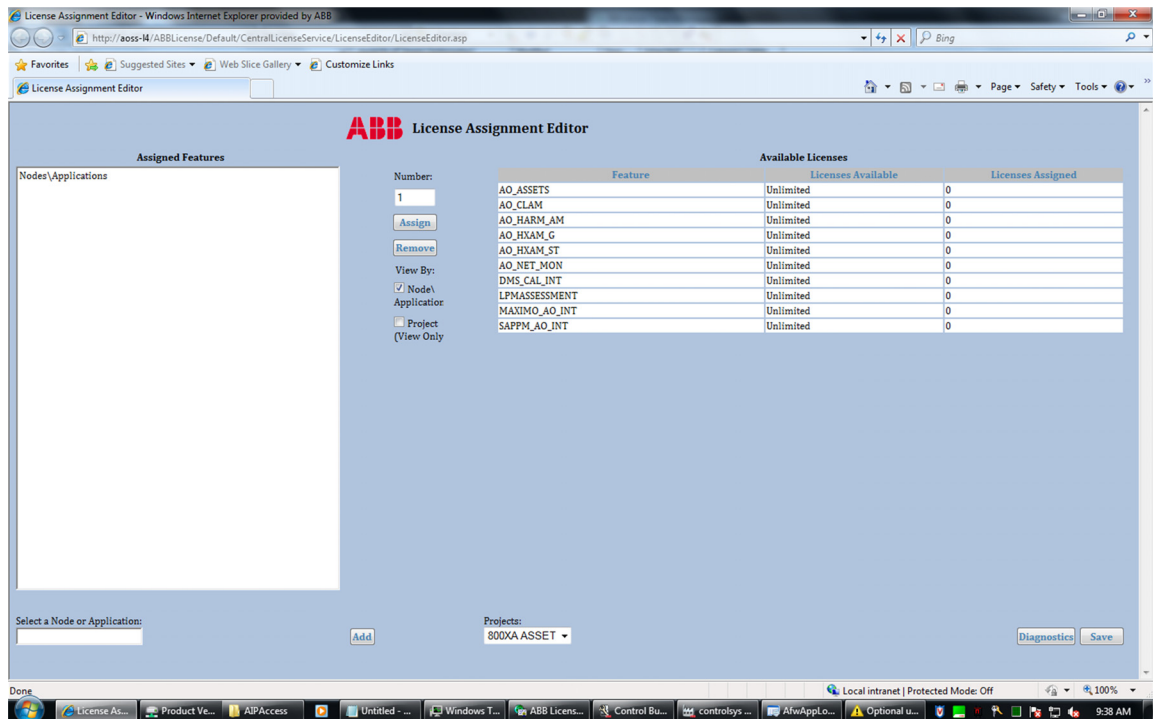
9.   Repeat this procedure as required.

Figure 58. License Assignment Editor

Backup/Restore

License assignments are stored in XML format in the following file:

```
Install Drive:\Program Files\ABB Industrial
IT\ABBLicense\Licenses\LicenseFeatureAssignment.xml
```

This file can be copied for backup or replaced with a backed up copy after a re-install of the CLS software. If this file is restored from a backup, reboot the License Server node or restart IIS in order for the change to take effect.

> Uninstalling the CLS software does not remove LicenseFeatureAssignment.xml and reinstalling the CLS software will not overwrite it.

License Assignment Editor Diagnostics

1. To display a complete listing of all the currently assigned licenses and the nodes they are assigned to:

   a. From the License Server node, select:

      Start > All Programs > ABB Industrial IT 800xA > System > Licensing > License Assignment Editor

   b. This launches the License Assignment Editor as shown in Figure 58. Click **Diagnostics** to view the listing.

License Status Viewer

There are two uses for the License Status Viewer:

- License Violations on page 235.
- Temporary Licenses on page 235.

The License Status Viewer (Figure 59) is an application that can be used to diagnose licensing problems. The License Status Viewer is installed with the License Client and is therefore available on every node running the 800xA System software.
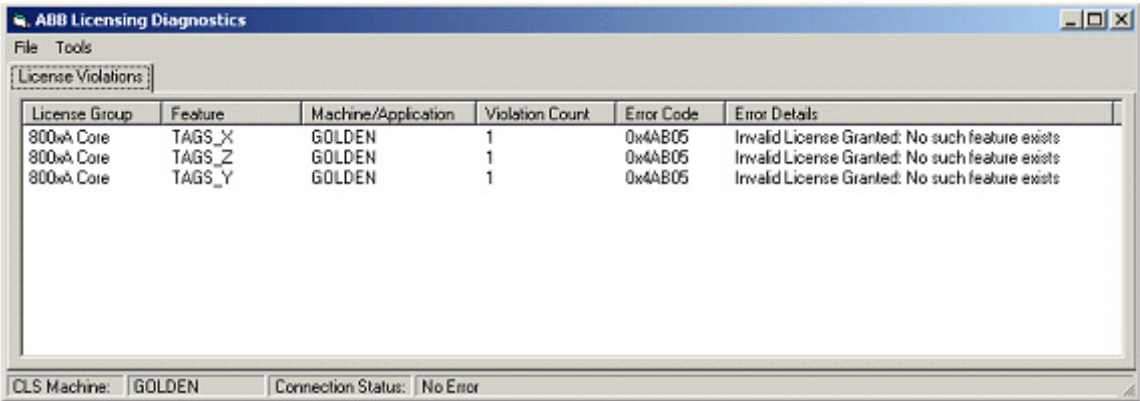
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Figure 59. License Status Viewer

To display the License Status Viewer, select:

> **Start > All Programs > ABB Industrial IT 800xA > System > Licensing > License Status Viewer**

License Violations

If license violation messages (`Applications are running Without Valid Licenses`) appear, use the License Status Viewer to determine which licenses are in violation.

To save this list to a text file:

1. Launch the License Status Viewer by selecting:

    > **Start > All Programs > ABB Industrial IT 800xA > System > Licensing > License Status Viewer**

2. Select:

    > **File > Save**

3. Enter a file name and browse to the directory in which to save the file.

4. Click **Save** to save the file.

Temporary Licenses

If temporary license messages appear, (`Applications are running with Temporary Licenses. This computer is unable to communicate with the License Server.`) use the License Status Viewer to determine the connection status of the CLS server. The CLS connection status is listed at the bottom of the License Status Viewer. A typical problem is that the License Client is not pointing to the node running the License Server. If this occurs, refer to CLS Relocation Tool on page 235.
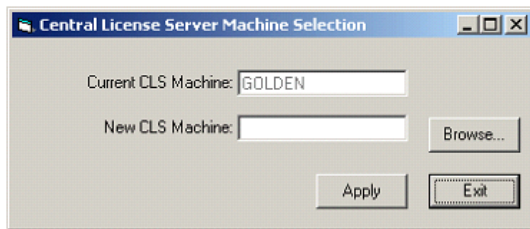
CLS Relocation Tool

If the License Client is not pointing to the correct License Server node, or the License Server has been relocated or renamed, change it by using the License Status Viewer:

⚠ The default CLS machine name for a standalone installation is **STANDALONE**. Do not change the CLS Machine name if the CLS Standalone option is installed.

1.   Launch the License Status Viewer by selecting:

     **Start > All Programs > ABB Industrial IT 800xA > System >
     Licensing > License Status Viewer**

2.   Select:

     Tools > Change CLS Machine

3.   The Central License Server Machine Selection dialog box appears (Figure 60).
     Enter or browse for the node running the License Server.

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Figure 60. CLS Relocation Tool

4.   Click **Apply** to save the change.

5.   Click **Exit** to return to the License Status Viewer.

6.   Shut down and restart the node to apply the change.

Section 30 Update to 800xA 5.1 Rev A

Introduction

This section is only intended for use when manually installing an 800xA system revision on a newly installed 800xA system. It is not intended for use when updating an existing 800xA System, or when upgrading from the latest revision of a previous 800xA System Version to the latest revision of 800xA 5.1.

The preferred and recommended method for installing system revisions is to use the System Update Tool (SUT). Refer to *800xA System Update Tool User Instruction (2PAA106938*)* for instructions on automatically installing the revision using the System Update Tool.

Affected Products

This document covers the following products:

- 800xA Base.
- 800xA for AC 800M.
- Structured Data Logger.
- 800xA for Advant Master.
- 800xA for Safeguard.
- 800xA for DCI.
- 800xA for MOD 300.
- TRIO Integration.
- 800xA for Harmony.
- 800xA for Melody.
- Softpoint Server.
- PLC Connect.
- Asset Optimization.
- SMS and e-mail Messaging.

- PC, Network and Software Monitoring.
- Multisystem Integration.
- SFC Viewer.
- Engineering Studio.
- Device Library Wizard.
- Device Management FOUNDATION Fieldbus.
- Device Management PROFIBUS & HART.
- Batch Management.
- Central Licensing System (CLS).
- Process Engineering Tool Integration.
- Information Management.
- RNRP (only Domain Controller).
- IEC 61850 Connect.
- 800xA Documentation.
- Snapshot Reports.
- System Installer.

Uninstallation

Uninstall the products listed in Table 19 only if they are part of the System Revision (the set of rollups) about to be installed. Refer to *System 800xA 5.1 System Software Versions (3BSE056732*)*, Rollups column, for more information on which rollups are included in the System Revision.

Allow one uninstallation to fully complete before starting the next one. Running the uninstallations in parallel may harm the System. It may take time (several seconds) between a mouse click and the corresponding user interface to appear. Make one click at a time and let the uninstallation software respond to the first click before making the next.

Do not restart the node after the uninstallation as this will damage the system.

Products that are not listed here will be uninstalled automatically (or a prompt may appear) when necessary during the installation.

Uninstall the products in the order presented in Table 19. Any special instructions required when uninstalling a product are listed in Table 19. If there are no special

instructions use Programs and Features from Windows Control Panel to uninstall the product.

⚠ It is imperative that the Special Instructions and the order listed in Table 19 be followed, otherwise the update will fail and leave the system inoperable.

Table 19. Uninstallation Order and Instructions

Product	Special Instructions
800xA for MOD 300	Perform the uninstallation on the backup Connectivity Server node first. Once the backup Connectivity Server node is reinstalled and online, proceed with the uninstallation on the primary Connectivity Server node. Repeat this for all Connectivity Server node pairs in the system.
ABB PAS System Services for 800xA for MOD 300	ABB PAS System Services exists on Information Management Servers and MOD 300 Connectivity servers. Uninstall ABB PAS System Services only on the MOD 300 Connectivity servers. Do not uninstall ABB PAS System Services on the Information Management Servers.
PLC Connect and SoftPoint Server	Both PLC Connect and SoftPoint Server need to be uninstalled even if only one of them is going to be installed as part of the new System Revision.
Batch Management	All actions performed on one Batch Server (stopping, uninstalling, and installing for example) must be performed on the other Batch Servers in the system **at the same time**. The Batch Client applications must also be uninstalled.
Process Engineering Tool Integration	None
Asset Optimization	None
Snapshot Reports	None
800xA for Harmony	None
IEC 61850 Connect	Uninstall ABB IEC 61850 OPC Server from the IEC 61850 Connectivity Server node. 1. Clear the **Uninstall MSDE (PCMSERVER)** check box for the Microsoft SQL Server Desktop Engine when uninstalling ABB IEC 61850 OPC Server. 2. Proceed with the uninstall.

Table 19. Uninstallation Order and Instructions (Continued)

Product	Special Instructions
CLS and CLS Extension	Perform the following on the CLS Server: 1. Open Windows Control Panel. 2. Click **Administrative Tools**. 3. Click **Services**. The Services page appears. 4. Locate and right-click **World Wide Web Publishing**. 5. Select **Stop** from the context menu to stop the service.
	Perform the following on the AO Server, where ECS software is installed: 1. Open Windows Control Panel. 2. Click **Administrative Tools**. 3. Click **Services**. The Services page appears. 4. Locate and right-click **ABB cpmPlus Enterprise Connectivity**. 5. Select **Stop** from the context menu to stop the service.
	Perform the following on the CLS Server Node: **NOTE:** The following steps are not applicable for the node with internet connection. 1. Open Windows Control Panel. 2. Click **Internet Options** to open the Internet Properties dialog box. 3. Select the **Advanced** tab. 4. Navigate to the Security section. 5. Clear the **Check for publisher's certificate revocation** check box.
	NOTE: After the maintenance shutdown on the CLS Server node, a CLS Communication Failure message appears on all CLS Client nodes. Click **OK** when the dialog appears. Uninstall CLS and CLS extension using Programs and Features in Windows Control Panel.

Installation

ℹ️ Required uninstallations for any of the products should be complete prior to starting the installation. Refer to the Uninstallation on page 238 before installing.

⚠️ Allow one installation to fully complete before starting the next one. Running the installations in parallel may harm the system. It may take time (several seconds) between a mouse click and the corresponding user interface to appear. Make one click at a time and let the installation software respond to the first click before making the next.

ℹ️ Do not restart at anytime during the installation even if prompted to do so.

1. The revision consists of the rollups listed in the **Software** column in Table 20. Install them *in the order listed in Table 20* if the base product is currently installed.

2. Double-click the executable files from the rollup folders to start each installation (the path to each executable file is shown the **Path** column in Table 20). Refer to the appropriate section for special information or instructions for the indicated product as indicated in the **Special Instructions** column in Table 20.

Table 20. Rollup Installation Information (Install in the Order Listed)

Software	Path	Executable	Special Instructions
800xA Base	800xA Core Functionalities\Process Portal A\	Setup.exe	
800xA Snapshot Reports	Additional Products\ABB Snapshot Reports for 800xA 5.1.0-1	setup.exe	
CLS	800xA Core Functionalities\Licensing\CLS	setup.exe	

Table 20. Rollup Installation Information (Install in the Order Listed) (Continued)

Software	Path	Executable	Special Instructions
CLS Extension	800xA Core Functionalities\ Licensing\CLS Extension	setup.exe	
AC 800M HI Extension	800xA Connectivities\ 800xA for AC 800M\ AC 800M HI Extension	Installer.exe	AC 800M High Integrity Controller Update on page 245.
AC 800M Connect VB Graphics Extension	800xA Connectivities\800xA for AC 800M\AC 800M VB Graphics Extension	Installer.exe	
AC 800M Connect	800xA Connectivities\ 800xA for AC 800M\ AC 800M Connect	Installer.exe	AC 800M Connect on page 246.
OPC Server for AC 800M	800xA Connectivities\ 800xA for AC 800M\ OPC Server for AC 800M	Installer.exe	OPC Server for AC 800M on page 246.
Control Builder M	Engineering & Development\ Control Builder M	Installer.exe	Control Builder M on page 247.
Base Software for Soft Control	Engineering & Development\ Base Software for Soft Control	Installer.exe	Base Software for SoftControl on page 247.
Structured Data Logger	Information Management\ Structured Data Logger	Setup.exe	
800xA for Advant Master	800xA Connectivities\ 800xA for Advant Master	Setup.exe	
800xA for SafeGuard	800xA Connectivities\ 800xA for SafeGuard	Setup.exe	

Table 20. Rollup Installation Information (Install in the Order Listed) (Continued)

Software	Path	Executable	Special Instructions
800xA for DCI	800xA Connectivities\ 800xA for DCI\800xA for DCI	ABB 800xA for DCI 5.1.01.msi	800xA for DCI on page 247.
800xA Batch for DCI	800xA Connectivities\ 800xA for DCI\ 800xA Batch for DCI	ABB 800xA Batch for DCI 5.1.01.msi	
800xA for DCI VB Graphics Extension	800xA Connectivities\ 800xA for DCI\ 800xA for DCI Graphics Extension	ABB 800xA for DCI VB6 Graphics 5.1.01.msi	
ABB PAS - System Services	800xA Connectivities\800xA for MOD\ABB PAS - System Services	ABB PAS - System Services.msi	800xA for MOD 300 on page 248.
800xA for MOD 300	800xA Connectivities\800xA for MOD\ABB MOD300 Connect	ABB MOD300 Connect.msi	
ABB 800xA for MOD 300 VB Graphics Extension	800xA Connectivities\800xA for MOD\ABB 800xA for MOD 300 VB Graphics Extension	ABB 800xA for MOD 300 VB Graphics Extension.msi	
TRIO Integration	Additional Products\TRIO	setup.exe	
800xA for Harmony	800xA Connectivities\ 800xA for Harmony	ABB 800xA for Harmony 5.1.0 RU1.msi	800xA for Harmony on page 249.
800xA for Melody	800xA Connectivities\ 800xA for Melody	setup.exe	800xA for Melody on page 253.
SoftPoint Server	Information Management\ SoftPoint Server	setup.exe	
PLC Connect	800xA Connectivities\ PLC Connect\PLC Connect	setup.exe	
IEC 61850 Connect	800xA Connectivities\ 800xA for IEC 61850	setup.exe	

Table 20. Rollup Installation Information (Install in the Order Listed) (Continued)

Software	Path	Executable	Special Instructions
Asset Optimization	Asset Optimization\ Asset Optimization Server & Client	setup.exe	
SMS and e-mail Messaging	800xA Core Functionalities\ SMS and e-mail Messaging	setup.exe	
PC, Network and Software Monitoring	Asset Optimization\ PC, Network and Software Monitoring	setup.exe	
Multisystem Integration	800xA Core Functionalities\ Multisystem Integration	Setup.exe	
SFC Viewer	800xA Core Functionalities\ SFC Viewer	setup.exe	
Engineering Studio	Engineering & Development\ Engineering Studio	setup.exe	
Device Library Wizard	Device Management & Fieldbuses\ Device Library Wizard	setup.exe	Device Library Wizard on page 254.
Device Management FOUNDATION Fieldbus	Device Management & Fieldbuses\ FOUNDATION Fieldbus	Setup.exe	Device Management FOUNDATION Fieldbus on page 254.
Device Management PROFIBUS & HART	Device Management & Fieldbuses\ PROFIBUS & HART	setup.exe	
Batch Management	Production Batch Management	setup.exe	Batch Management on page 254.
Process Engineering Tool Integration	Engineering & Development\ Process Engineering Tool Integration	setup.exe	

Table 20. Rollup Installation Information (Install in the Order Listed) (Continued)

Software	Path	Executable	Special Instructions
Information Management	Information Management\ IM\Autorun	Launch.exe	Information Management on page 255.
RNRP	800xA Core Functionalities\ RNRP	Setup.exe	
800xA Documentation[1]	800xA Documentation\ABB 800xA Instructions for 5.0 SP2 Revision D	setup.exe	
System Installer[2]	System Installer	Setup.exe[2]	Refer to Note 2.

NOTES:

1. Domain Controller nodes only.
2. Applies only to new installations of System Installer. System Installer rollup must be copied to local drive. Setup.exe only modifies files for the System Verifier Tool.

800xA for AC 800M

Perform the following steps to install the products.

AC 800M High Integrity Controller Update

Firmware for PM865, SM810, and SM811 is available in the system extension AC800MHIExtension. This extension has to be installed and loaded into the system using the extension load.

1. Use Windows Explorer to navigate to the path shown in Table 20.

2. Double-click `Installer.exe` to begin the installation. The Welcome dialog box appears.

3. Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the suggested default settings are recommended.

4.   Click **Finish** to exit out of the installation.

⚠ The versions PM865, SM810, and SM811 in AC 800M HI Extension must be verified to be in conformance with the list of certified software combinations mentioned in Annex 2 of the *TÜV Certificate Report (3BSE054960)*.

AC 800M Connect

1.   Use Windows Explorer to navigate to the path shown in Table 20.

2.   Double-click `Installer.exe` to begin the installation. The Welcome dialog box appears.

3.   Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the suggested default settings are recommended.

4.   Click **Yes** to use the previous product settings instead of the default settings. (This question only appears when an existing installation exists.)

⚠ If 800xA for Advant Master is the clock master in the system, the settings must be manually entered. Otherwise, the old settings will be lost. Use the **Custom** installation and deselect the Time Adaptor.

5.   Click **Finish** to exit out of the installation.

OPC Server for AC 800M

1.   Record the service account settings in the OPC Server Setup Wizard.

2.   Use Windows Explorer to navigate to the path shown in Table 20.

3.   Double-click `Installer.exe` to begin the installation. The Welcome dialog box appears.

4.   Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the suggested default settings are recommended.

5.   Click **Yes** to use the previous product settings instead of the default settings. (This question only appears when an existing installation exists.)

6.   Click **Finish** to exit out of the installation.

7.   Use the *OPC Server Setup Wizard* to re-enter the previously used service account settings.

Control Builder M

1. Use Windows Explorer to navigate to the path shown in Table 20.

2. Double-click `Installer.exe` to begin the installation. The Welcome dialog box appears.

3. Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the suggested default settings are recommended.

4. Click **Yes** to use the previous product settings instead of the default settings. (This question only appears when an existing installation exists.)

5. Click **Finish** to exit out of the installation.

Base Software for SoftControl

1. Use Windows Explorer to navigate to the path shown in Table 20.

2. Double-click `Installer.exe` to begin the installation. The Welcome dialog box appears.

3. Read the text in each dialog box for important information concerning steps to be taken during installation. For normal use, the suggested default settings are recommended.

4. Click **Yes** to use the previous product settings instead of the default settings. (This question only appears when an existing installation exists.)

5. Click **Finish** to exit out of the installation.

800xA for DCI

If required to update 800xA Batch for DCI along with 800xA for DCI, always install 800xA for DCI first followed by 800xA Batch for DCI. Do not install 800xA Batch for DCI first or it will be removed when 800xA for DCI is installed.

1. Install 800xA for DCI software rollup.

    a. Use Windows Explorer to navigate to the path shown in Table 20.

    b. Double-click `ABB 800xA for DCI 5.1.01.msi` to begin the installation.

      c.   Follow instructions as shown in the dialog box to install the 800xA for DCI.

    2.   Install 800xA Batch for DCI software rollup.

      a.   Use Windows Explorer to navigate to the path shown in Table 20.

      b.   Double-click `ABB 800xA Batch for DCI 5.1.01.msi` to begin the installation.

      c.   Follow instructions as shown in the dialog box to install the 800xA Batch for DCI.

800xA for MOD 300

    1.   Install ABB PAS System Services on 800xA for MOD Connectivity Servers:

⚠️ Perform Step b through Step f on the backup Connectivity Server node first and then on the primary Connectivity Server node for all Connectivity Server pairs if ABB PAS System Services was uninstalled as part of the System Revision. Otherwise, proceed to Step 2.

      a.   Use Windows Explorer to navigate to the path shown in Table 20.

      b.   Double-click `ABB PAS - System Services.msi` to begin the installation.

      c.   Select MOD300 Connection for the required installation type.

      d.   Click **Install Now**.

      e.   Click **Continue Anyway** when the Hardware Installation dialog box appears.

      f.   Click **Finish**.

    2.   Install the 800xA for MOD 300 software with rollup:

⚠️ Perform Step b through Step f on the backup Connectivity Server first and then on the primary Connectivity Server for all Connectivity Server pairs.

      a.   Use Windows Explorer to navigate to the path shown in Table 20.

      b.   Double-click `ABBMOD 300 Connect.msi` to begin the installation.

    c.   The ABB MOD300 Setup dialog box appears. Choose required installation type (Client or Client/Connectivity Server).

    d.   Click **Install Now**. Client is preselected for all nodes types unless PAS System Services is installed. In that case the MOD 300 Client/Server install is the default.

    e.   When the MOD 300 Server Security Setup dialog box appears, enter the domain\user name and password of the service account (password is case sensitive) and click **OK**.

    f.   Click **Finish**.

3.   Set the passwords for PAS.

    a.   Open the run prompt and type `pasPwdAdmin.exe`.

    b.   Click **OK**.

    c.   Enter the domain\user id and password for the service account (password is case sensitive).

    d.   Click **OK**.

800xA for Harmony

Perform the installation on the backup 800xA for Harmony Connectivity Server node first followed by the primary 800xA for Harmony Connectivity Server node, and repeat for all 800xA for Harmony Connectivity Server node pairs. Finish by installing on the Aspect Server and 800xA Client nodes.

1.   Stop the following 800xA for Harmony services on the Harmony Server nodes being updated:

    a.   Select:

        Start > Control Panel > Administrative Tools > Services

    b.   Disable the following services:

–   Time synchronization daemon.
–   SoapSymTagAtomSrv.
–   EbDataSyncService.
–   EbServerBroker.

- – ABBDiagnosticService.
- – DD_xxxx - Where xxxx identifies the semAPI or hAPI device being used (this may or may not exist).

  Perform the following steps to disable these services:

- – Locate the service in the Services list.

- – Double-click the service to open the **Properties** dialog box of the corresponding service.

- – Change the **Startup type** to **Disabled**.

- – Click **Apply**.

- – Click **OK**.

  Repeat these steps for each of the services mentioned in Step b.

2. Open Windows Task Manager. Use End Process to stop any of the following processes that are still running:

   - – EbDataSyncService
   - – EbEventConServer
   - – EbI90Server
   - – EbServerBroker
   - – SymOpcServer
   - – tsyncdd

3. If the 800xA 5.1 post installation step to configure semAPI was executed, this service needs to be removed to avoid errors when updating system to the latest revision of 800xA 5.1, as 800xA for Harmony now uses the ABB Automation hAPI runtime service.

   a. Execute the following command from `Run` on the Windows Start Menu or from a Command Window:

      ```
      "C:\Program Files\ABB Industrial
      IT\SemAPI\EXE\WINNT\DeviceAsServiceU.exe" -u dd_xxxx
      ```

   Replace the xxxx portion with the text used during Step 4 of the ICI Device Configuration section of the *System 800xA Post Installation (3BUA000156*)*. If semAPI was configured, then xxxx represents the semAPI device. If hAPI was configured, then xxxx represents the hAPI device.

4. Perform this step only on Harmony Connectivity or combined Harmony Connectivity/Configuration Server nodes:

    a. Uninstall ABB Automation semAPI Runtime using the Programs and Features application in Windows Control Panel.

    b. If ABB Automation hAPI Runtime was previously installed, uninstall it using the Programs and Features application in Windows Control Panel.

    –   After uninstallation completes, use Windows Explorer and navigate to the `Program Files\ABB Symphony Plus` folder.

    –   Delete the `ABB Symphony Plus` folder and its contents.

5. Perform this step only on Harmony Connectivity Server and Harmony Configuration Server nodes.

    a. Use Windows Explorer to navigate to the path shown in Table 20.

    b. Double-click `InstallSQL2008SP2.bat` to install SQL Server 2008 SP2.

6. Use Windows Explorer to navigate to the path shown in Table 20.

7. Double-click `ABB 800xA for Harmony 5.1.0 RU1.msi` to begin the installation. The Welcome dialog box appears. Click **Next** to continue the installation.

8. Click **Next** in the following dialog box and then **Finish** when the installation is complete.

9. Repeat Step 1 through Step 8 for all Connectivity Server, Configuration Server, and Aspect Server nodes in the System.

10. Perform the following on the Connectivity Servers and Configuration Servers only.

    a. Navigate to the following folder using Windows Explorer:

    `\ABB Industrial IT\OperateIT\Base`

    b. Double-click `SetTimeSyncDACL.bat` file on the machine that must be updated in 800xA System.

11. Perform the following on the Connectivity Servers or Configuration Server with Connectivity Server nodes only.

      a.   Install the HarmonyAPI (hAP) runtime service. From a command window, type the following and then press enter:

          `ABB-HarmonyAPI30-RuntimeSetup`

          Click **Next** to install the HarmonyAPI.

      b.   Accept the License Agreement and click **Next**.

      c.   Ensure to configure **Setup Type** as **Complete** and click **Next**.

      d.   Once the installation is complete a message appears to restart the machine.

12. Perform this step only on Harmony Connectivity or Harmony Configuration Server with Connectivity Server nodes:

      a.   Run the following program via the Windows Start Menu:

          `Start/ABB Symphony Plus/Engineering/HarmonyAPI/ ABB Harmony System Configuration Utility.`

      b.   A dialog appears saying a configuration file was not found and one will be created.

      c.   Select the Physical ICI Device corresponding to the SCSI device (or Serial port) that was in use in the running 800xA 5.1 system.

      d.   Click **Apply** and then **Quit**.

13. Start the following 800xA for Harmony services on the Harmony Server nodes being updated:

      a.   Select:

          Start > Control Panel > Administrative Tools > Services

      b.   Enable the following services:
–   Time synchronization daemon
–   SoapSymTagAtomSrv
–   EbDataSyncService
–   EbServerBroker
–   ABBDiagnosticService

          Perform the following steps to enable these services:

–   Locate the service in the Services list.

      – Double-click the service to open **Properties** dialog box of the corresponding service.

      – Change the **Startup type** to **Manual**.

      – Click **Apply**.

      – Click **OK**.

      Repeat these steps for each of the services mentioned in Step b.

14. On one machine that has been updated in the 800xA System, Import the following afw files:
   – HarmonyConnect_6.afw
   – HarmonyConnect_7.afw

   located in the following path:

   ```
   Program Files\ABB Industrial
   IT\OperateIT\HarmonyConnect\import folder
   ```

   Ignore any missing dependency or missing aspect warnings encountered.

800xA for Melody

1. Install the software on the 800xA nodes.

   a. Use Windows Explorer to navigate to the path shown in Table 20.

   b. Double-click `startup.exe` to begin the installation.

2. Shut down the Melody Tag Importer on the Configuration Server node (Config Server):

   a. Right-click the Tag Importer icon (traffic light in the notification area on the far right side of the Taskbar).

   b. Select **Shutdown Melody Tag Importer**.

   c. Confirm the shutdown of the Melody Tag Importer by waiting for the dialog box to appear.

3. Install the software on the Configuration Server node (Config Server).

Device Library Wizard

In the Welcome dialog box, the **ABB Device Library Wizard Client** check box is selected by default:

- Leave the **Install Device Library Wizard - Client** check box selected on all 800xA System nodes.

- Select the **Install Device Library Wizard - Server** check box on all Aspect Server nodes only (including redundant Aspect Server nodes).

Device Management FOUNDATION Fieldbus

Click **Keep Blocked** when the dialog box for the Firewall appears.

Device Management PROFIBUS & HART

When updating from any previous version:

- Select all products except the following:
    - ABB PROFIBUS Device Integration Library.
    - ABB FDT Base Container.
    - ABB HART Device Integration Library.

- Select ABB HART Multiplexer Connect only if it was installed in previous releases.

Batch Management

Use this procedure to install Batch Servers (primary and if applicable, secondary), and Batch Clients. Any differences in the procedures will be noted.

The Batch Primary Server and Batch Secondary Server (if present) must be updated **as a pair** with the Batch Primary Server being installed first and then the Batch Secondary Server.

Install Batch Clients on all nodes in the 800xA System other than the primary and secondary Batch Server nodes as the Batch Servers already have the Batch Client installed (by default).

> **i** Do not initialize the Batch Runtime database when asked to do so.

> **i** The folder containing the `setup.exe` file must have a path shorter than 115 characters.

1. Use Windows Explorer to navigate to the path mentioned in the Table 20.

2. Double-click `setup.exe` to begin the installation.

3. Follow the Installation Wizard to complete the installation.

Information Management

Detailed instructions for installing the Information Management rollup are described as follows:

1. Use Windows Explorer to navigate to the path shown in Table 20.

2. Double-click `Launch.exe` to begin the installation.

3. Select the **Upgrade** option. This displays the list of Information Management components for the selected node type. Components that have checks in both columns will be removed and then reinstalled by the wizard.

4. Click **Upgrade** when ready to begin the rollup installation. The wizard will perform the entire update without requiring any operator input.

5. When the software installation is complete, the Set PAS Service Account dialog box is displayed. Enter the Service account username and password (and confirm password) as specified in the Wizard System Software User Settings dialog box. Click **OK**.

6. Click **Exit** when the Install Complete message appears.

7. Click the Close Window button (X) in the top right hand corner of the Restart Windows dialog box.

> **!** DO NOT click **Restart Now**.

8. Click **Exit**.

Version Verification

Use the Information Management Version Info tool to verify that the applicable components have been replaced.

1. To launch the Information Management Version Info tool, select:

    Start > Programs > ABB Industrial IT 800xA > Information Mgmt > Version Info

2. Verify that the component versions shown in the Information Management Version Info tool for the following components are the same as those shown in *System 800xA 5.1 System Software Versions (3BSE056732*)*. If the version of any component does not match, continue to Step 3.

- Application Scheduler
- Calculations
- DataDirect
- Desktop Trends
- Desktop Trends/Client (and /Server)
- Display Services
- History
- ODA Provider

3. Use Windows Explorer to navigate to the path shown in the Table 20 to execute the IM installation wizard.

4. Double-click **Launch.exe** to launch the Information Management Installation Wizard.

5. Click on the installation type that corresponds to the missing component(s) in this rollup.

6. Continue as necessary to install all components.

Appendix A Installation Media

Introduction

The 800xA System documentation and software is delivered on:

- **System Version 5.1 Released Documents CD:** Contains 800xA System and Functional Area instructions and Release Notes in pdf format, and any required updates that do not appear on the DVDs. Table 21 lists the directory structure.

- **800xA System Installation DVD 1:** Contains 800xA System and Functional Area software. Table 22 lists the directory structure.

- **800xA System Installation DVDs (DVD 2, DVD 3, and DVD 4) for Device Libraries:** Each DVD contains Device Libraries of a specific fieldbus protocol for use in the 800xA System in connection with Device Management PROFIBUS & HART and/or Device Management FOUNDATION Fieldbus.

- **800xA System Installation DVD 5:** Contains Oracle 11 installation files to be used with Information Management. The contents of DVD 5 has been replaced by the Oracle software provided on the latest System Revision media. The Oracle install provided on the System Revision media must be used for all Information Management Installations.

- **800xA System Installation DVD 6:** Contains the latest System Revision updates. The Oracle install provided on this media is used for all Information Management Installations.

Feature Pack Functionality _____

- **800xA System Installation DVD 7:** Contains the latest Feature Pack updates.

Table 21. System Version 5.1 Released Documents CD

Directory	Contents
System Version 5.1 Released Documents	System Version 5.1 Released Documents
	Release Notes

Table 22. 800xA System Installation DVD 1

Directory	Software

3rd_Party_SW	ABB
	    ABB 800xA Common 3rd Party Install
	    ECS

	AutoDesk
	Microsoft Hotfixes
	Microsoft SQL Server

Table 22. 800xA System Installation DVD 1 (Continued)

Directory	Software

800xA Connectivities	800xA for AC 800M
	     AC 800M Connect
	     AC 800M HI Extension
	     AC 800M VB Graphics Extension
	     OPC Server for AC 800M

	800xA for Advant Master
	800xA for Advant Master VB Extension

	800xA for Harmony
	     Harmony Batch
	     Harmony CNAM
	     Harmony VB Graphics
	     SemAPI

	800xA for IEC 61850
	     IEC 61850 Connect
	     IEC 61850 OPC Server
	     IEC 61850 SCL Components

	800xA for IEC 61850 VB Graphics Extension
	800xA for Melody
800xA Connectivities (continued)	800xA for MOD
	800xA for SafeGuard
	800xA for Safeguard VB Extension

	PLC Connect
	     PLC Connect
	     PLC Connect VB Graphics Extension

Table 22. 800xA System Installation DVD 1 (Continued)

Directory	Software
800xA Core Functionalities	Diagnostic Tools 　　Diagnostics Collection Tool
	Licensing 　　CLS 　　CLS Extension
	Multisystem Integration
	Process Portal A
	RNRP
	SFC Viewer
	SMS and e-mail Messaging
800xA Documentation	Software for installing 800xA documentation
Additional Products	S800 IO FW 　　CI801 　　CI840
	TRIO

Table 22. 800xA System Installation DVD 1 (Continued)

Directory	Software

Asset Optimization	Asset Optimization Server & Client
	    Asset Optimization VB Graphics Extension
	    MatLab
	    PPB

	PC, Network and Software Monitoring
	    ABB PC, Network and Software Monitoring VB Graphics Extension
	    Network Monitor

	PNSM Device Library
	    Base
	    Others
	    Servers
	    Switches
	    UPS

Device Management & Fieldbuses	Device Library Wizard
	    ABB Device Library Wizard - Client
	    ABB Device Library Wizard - Server

	FOUNDATION Fieldbus
	    FF VB Graphics Extension
	    Fieldbus Builder FF

Table 22. 800xA System Installation DVD 1 (Continued)

Directory	Software

Device Management & Fieldbuses (continued)	PROFIBUS & HART
	    FDT Base Container
	    FDT Shared Components
	    Fieldbus Builder PH
	    HART Device Integration Library
	    HART DTM Builder
	    HART Multiplexer Connect
	    PROFIBUS Device Integration Library
	    PROFIBUS DTM Builder
	    S800 IO DTM
	    S900 IO DTM
	    Version Verification

Table 22. 800xA System Installation DVD 1 (Continued)

Directory	Software

Engineering & Development	Accessories
	    Digital Signatures Upgrade Tools
	        SV3
	        SV4

	Aspect Express

	Aspect Studio
	    Aspect Studio
	    Process Portal A SDK Extension

	Base Software for Soft Control

	Control Builder M
	    FirmwareFiles
	    Tools

	Engineering Studio
	    Engineering Studio
	        FD Import Delete
	    Tools

Engineering & Development (continued)	Legacy Graphics Library
	Process Engineering Tool Integration

Table 22. 800xA System Installation DVD 1 (Continued)

Directory	Software
Information Management	Autorun
	Calculations
	Data Direct
	Historian Tools
	Scheduler
	SoftPoint Server
	Structured Data Logger SDLSQLServerInstallation
	Structured Data Logger Data
Production Management	Batch Management

System Installer	Installation Tools
	        System Planner
	        Upgrade
	        Windows Config

	System Installer
	        DotNetFramework
	        InstallShield

Appendix B Engineering Repository

Introduction

The Engineering Repository is a simple source control system for:

- Storing engineering solutions.
- Moving engineering solutions between Engineering and Production systems.
- Comparing engineering solutions.

Engineering Repository Web Service Configuration

The Web service can be installed stand-alone and is independent of 800xA Base installation.

Windows Server 2008

1. Install IIS.

   a. Open the Server Manager (Computer > Manage).

   b. Select the **Roles** item and click on **Add Roles**.

   c. Check **Web Server (IIS)**.

   d. If asked **Add features required for Web Server (IIS)**?, click **Add Required Features**.

   e. Click **Next**.

   f. Select **ASP.NET**.

   g. If asked **Add role services and features required for ASP.NET**?, click **Add Required Role Services**.

   h. Select **Basic Authentication** and **Windows Authentication** under **Security**.

      i.   Select I**IS Management Console**, **IIS Management Scripts** and **Tools and Management Service**.

      j.   Click **Next**.

      k.   Click **Install** (This may take some time).

2. WCF is installed as standard, HTTP activations aren't by default. To activate these, on your machine, open Control Panel / Programs and Features, Turn Windows Features on or off / Install, Windows Communication Foundation HTTP Activation.

      a.   Open the Server Manager (Computer ->Manager).

      b.   Select the **Features** item and click on **Add Features**.

      c.   Select **WCF Activation** (**Both HTTP Activation** and **Non-HTTP Activation**) under **.NET Framework 3.0 Features**.

      d.   Click **Next**.

      e.   Click **Install**. (This may take some time)

3. Install the Engineering Repository Web service.

      a.   Copy the directory "ERService" that is located in "C:\Program Files\ABB Industrial IT\Operate IT\Process Portal A" on a computer where 800xA Base is installed, to "C:\Inetpub\wwwroot\ERService" on the computer where the service shall run (can be the same computer).

b. In the Internet Information Services (IIS) Manager, create a new Virtual Application by right-clicking on the **Default Web Site** and select **Add Application**.

Follow any of the below procedures to start Internet Information Services (IIS) Manager:

- To start IIS Manager from the Run dialog box, perform the following steps:

1. On the **Start** menu, click **All Programs**, click **Accessories**, and then click **Run**.

2. In the **Open** box, type **inetmgr** and then click **OK**.

- To start IIS Manager from the Administrative Services console, perform for the following steps:

1. On the **Start** menu, click **All Programs**, click **Accessories**, and then click **Run**.

2. In the **Run** text box, type **control panel**, and then click **OK**.

3. In the **Control Panel** window, click **Classic View**, and then double-click **Administrative Tools**.

4. In the **Administrative Tools** window, double-click **Internet Information Services**.
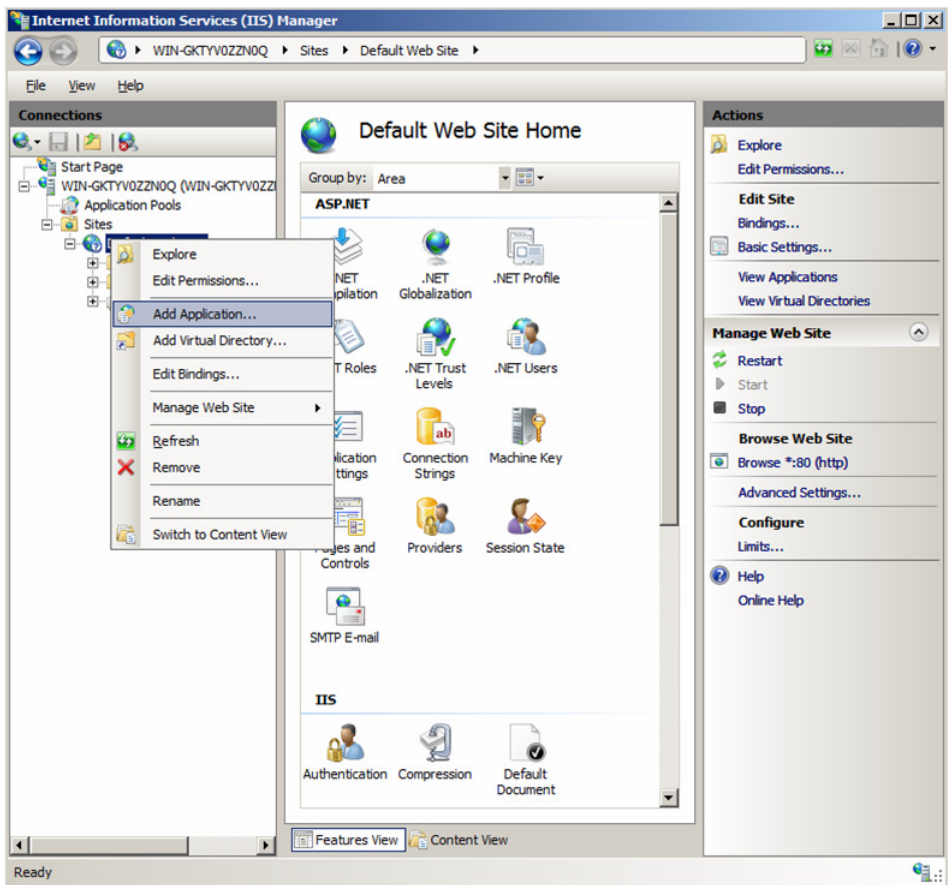
Figure 61. Add Application

c.   In the **Alias** field enter "AfwDistEngWcfServices" and for the **Physical path** browse to the ERService folder. Connect as Application User (pass-through authentication).
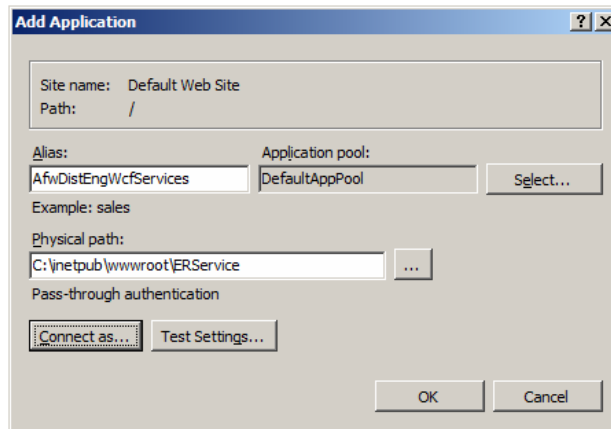
Figure 62. Add Application Window

d.   Click **OK**.

e.   Select AfwDistEngWcfServices in the connection pane and click on **Edit Permission** in the Actions pane.

f.   In the ERService folder property dialog select the security tab. Click on Edit to change permissions. For the user NETWORK SERVICE set Allow permissions for **Read & execute**, **List folder contents**, **Read** and **Write**.

If NETWORK SERVICE does not exist in the **Groups or user names** windows it must be added.
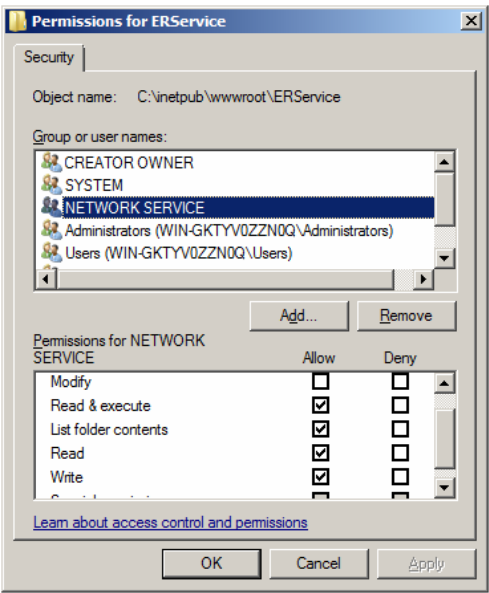
Figure 63. ERService Permissions

g. In the Internet Information Services (IIS) Manager, select AfwDistEngWcfServices and open the Authentication feature. Enable **Windows Authentication** and disable all others.
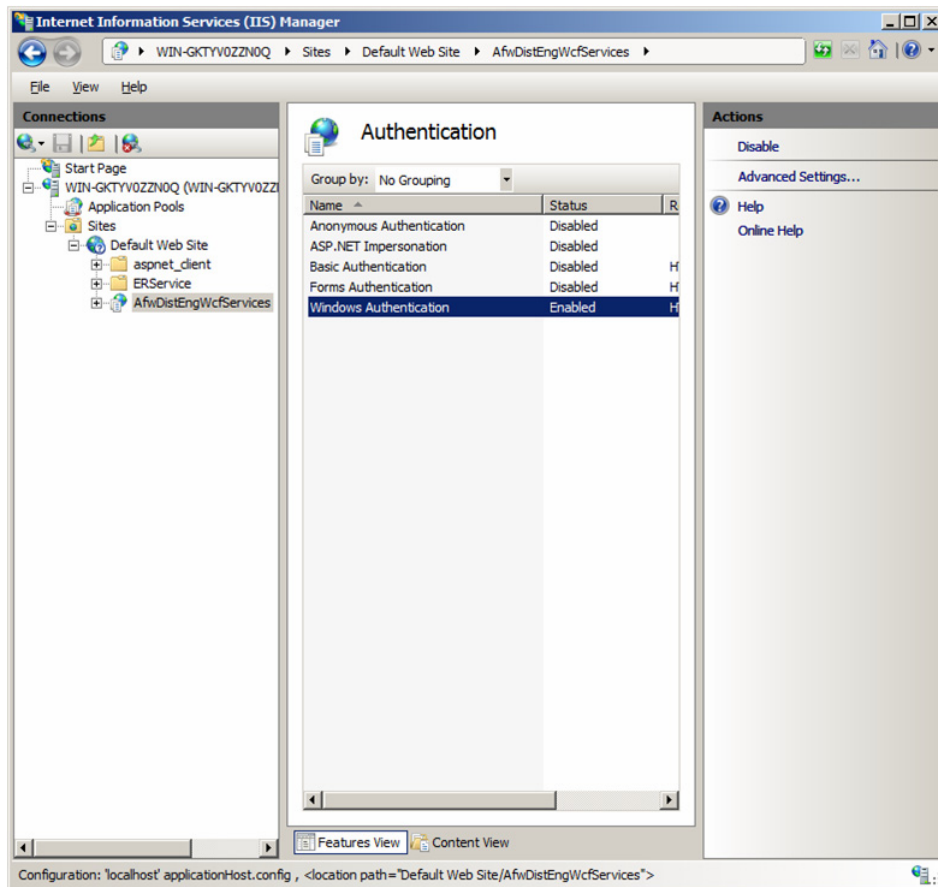
Figure 64. Enabling Windows Authentication

       h.   Verify that the service is working by opening up Internet Explorer and navigate to http://localhost/AfwDistEngWcfServices/DistEngService.svc. If the service is working this page will be displayed.
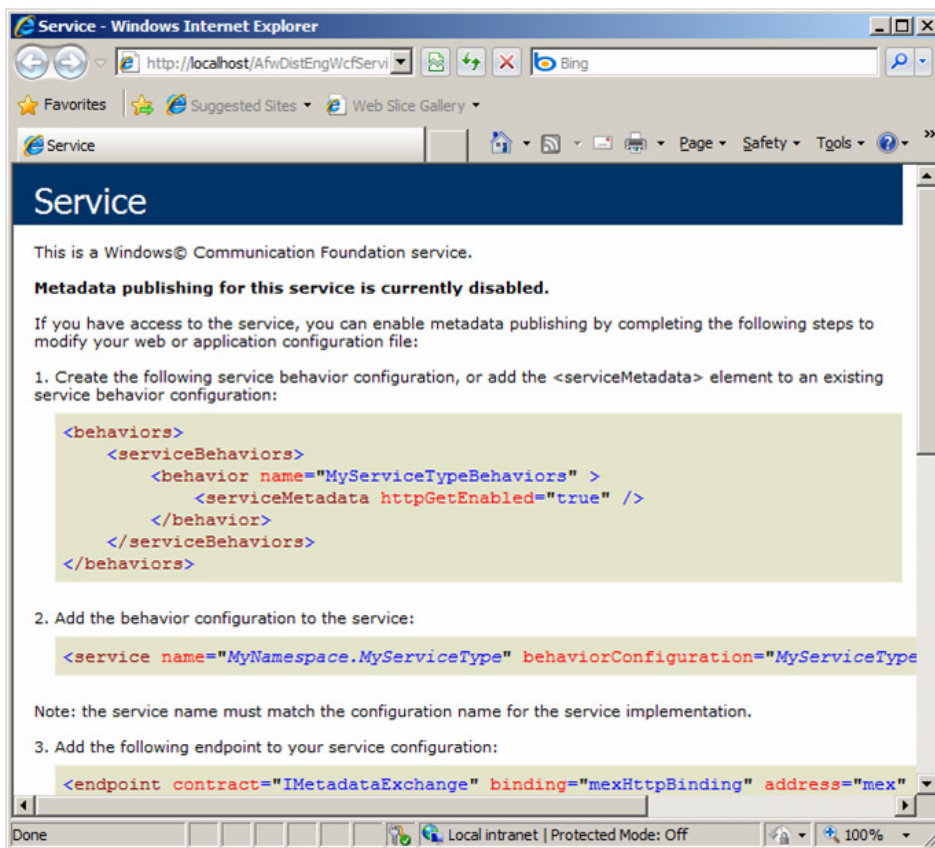
Figure 65. Service Display

Windows 7

      1.   Install IIS.

          a.   Open the **Program and Features** in the **Control Panel**.

b.   Click on **Turn Windows features on or off**.

c.   Select **.NET Extensibility**, **ASP.NET**, **ISAPI Extensions** and **ISAPI Filter**.
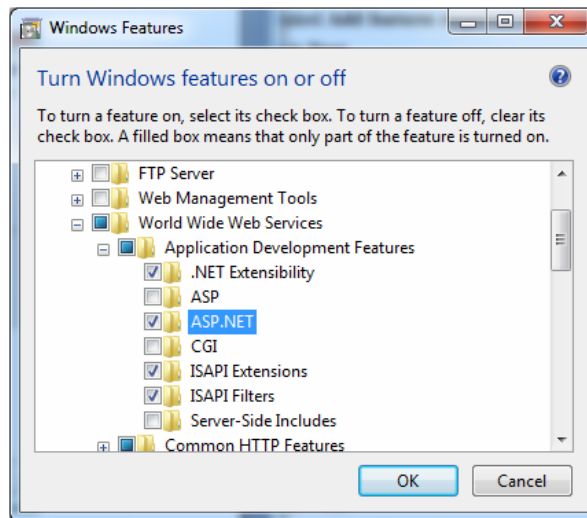
Figure 66. Windows Features Dialog - Application Development Features

d.   Select **Basic Authentication**, **Request Filtering** and **Windows Authentication**.
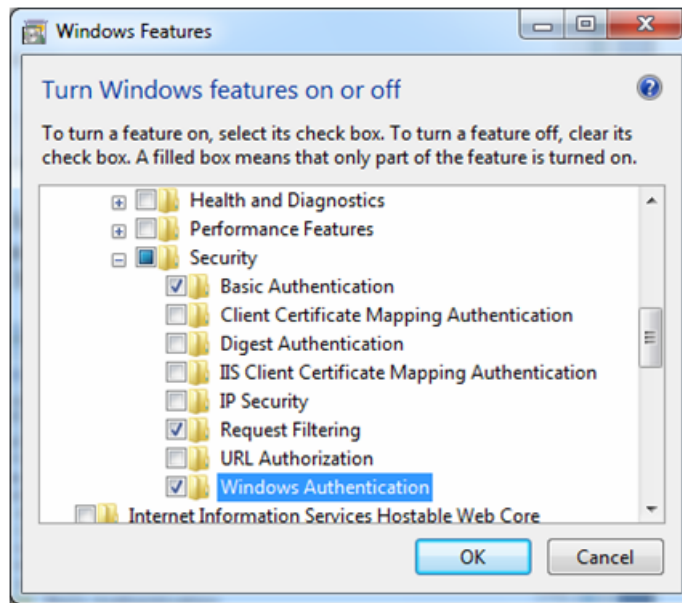
Figure 67. Windows Features Dialog - Security

      e.   Select **IIS Management Console**, **IIS Management Scripts and Tools** and **IIS Management Service**.
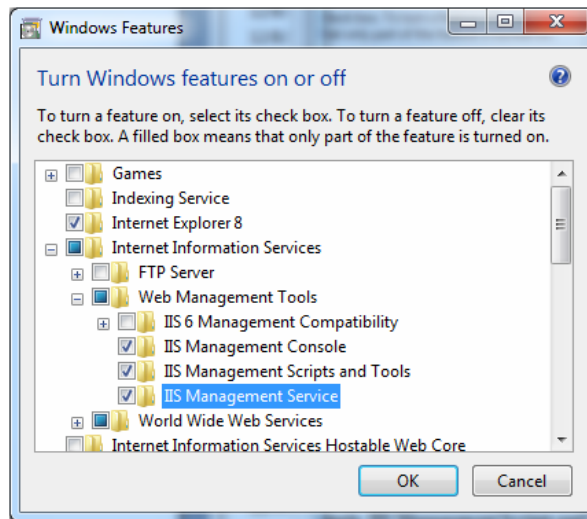
Figure 68. Windows Features Dialog - Web Management Tools

    f.   Select **Windows Communication Foundation HTTP Activation** and **Windows Communication Non-HTTP Activation**.
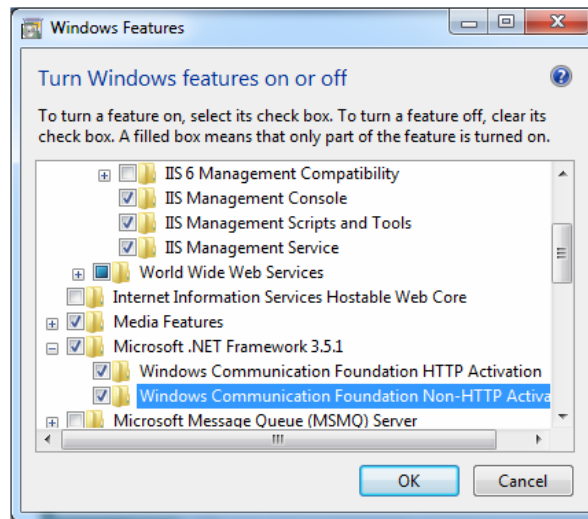
Figure 69. Windows Features Dialog - Windows Communication

    g.   Click **OK** (This may take some time).

2.   Install the Engineering Repository Web service.

    a.   Copy the directory "ERService" that is located in "C:\Program Files\ABB Industrial IT\Operate IT\Process Portal A" on a computer where 800xA Base is installed, to "C:\Inetpub\wwwroot\ERService" on the computer where the service shall run (can be the same computer).

    b.   In the Internet Information Services (IIS) Manager, create a new Virtual Application by right-clicking on the **Default Web Site** and select **Add Application**.

Follow any of the below procedures to start Internet Information Services (IIS) Manager:

- To open IIS Manager from the Start menu, perform the following steps:

1. Click **Start**, and then click **Control Panel**.

2. Click **System and Security**, and then click **Administrative Tools**.

3. In the **Administrative Tools** window, double-click **Internet Information Services (IIS) Manager**.

- To open IIS Manager from the Search box, perform for the following steps:

1. Click **Start**.

2.In the Start Search box, type **inetmgr** and press Enter.
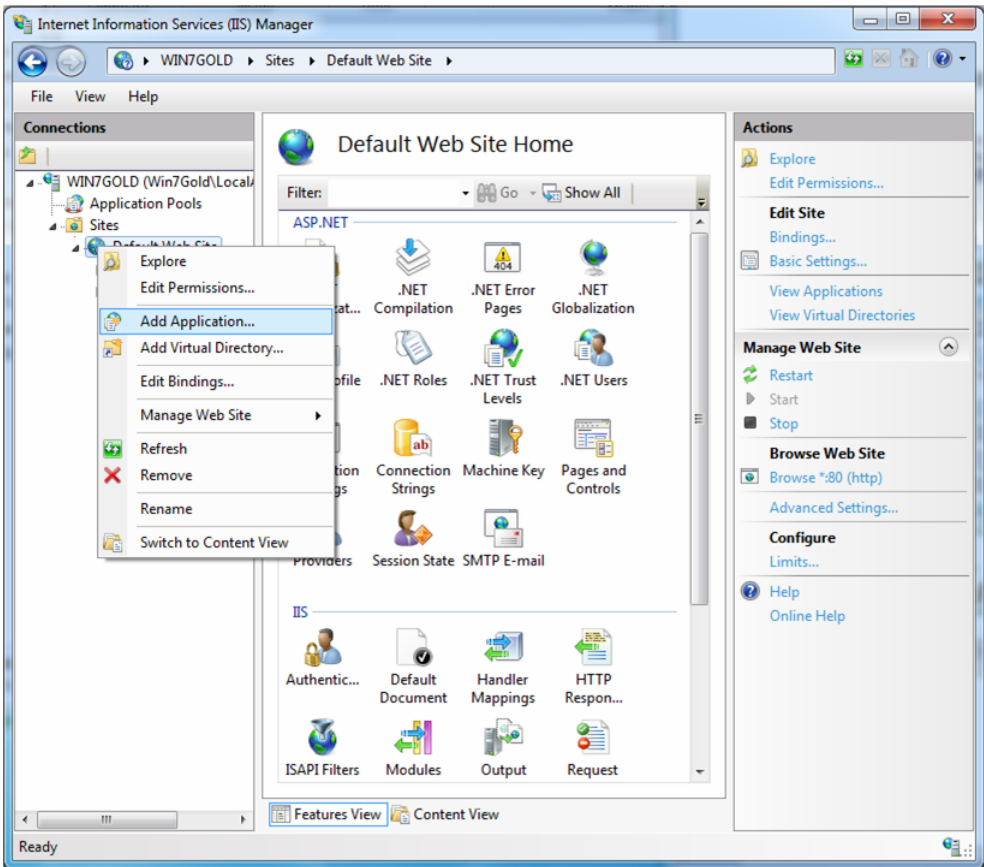
Figure 70. Add Application - Windows 7

c.   In the **Alias** field enter "AfwDistEngWcfServices" and for the **Physical path** browse to the ERService folder. Connect as Application User (pass-through authentication).
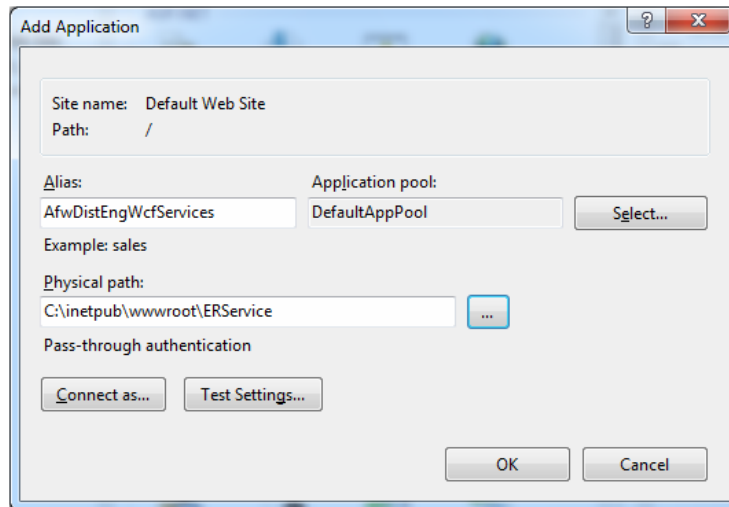
Figure 71. Add Application Window - Windows 7

d.   Click **OK**.

e.   Select AfwDistEngWcfServices in the connection pane and click on **Edit Permission** in the Actions pane.

f.   In the ERService folder properties dialog select the security tab. Click on Edit to change permissions. For the user NETWORK SERVICE set Allow permissions for **Read & execute**, **List folder contents**, **Read and Write**.

If NETWORK SERVICE does not exist in the **Groups or user names** window it must be added.
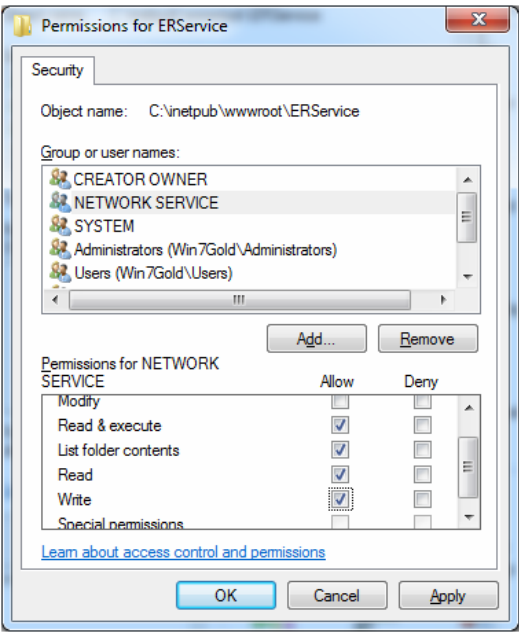
Figure 72. ERService Permissions - Windows 7

g.   In the Internet Information Services (IIS) Manager, select
     AfwDistEngWcfServices and open the Authentication feature. Enable
     Windows Authentication and disable all others.
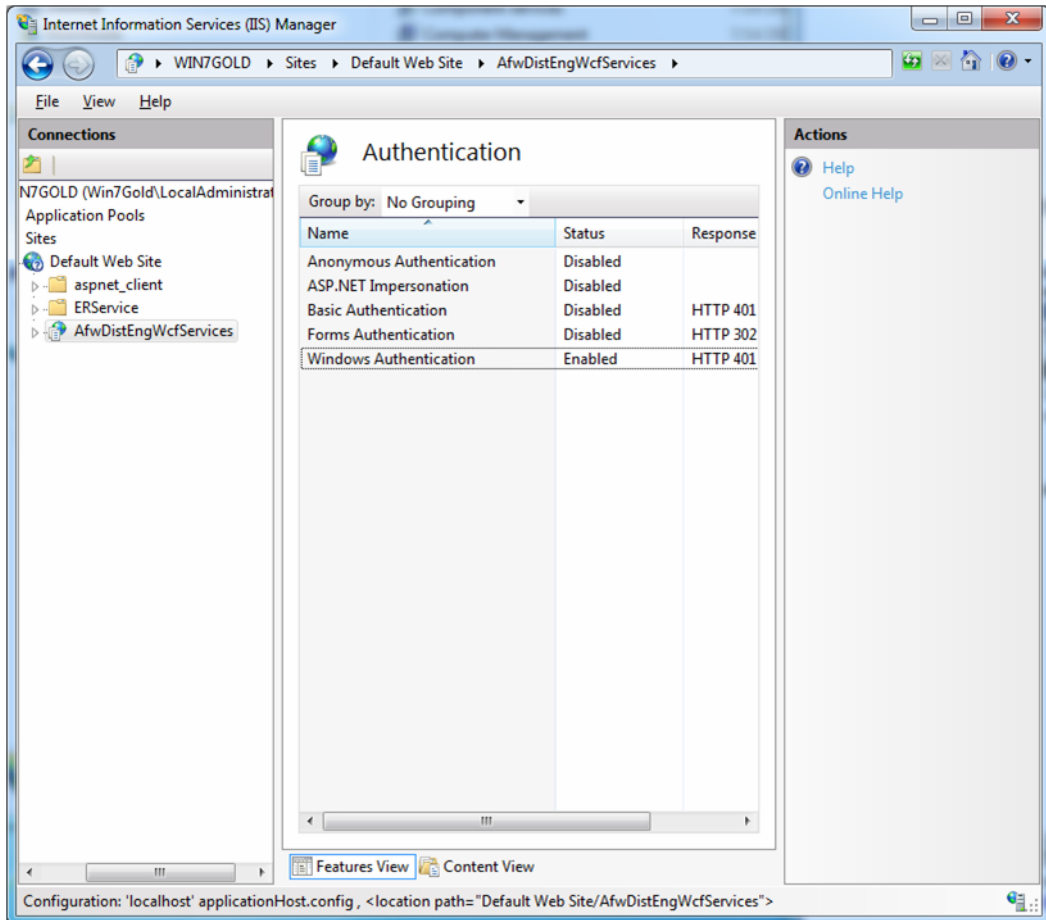
Figure 73. Enabling Windows Authentication - Windows 7

h.   Verify that the service is working by opening up Internet Explorer and navigate to http://localhost/AfwDistEngWcfServices/DistEngService.svc. If the service is working this page will be displayed.
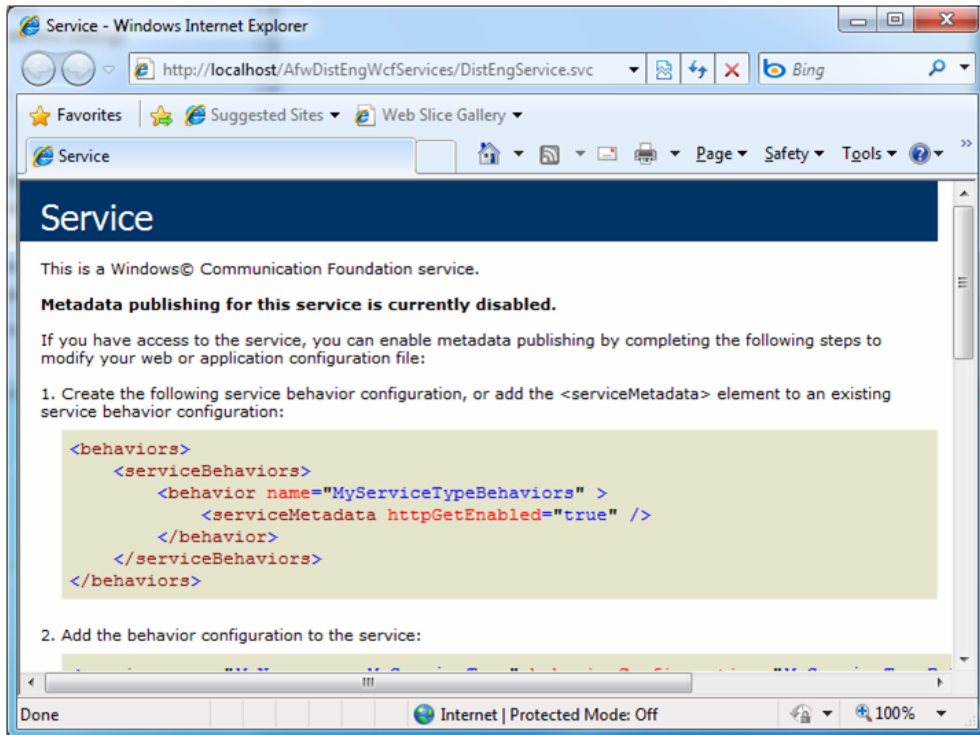
Figure 74. Service Display - Windows 7

Common Problems

1.   The user cannot connect the client to the server and you get a security message: Make sure that the UTC-time between the client and the server does not differ more that 5 minutes.

2.   The user cannot connect the client to the server: Try using the IP-address instead of the computer name when connecting.

3. Login Dialog: If a user other than the current Windows user is used to log in to the server, the password must be entered every time the Engineering Repository Browser is started.

4. The user may experience the following error:
    HTTP Error 404.3 - Not Found

Description: The page requested by the user cannot be served because of the Multipurpose Internet Mail Extensions (MIME) map policy that is configured on the Web server. The requested page has a file name extension that is not recognized, and is not allowed.
To resolve this issue, you need to take the following steps:

a. Run a command prompt window as administrator. Start, cmd as normal then press CTRL+SHIFT+ENTER.

b. Navigate to c:\windows\Microsoft.Net\Framework\v3.0\Windows Communication Foundation\.

c. Run the command 'ServiceModelReg -i' - The user should receive the results below.

d. Exit.

Configuration Verification

Verify that the Engineering Repository Web Service is correctly configured by performing the following:

1. Start Internet Explorer.

2. Enter the following address in the Address bar:

    ```
    http://localhost/AfwDistEngServices/
    DistributedEngineering.asmx
    ```

A web page should display which operations are provided by the Engineering Repository Web Service.

Client Configuration

When starting the Engineering Repository user interface for the first time, enter the name of the server if it is located on a different workstation.

The Engineering Repository user interface can be started from the toolbar in the Plant Explorer or from a context menu:

1. Start the Plant Explorer.

2. Navigate to an Entity (such as Control Project) and right-click on it to display the context menu. The context menu has an item called Engineering Repository.

Common Problems

Some common problems associated with the configuration of the Engineering Repository are described in Table 23.

Table 23. Common Problems

Problem	Solution
Cannot connect the client to the server and a security message is displayed	Make sure that the UTC time between the client and the server does not differ more that 5 minutes. If the time difference is considered impossible to correct, it is possible to increase to maximum allowed time difference. To increase the time difference tolerance, modifications in the configuration file for both the service and the clients must be performed. The configuration file for the service is called **Web.config** and is located in the directory where the service is installed. The configuration file for the client is called **AfwEngineeringRepository.exe.config** and is located in the bin directory of 800xA. Similar modification shall be done in both files. The time difference tolerance should be set as low as possible.
Cannot connect the client to the server	Use the IP address instead of the computer name when connecting or ensure that Microsoft WSE 3.0 is installed on both the client and the server.
Login dialog	If a user other than the current Windows user is used to log in to the server, the password must be entered every time the Engineering Repository Browser is started

Table 23. Common Problems (Continued)

Problem	Solution
Validation of Engineering Repository Web Service from Internet Explorer fails if ASP.NET 2.0 is not registered with IIS	Select **Start > Run** and enter `aspnet_regiis.exe -i` in the command window to register ASP.NET 3.0 with IIS. aspnet_regiis.exe is placed in %Systemroot%\Microsoft.NET\Framework\2.0.x.
Logon to Engineering Repository failed	Ensure ASP.NET 2.0 is an "Allowed" Engineering Repository Web Service Extension. This only applies if the Web Service is running on Windows Server 2008. To set this: 1. Right-click on the My Computer icon from the desktop. 2. Select **Manage**. 3. Select Web Service Extensions. 3. Click **Allow**.

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Revision History

Introduction

This section provides information on the revision history of this User Manual.

ℹ️ The revision index of this User Manual is not related to the 800xA 5.1 System Revision.

Revision History

The following table lists the revision history of this User Manual.

Revision Index	Description	Date
-	First version published for 800xA 5.1	June 2010
A	Updated for Windows 7 Versions	Feb 2011
B	Updated for 800xA 5.1 Rev A	May 2011
C	Updated for 800xA 5.1 Feature Pack	Aug 2011

Updates in Revision Index A

The following table shows the updates made in this User Manual that were made to correct supported versions of Windows 7.

Updated Section/Sub-section	Description of Update

Section 2, Selecting the Windows Operating System	Changed the following statement
	    from:
	800xA System software may be installed on the 32-bit (x86) US English version of Windows Server 2008 Standard edition with Service Pack 2, or 32-bit (x86) US English version of Windows 7 Business or Enterprise edition.
	    to:
	800xA 5.1 System software may be installed on the 32-bit (x86) US English version of Windows Server 2008 Standard or Enterprise edition with Service Pack 2, or the 32-bit (x86) US English version of Windows 7 Professional or Enterprise edition. Windows Server 2008 R2 is not supported.

Updates in Revision Index B

The following table shows the updates made in this User Manual for 800xA 5.1 Rev A.

Updated Section/Sub-section	Description of Update
About this User Manual	Added the Password Caution in the sub-section *General*.
Section 1 Installation Overview	Changed the flow chart in the sub-section *Installation Sequence*, *Figure Install 800xA 5.1 Revision A using System Update Tool (SUT) or manually as described in Section 30*.

Updated Section/Sub-section	Description of Update
Section 2 Prerequisites	Removed the points on Information Management (IM) in the sub-section *Selecting the Windows Operating System* as IM supports Windows 7 also.

Section 2 Prerequisites	Changed the following statement in the sub-section *Enable Write Caching on Hard Disks*:
	
	    from:
	
	Windows may allow disabling the write cache buffer flushing on the hard disks o improve performance.
	
	    to:
	
	Windows may allow disabling the write cache buffer flushing on the hard disks to improve performance.

Section 2 Prerequisites	Updated the procedure to enable IIS components for Windows 7.
Section 2 Prerequisites	Added a new sub-section *Enable Detailed Error in IIS.*
Section 2 Prerequisites	Updates for the sub-section *Enable SNMP Service.*
Section 2 Prerequisites	Added Microsoft Office Professional version 2010 in the sub-section *Microsoft Office Professional.*
Section 2 Prerequisites	Version changes are updated in the sub-section *Crystal Reports*.
Section 2 Prerequisites	Oracle installation procedure updated in the sub-section *Information Management Specific Requirement*.
Section 5 RNRP	Added Information in the sub-section *Installation*.
Section 11 800xA for AC 800M	Changes are updated in the sub-section *AC 800M Connect*.
Section 17 IEC 61850 Connect	Added Information in the sub-section *Installation*.
Section 18 Asset Optimization	Added Information in the sub-section *Accessing Maximo Server Version 6.2 and SAP Server Version 4.7*.

Updated Section/Sub-section	Description of Update
Section 23 Device Management PROFIBUS & HART	Added Information in the sub-section *Installation*.
Section 22 Engineering Studio	Added Information in the sub-section *Installation*.
Section 25 Information Management	Changes updated in the sub-section *Desktop Tools*.
Section 28 Snapshot Reports	Added the new section.
Section 30 Update to 800xA 5.1 Rev A	Added the new section.

Updates in Revision Index C

The following table shows the updates made in this User Manual for 800xA 5.1 Feature Pack.

Updated Section/Sub-section	Description of Update
About this User Manual	Added a new section *Feature Pack* describing the user manual conventions used for indicating the Feature Pack content. Minor changes made in the section.
Section 1 Installation Overview	Added the Flow chart for Feature Pack installation and updated the description in the sub-section *Installation Sequence*. Feature Pack Icon added.
Section 9 SFC Viewer	Added the Information in the section. Feature Pack Icon added.
Section 11 800xA for AC 800M	Changed **AC 800M Time Adapter** to **AC 800M Time Adaptor** in the sub-section *AC 800M Connect*.

Updated Section/Sub-section	Description of Update
Section 18 Asset Optimization	Updated ECS version changes in the sub-section *Accessing Maximo Server Version 6.2 and SAP Server Version 4.7.* Feature Pack Icon added.
Appendix A Installation Media	Changes made in the section. Feature Pack Icon added.

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