Foxboro
®

by Schneider Electric

Foxboro Evo™
Process Automation System

System Definition: A Step By Step Procedure

SOFTWARE LICENSE AND COPYRIGHT INFORMATION

Contents

Figures

Tables

Preface

This document provides a step-by-step procedure for defining a Foxboro Evo™ Control Core Services (hereinafter referred to as the Control Core Services) system configuration using the System Definition (SysDef) software. Although this procedure uses a small system on a Windows® platform as an example, the step-by-step procedure can be used to define any Control Core Services or I/A Series® system operating on a Windows or Solaris™-based[1] platform. Procedures apply to all Foxboro Evo systems, both large and small. This procedure demonstrates one approach for defining a Foxboro Evo system using System Definition software. Refer to the System Definition Help system for other approaches to define a Foxboro Evo system.

This document creates a small Foxboro Evo Process Automation System with the following hardware:

- ♦ 24-port switch (SW24P)
    - ♦ Application Workstation 70 running the Windows XP® or Windows Server® 2003 operating system (AW70P)

─ **NOTE** ─────────────────────────────────

The Application Workstation 70 station type (AW70P) is no longer supported on systems with I/A Series software v8.8 or Control Core Services v9.0 or later with Windows 7® or Windows Server® 2008 R2 Standard operating systems. However, the AW70P station type is retained in the example described in this document to be consistent with the screenshots provided. I/A Series software v8.8 or Control Core Services v9.0 or later supports station types "WSTA70" for a workstation or "WSVR70" for a server.

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- ♦ Field Control Processor 270 (FCP270)
    - ♦ FBM201 (2)
    - ♦ FBM204
    - ♦ FBM208.

─ **NOTE** ─────────────────────────────────

A system with Field Control Processor 280s (FCP280s) would be configured in a similar manner, as a system with FCP270s, with a FCP280 in place of each FCP270. The main difference is in the assignment of FBMs to the FCP280, which is described in "Attaching Field Modules and Peripherals to Stations" on page 23.

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[1]. Solaris-based platforms are not supported directly in the Foxboro Evo Process Automation System, which uses Control Core Services v9.0 or later.

> **NOTE**
>
> The procedures described herein are not for a specific version of System Definition. Consult the release notes provided with the version of System Definition used for possible changes and updates to the information given in this document.

Audience

The document is intended for anyone who needs to define a Foxboro Evo Process Automation System configuration prior to installing Control Core Services.

Readers are assumed to be installation personnel and/or applications engineers who are familiar with their purchased Foxboro Evo system hardware and software. This document also assumes previous training on, exposure to, or experience with Windows 7, Windows Server 2008 R2 Standard, Windows XP or Windows Server 2003 operating systems.

Contents

The illustrations in this book show the screen displays for defining a small Foxboro Evo Process Automation System on a Windows platform. The book consists of a single section which is divided into the major steps required to define a Control Core Services configuration. These major steps apply to all Foxboro Evo Process Automation Systems, both large and small, operating on Windows-based or Solaris-based platforms. Each detailed step describes the System Definition process and the use of screens to configure a system. After successfully completing all steps, your Foxboro Evo Process Automation System is configured and you are ready to perform software installation.

> **NOTE**
>
> The content of many screen displays, supporting descriptions and associated procedures specifically reflect a Windows 7 or Windows XP platform because that is the operating system used to create the typical example presented herein. Windows XP platform-specific elements contain a P suffix [for example, FD3P, 3.5 Floppy Disk (P)] while the processors and workstations contain a supplemental P suffix (for example, AW70P).
> For legacy I/A Series systems, be aware that when defining an I/A Series system on a Windows NT platform, the platform-specific elements contain a Windows NT suffix [for example, FD3NT, 3.5 Floppy Disk (NT)] while the processors and workstation contain a 70 suffix (AW70).

Appearance

The illustrations in this book depict the screen displays on a Windows XP platform. However, the appearance of displays on a Windows 7 platform is different from (but similar to) that of the appearance of displays on a Windows XP platform. Furthermore, the functional groups and access paths within some displays on a Windows 7 platform are different from those on a Windows XP platform.

Revision Information

For this release of the document (B0193WQ-M), the following changes were made:

♦ Added warning to "Creating Stations" on page 14.

Related Documentation

Refer to the following reference documents for additional information:

♦ The *Hardware and Software Instructions* document included with your workstation or server.

♦ *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA, Rev. X or later)

♦ *The MESH Control Network Architecture Guide* (B0700AZ)

♦ *100 Series Fieldbus Module Upgrade User's Guide* (B0700BQ)

♦ *Control Network Interface (CNI) User's Guide* (B0700GE)

♦ *Intrinsically Safe I/O Subsystem User's Guide* (B0700DP)

♦ *I/A Series System Equipment Installation* (B0193AC) - for legacy I/A Series equipment

♦ *System Definition Release Notes for Windows 7 and Windows Server 2008* (B0700SH)

Most are available on the Foxboro Evo Electronic Documentation media (K0174MA). The latest revisions may also be available through the Invensys Global Customer Support at *https://support.ips.invensys.com.*

When using System Definition software, refer to the user's guide, available from the Help menu.

1. System Definition: A Step-By-Step Procedure

This document presents a typical step-by-step procedure for defining a Foxboro Evo Process Automation System or I/A Series system configuration using the System Definition software.

Introduction

The main purpose of this document is to illustrate the sequential steps required to use System Definition.

System Definition identifies the Foxboro Evo Control Core Services (hereinafter referred to as the Control Core Services) system components, the system software required by each component, the system component letterbugs, and other system characteristics for correctly loading system software and identifying the system software objects. System Definition produces Commit installation media, a set of committed configuration install files (previously released on a diskette), which is required for software installation and, therefore, must be completed before software installation. The example in this step-by-step procedure uses the following hardware components for the Foxboro Evo system definition:

- ♦ 24-port switch (SW24P)
    - ♦ Application Workstation 70 running the Windows XP or Windows Server 2003 operating system (AW70P)

> **NOTE**
>
> The Application Workstation 70 station type (AW70P) is no longer supported on systems with I/A Series software v8.8 or Control Core Services v9.0 or later with Windows 7® or Windows Server® 2008 R2 Standard operating systems. However, the AW70P station type is retained in the example described in this document to be consistent with the screenshots provided. I/A Series software v8.8 or Control Core Services v9.0 or later supports station types "WSTA70" for a workstation or "WSVR70" for a server which perform the same functions as the Application Workstation 70; the main difference is the version of Control Core Services/I/A Series software and the operating system used.

- ♦ Field Control Processor 270 (FCP270)
    - ♦ FBM201 (2)
    - ♦ FBM204
    - ♦ FBM208.

─ **NOTE** ───

A system with Field Control Processor 280s (FCP280s) would be configured in a similar manner as with a system with an FCP270s, with a FCP280 in place of each FCP270.
──

This system communicates over a Foxboro Evo system with I/A Series software v8.x or Control Core Services v9.0 or later on The Foxboro Evo Control Network (formerly known as The Mesh control network).

Although the procedure describes a small system on a Windows XP platform (as indicated by the applicable displays), the step-by-step procedure can be used to define any I/A Series system operating on a Windows 7, Windows Server 2008 R2 Standard, Windows XP, Windows Server 2003, or Windows NT platform. These steps apply to all Foxboro Evo Process Automation Systems, both large and small. The procedure uses one approach to define a Foxboro Evo system. Refer to the user's guide available from the Help menu for other approaches to defining a Foxboro Evo system.

SysDef comprises five software components and a READ ME file. The software enables system configuration, preparation of a system component database, and preparation of Commit installation media. Components are:

- Configuration Components
- Hardware Definition
- Network Definition
- Parameter Definition
- Software Definition.

The steps to configure the example system are described sequentially in this document as follows:

- Installing System Definition software
- Accessing System Definition
- Selecting software release
- Creating switches
- Creating stations (workstations/servers, control processors, Control Network Interfaces (CNIs), Address Translation Stations (ATSs), and similar equipment)
- Creating field modules
- Creating peripherals
- Changing station and field module letterbugs
- Attaching field modules and peripherals to stations
- Attaching stations and FCMs to switches
- Creating nodes (or networks)
- Attaching stations and switches to nodes (or networks)
- Assigning software
- Assigning hosts (including control hosts)
- Assigning software hosts
- Assigning parameter definitions

♦ Printing parameter worksheets (optional step)

♦ Documenting the configuration (optional step)

♦ Checking the configuration

♦ Producing Commit installation media

♦ Saving the configuration

♦ Reconciling the system configuration.

Figure 1-1 is a flowchart showing the basic sequential steps needed to configure the example configuration constructed in this document. First, access System Definition, and select the Hardware Definition screen as shown in Figure 1-1. During Hardware Definition, select the software release number, create the number of switches, stations, modules, and peripherals in your system, and accept or change the letterbugs of your system components. Then select the Configuration Components screen to attach the hardware components, create the nodes or networks in your system, and assign the stations and switches to a node or network. Next, select the Software Definition screen to assign optional software and software hosts to the stations and modules, and to assign specific software operating parameters. At this point, you can produce a graphical view of your system configuration (this is optional). Finally, select the Check Configuration utility to verify the installability of your configuration. If the configuration passes the configuration check, create Commit installation media from the **Options** > **Utilities** menu. The Commit installation media is used to install software on your system. After software installation, reconcile the software packages actually installed on the system with the software specified in System Definition.
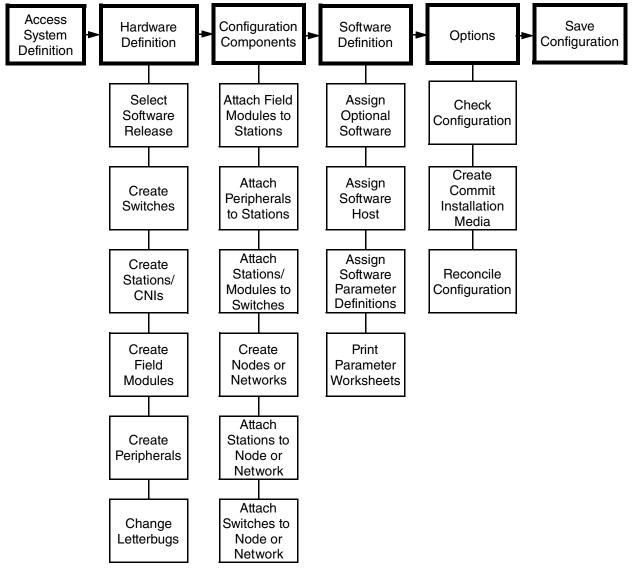
```
┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐
│  Access  │  │ Hardware │  │Configura-│  │ Software │  │          │  │   Save   │
│  System  │─▶│Definition│─▶│  tion    │─▶│Definition│─▶│ Options  │─▶│Configura-│
│Definition│  │          │  │Components│  │          │  │          │  │  tion    │
└──────────┘  └────┬─────┘  └────┬─────┘  └────┬─────┘  └────┬─────┘  └──────────┘
                   │             │             │             │
              ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐
              │  Select  │  │Attach    │  │  Assign  │  │  Check   │
              │ Software │  │Field     │  │ Optional │  │Configura-│
              │ Release  │  │Modules to│  │ Software │  │  tion    │
              │          │  │Stations  │  │          │  │          │
              └────┬─────┘  └────┬─────┘  └────┬─────┘  └────┬─────┘
                   │             │             │             │
              ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐
              │  Create  │  │ Attach   │  │  Assign  │  │  Create  │
              │ Switches │  │Peripher- │  │ Software │  │ Commit   │
              │          │  │als       │  │   Host   │  │Installa- │
              │          │  │to Stations│ │          │  │tion Media│
              └────┬─────┘  └────┬─────┘  └────┬─────┘  └────┬─────┘
                   │             │             │             │
              ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐
              │  Create  │  │ Attach   │  │  Assign  │  │Reconcile │
              │Stations/ │  │Stations/ │  │ Software │  │Configura-│
              │   CNIs   │  │Modules to│  │Parameter │  │  tion    │
              │          │  │Switches  │  │Definitions│ │          │
              └────┬─────┘  └────┬─────┘  └────┬─────┘  └──────────┘
                   │             │             │
              ┌────┴─────┐  ┌────┴─────┐  ┌────┴─────┐
              │  Create  │  │  Create  │  │  Print   │
              │  Field   │  │ Nodes or │  │Parameter │
              │ Modules  │  │ Networks │  │Worksheets│
              └────┬─────┘  └────┬─────┘  └──────────┘
                   │             │
              ┌────┴─────┐  ┌────┴─────┐
              │  Create  │  │ Attach   │
              │Peripher- │  │Stations  │
              │als       │  │to Node or│
              │          │  │ Network  │
              └────┬─────┘  └────┬─────┘
                   │             │
              ┌────┴─────┐  ┌────┴─────┐
              │  Change  │  │ Attach   │
              │Letterbugs│  │Switches  │
              │          │  │to Node or│
              │          │  │ Network  │
              └──────────┘  └──────────┘
```

Figure 1-1. System Definition Overview

For this release of System Definition, the following features were added:

♦ Added the Control Network Interface (CNI) to the list of available stations to create.

─ **NOTE** ──

For I/A Series software v8.8 or Control Core Services v9.0 or later, the software packages to be installed and their installation locations have been modified from previous releases. Refer to the latest Control Core Services or I/A Series release notes (for Control Core Services v9.0, this is *Foxboro Evo™ Process Automation System Control Core Services v9.0 Release Notes* (B0700SQ)) for a description of the current software packages installed on the stations and Control Processors.

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Loading System Definition Software

You can install the System Definition software package on any PC running the Windows 7, Windows Server 2008 R2 Standard, Windows XP, or Windows Server 2003 operating system. Also, you can load the software package on a Foxboro Evo Control Core Services workstation running either Windows 7 or Windows XP on the C: or D: drive depending on the drive capacity. System Definition is shipped on a CD-ROM.

Prior to installing System Definition, it is no longer necessary to uninstall older versions of the SysDef software unless you intend to install System Definition v3.0 or later in the exact same directory.

Uninstalling System Definition

Prior to uninstalling SysDef, make sure you save all previous versions of system configurations in a safe place.

―― **NOTE** ――――――――――――――――――――――――――――――
In Windows 7 and Windows Server 2008 R2 Standard, the "Add/Remove" Control Panel functionality is found under "Programs and Features" and has a different interface.
―――――――――――――――――――――――――――――――――――――

―― **NOTE** ――――――――――――――――――――――――――――――
Refer to the user guide, accessible from the Help menu for information on how to save previous versions of system configurations.
―――――――――――――――――――――――――――――――――――――

To uninstall System Definition using Windows 7 or Windows Server 2008 R2 Standard:

1. Click **Start** then select **Control Panel**.
2. In the Control Panel, click the **Programs and Features**. In the Programs and Features window that appears, right-click **System Definition** and click **Uninstall**.
3. A Confirm File Deletion dialog box appears. Click **Yes**.
    The System Definition files are deleted.
4. Close the Control Panel after the files are removed.

To uninstall System Definition using Windows XP or Windows Server 2003:

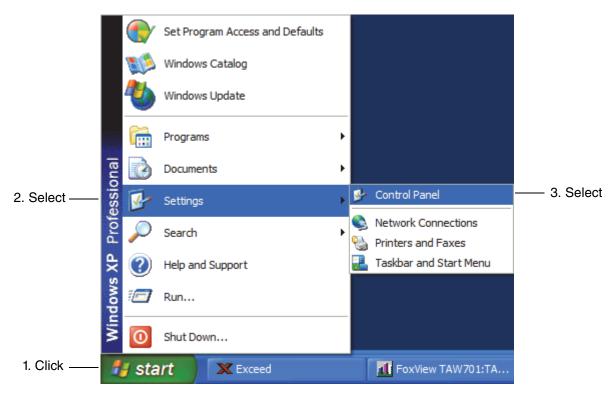**1.** Click **Start** then move the cursor to **Settings** and **Control Panel**.

Figure 1-2. Accessing the Control Panel (Windows XP Version)

2. In the Control Panel, double-click the **Add or Remove Programs** icon. In the Add or Remove Programs window that appears, select **System Definition** and click **Change/Remove**.
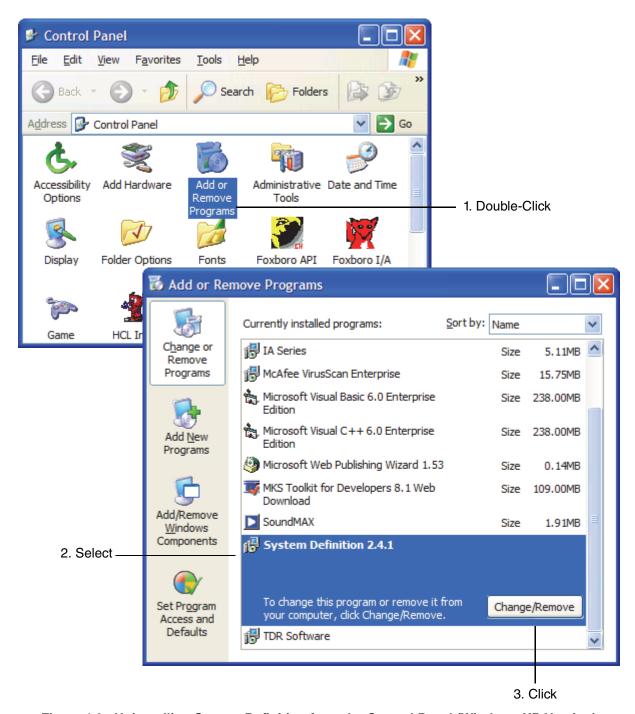
Figure 1-3. Uninstalling System Definition from the Control Panel (Windows XP Version)

3. A Confirm File Deletion dialog box appears. Click **Yes**.
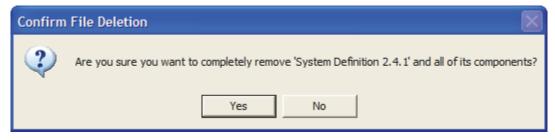
Figure 1-4. Uninstalling System Definition from the Control Panel (Continued)

The System Definition files are deleted.

4. Close the Control Panel after the files are removed.

There are several files that are not removed by the change/remove procedure. To remove these files:

1. Invoke Windows Explorer and access the C: or D: drive as applicable.

2. Select the System Definition folder, then select all the files in the folder and delete them. Delete the System Definition folder.

3. Proceed with the new System Definition software installation.

Installing System Definition

System requirements for installing System Definition 3.2 are:

♦ Control Core Services or I/A Series workstation or a personal computer with Windows 7, Windows Server 2008 R2 Standard, Windows XP with SP2/SP3, or Windows Server 2003 R2

♦ 25 MB disk space

♦ 32 MB memory

♦ VGA or higher resolution monitor

♦ Microsoft® mouse or compatible pointing device

To install the software:

1. Log into a Windows account.

2. Insert the SysDef 3.2 CD or DVD-ROM into the optical drive.

3. Open Windows Explorer.

4. Select the CD or DVD-ROM directory.

5. In the directory window, double-click on `setup.exe`.

6. Follow the instructions in the Setup dialog box.

   By default, SysDef will be installed in the `C:\Invensys\System Definition 3.2` directory.

7. After installation but before the first use of SysDef, logout from the Windows account and the log back in. This prevents some features in Windows 7 from becoming unavailable.

To operate the software, from the **Start** button, choose **Programs** then **System Definition 3.2** and click any view in the System Definition program group to begin your configuration.

Accessing System Definition

To access System Definition:

1. Click **Start**, and select **All Programs** then **System Definition 3.2**. This is shown for Windows 7 in Figure 1-5.
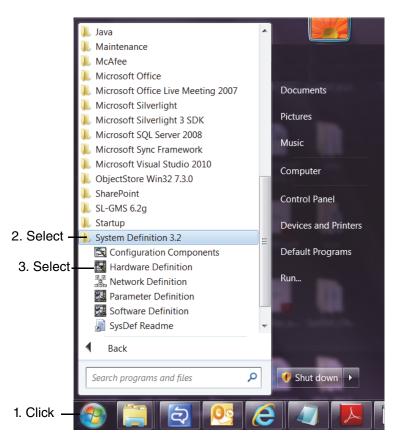

Figure 1-5. Accessing System Definition (Windows 7 Version)

2. Select **Hardware Definition**.

   The Hardware Definition screen appears as shown in Figure 1-6.
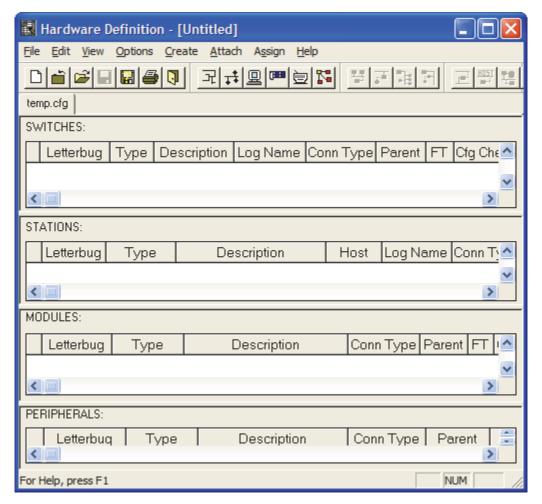
Figure 1-6. Hardware Definition Screen (Windows XP Version)

Selecting the Software Release

To select the Software Release menu from the Hardware Definition screen:

1. Click `File` and select `New` from the pull-down menu as shown in Figure 1-7.
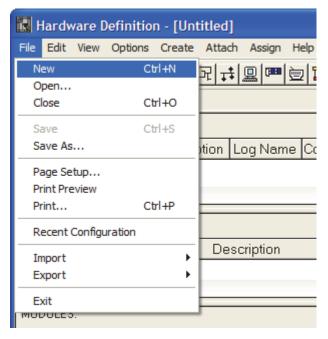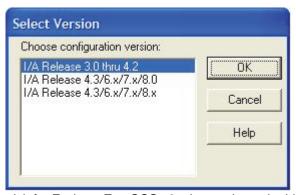
Figure 1-7. Selecting a Control Core Services or I/A Series Software Release

An example of the Select Version dialog box appears as shown in Figure 1-8. Actual release version designations vary from one release to another.

Note: A pick for Foxboro Evo CCS v9.x is not shown in this dialog box.

Figure 1-8. Select Version Dialog Box

2. Select the appropriate release in the Select Version dialog box. For Foxboro Evo CCS v9.x or later, select `I/A Release 4.3/6.x/7.x/8.x`.

3. Click `OK`.

Creating Switches

First, select the switches in your system and include them in the system definition configuration. To create switches from the Hardware Definition screen, proceed as follows:

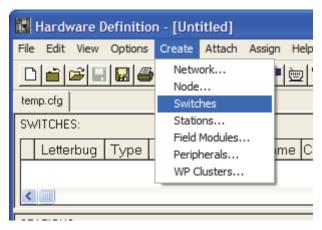1. Select **Create**, then **Switches** as shown in Figure 1-9.

Figure 1-9. Creating Switches

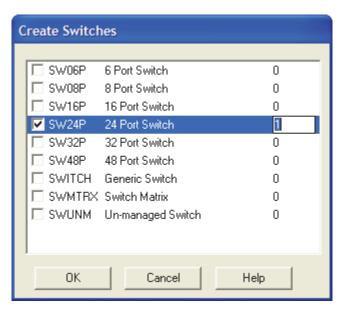The Create Switches dialog box appears as shown in Figure 1-10.

Figure 1-10. Create Switches Dialog Box

2. Select each switch that is listed on your purchase order by selecting it from the list of switches. To change the quantity of switches, highlight the quantity field and type the required number of switches.

    For this example one 24-port switch is selected.

3. Click **OK**. The switches are automatically listed in the SWITCHES pane in the Hardware Definition window, as shown in Figure 1-11.
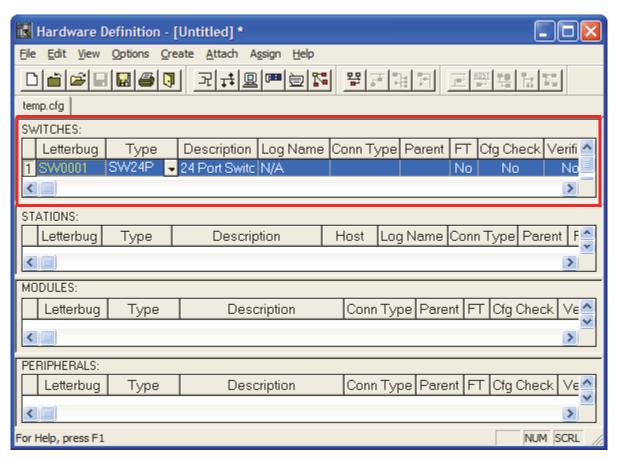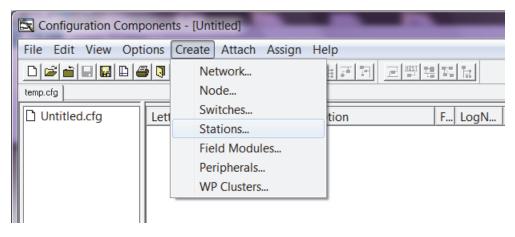

Figure 1-11. Hardware Definition Screen Displaying Newly Created Switches

Creating Stations

After selecting your switches, select your stations. The procedure for selecting stations is basically the same as selecting switches. To create stations from the Hardware Definition screen, proceed as follows:

1. Select **Create** then **Stations** as shown in Figure 1-12.
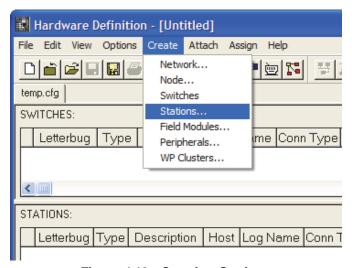
Windows 7 or Windows Server 2008 R2 Standard

Windows XP or Windows Server 2003 R2

Figure 1-12. Creating Stations

The Create Stations dialog box appears as shown in Figure 1-13.

Windows 7 or Windows Server 2008 R2 Standard

Windows XP or Windows Server 2003 R2

NOTE: For I/A Series software v8.8 or Control Core Services v9.0 or later, the WSTA70 and WSVR70 stations are added to this dialog box.
For Control Core Services v9.0 and later, the FCP280 station type is added to this dialog box.
For Control Core Services v9.2 and later, the CNI station type is added to this dialog box.

Figure 1-13. Create Stations Dialog Box

2. Use the scroll bars to move the list so that you can select the desired station.

   You can select stations with Control Core Services v9.0 or later, I/A Series software v8.x, 51/70 Series workstations, control processors, communication processors, integrators, gateways, and so forth from the list.

3. Specify each station that is listed on your purchase order by selecting it from the list. To change the quantity of stations, highlight the quantity field and type in the required number of components.

For these examples, the following stations are selected:

- ♦ Application Workstation 70 running the Windows XP or Windows Server 2003 operating system (AW70P)
- ♦ Field Control Processor 270 (FCP270)
- ♦ Control Network Interface (CNI)

─ **NOTE** ──────────────────────────────────

For a system with I/A Series software v8.8 or Control Core Services v9.0 or later, you would select station type "WSTA70" for a workstation or "WSVR70" for a server instead of station type "AW70P". Stations running the Windows 7 or Windows Server 2008 R2 Standard operating systems are no longer station type "AW70P", although they perform the same functions as the Application Workstation 70.

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─ **NOTE** ──────────────────────────────────

Stations of type Application Processor (AP) cannot be configured for direct inclusion in a system with I/A Series software v8.0 or later. However, they can be configured for a system with I/A Series software v6.x or 7.x.

Stations of type Workstation Processor (WP) cannot be configured for direct inclusion in a system with I/A Series software v8.2 or later. However, they can be configured for a system with I/A Series software v6.x or 7.x. Also, WPs created in previous v8.x releases (v8.0b or v8.1) could be brought into an existing system with I/A Series software v8.2 or later.

System Definition can create AP and WP stations but they cannot be connected to The Foxboro Evo Control Network. They must be connected to a legacy node and use an Address Translation Station (ATS) to communicate with the I/A Series or Foxboro Evo system.

In some cases, you may want to convert an AP or WP to station type Application Workstation (AW) so it can exist in the I/A Series or Foxboro Evo system. When doing so, be aware of the appropriate rules that System Definition maintains for the logical names of the stations, listed as follows:

1. Issues may arise if the station's logical name does not match its letterbug.

With the introduction of security enhanced I/A Series software v8.5, a requirement was introduced to ensure that the AP logical name matched the AP's letterbug. This applies to the standard I/A Series software v8.5-v8.8 and Foxboro Evo CCS v9.0 or later as well.

2. The Logical Name for an Application Processor (AP) is set to the AP's letterbug when the station is created. If any change is made to the letterbug in System Definition (for example, during its conversion to an AW station type), the AP's Logical Name will be updated with the same name. The AP Logical Name cannot be edited directly, to ensure it stays the same as the letterbug. This is also true of the Message Manager's Logical Name.

3. The Logical Name for a Workstation Processor (WP) can be entered as any unique, six character name (i.e. a name that is not used as the Logical Name of any

other station).

4. If a configuration is imported into System Definition that already has the AP's Logical Name different from the letterbug, the AP's Logical Name is NOT changed during the import. However, changing the letterbug after the import operation will change the AP's Logical Name to the letterbug and thereafter "lock" it to the letter-bug. This prevents automatic changes to existing configurations that were created prior to the rule change.

─ ⚠ **WARNING** ─────────────────────────────

ePolicy Orchestrator (ePO) cannot be installed on a station with a name containing an underscore. Take this into account when choosing a name for your station.

4. Click **OK**, and all stations are automatically listed in the STATIONS part of the Hardware Definition screen.

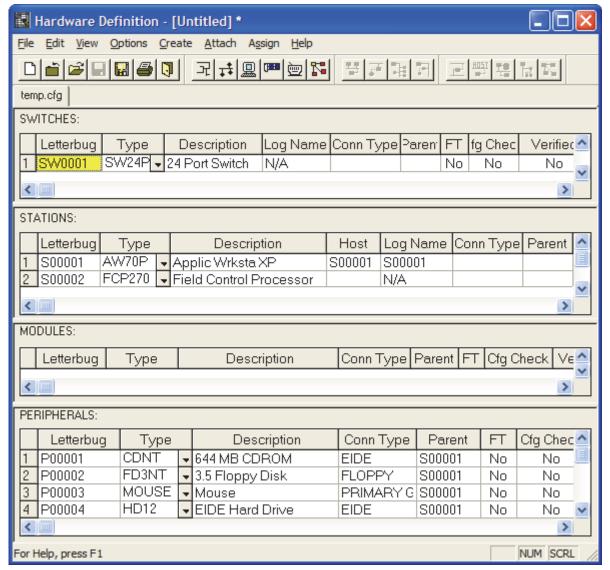After the stations in your system are selected, the Hardware Definition screen looks similar to Figure 1-14.

Figure 1-14. Hardware Definition Screen Displaying Newly Created Stations

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NOTE

The peripherals shown in Figure 1-14 are required defaults for the selected stations. System Definition automatically adds the required peripherals to the list of components.

Creating Field Modules

After selecting your system stations, select your field modules. The procedure for selecting field modules is basically the same as selecting stations. To select field modules from the Hardware Definition screen, proceed as follows:

1. Select **Create** then **Field Modules** as shown in Figure 1-15.
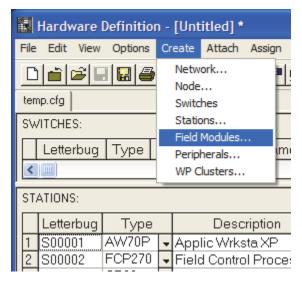
Figure 1-15. Creating Field Modules

The Create Field Modules dialog box appears as shown in Figure 1-16.
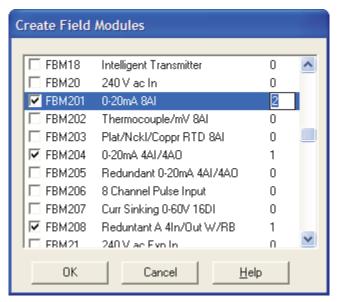
Figure 1-16. Create Field Modules Dialog Box

2. Use the scroll bars to move the list so that you can select the desired field module.

3. Select each field module that is listed on your purchase order by selecting the field module on the Create Field Modules dialog box. To change the quantity of field modules, highlight the quantity field and type in the required number of components.

In this example, the following were selected:

   ♦ 2 FBM201s

   ♦ FBM204

   ♦ FBM208.

4. Click **OK**. The field modules are automatically listed in the MODULES part of the Hardware Definition screen, and the screen looks similar to the following figure.
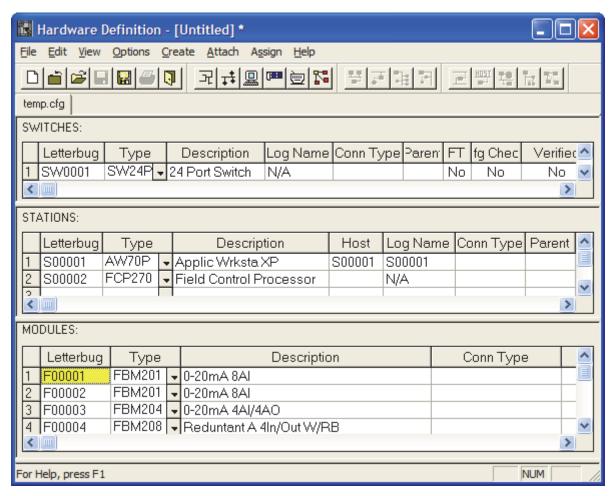

Figure 1-17. Hardware Definition Screen Displaying Newly Created Field Modules

Creating Peripherals

After selecting your field modules, select your peripherals. The procedure for selecting peripherals is basically the same as selecting field modules. To select peripherals from the Hardware Definition screen, proceed as follows:

1. Select **Create** -> **Peripherals** as shown in Figure 1-18.
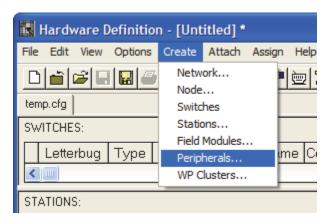
Figure 1-18. Creating Peripherals

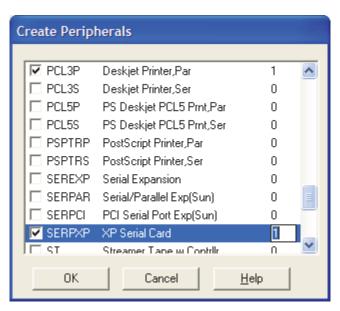The Create Peripherals dialog box appears as shown in Figure 1-19.

Figure 1-19. Create Peripherals Dialog Box

2. Use the scroll bars to move the list so that you can select the desired peripherals.

3. Select each peripheral that is listed on your purchase order by selecting it on the Create Peripherals dialog box. To change the quantity of peripherals, highlight the quantity field and type the required number of components.

    In Figure 1-19, a parallel DeskJet printer and a Windows XP serial card are selected.

4. Click **OK**. The peripherals are automatically listed in the PERIPHERALS part of the Hardware Definition screen.

After all the system components for the example are selected, the Hardware Defini-tion screen looks as shown in Figure 1-20. Note that the newly added printer and serial card are located at the bottom of the PERIPHERALS list.
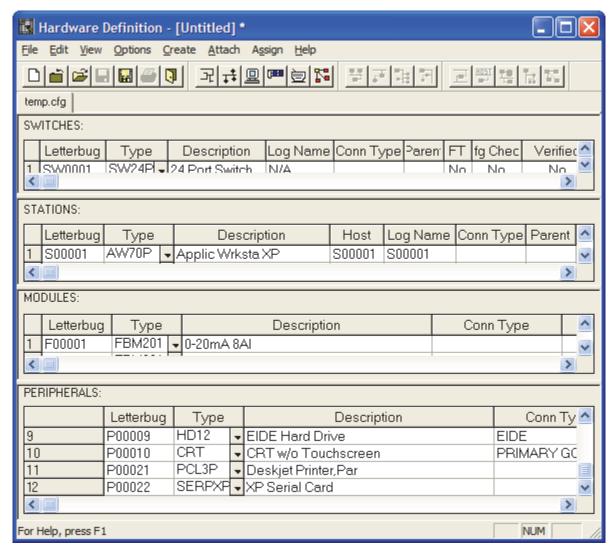

Figure 1-20. Hardware Definition Screen Displaying Newly Created Peripherals

Changing Letterbugs

After you select the hardware items in your system, you can change the unique 6-character letter-bug identifiers of switches, stations, field modules, and peripherals. Letterbugs can contain up to six alphanumeric uppercase characters and cannot contain spaces or dashes. You can also use the sequential letterbugs that System Definition assigns in your system.

To change a letterbug:

1. Select the letterbug to be changed in the Letterbug column of the Hardware Defini-tion screen.

2. Delete the assigned letterbug using the Backspace key on the keyboard.

3. Type in the new letterbug in the cell.

4. Repeat the above steps for each letterbug you want to change.

22

After the letterbugs are changed, the Hardware Definition screen looks as shown in Figure 1-21.
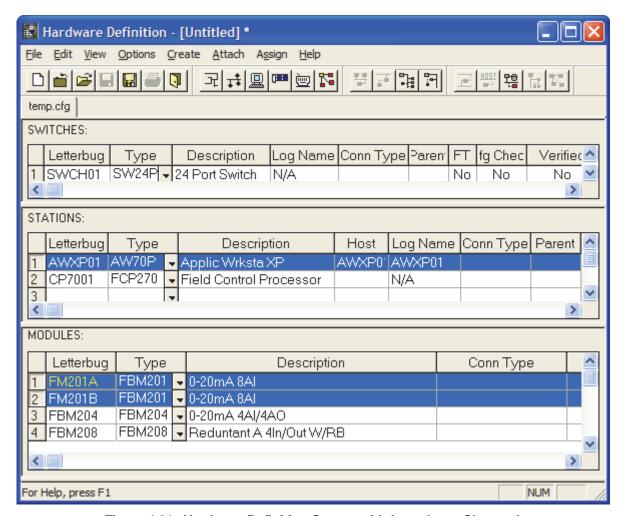

Figure 1-21. Hardware Definition Screen with Letterbugs Changed

Attaching Field Modules and Peripherals to Stations

After changing the letterbugs of your switches, stations, field modules, and peripherals, you can associate and attach field modules and peripherals to their respective station.

> **NOTE**
>
> FBMs cannot be assigned to FCP280 control processors in SysDef. The FCP280 supports four HDLC fieldbuses from its baseplate, and SysDef has no method from which to specify which of these fieldbuses an FBM should be assigned. Refer to *Field Control Processor 280 (FCP280) User's Guide* (B0700FW) for more details. You will have to assign the FBMs to their appropriate HDLC fieldbuses with a control configurator (ICC or the Foxboro Evo Control Editors) after the Day 0 or Day 1 installation with the Commit media generated by SysDef.
> For ICC, refer to *Integrated Control Configurator* (B0193AV).
> For Foxboro Evo Control Editors, refer to *Block Configurator User's Guide* (B0750AH) and *Hardware Configuration User's Guide* (B0700BB).

To attach field modules and peripherals, proceed as follows:

1. Select **View** from the main menu bar on the Hardware Definition screen, and select **Configuration Components** from the pull-down menu as shown in Figure 1-22.
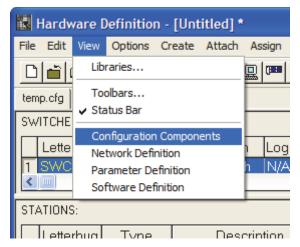

Figure 1-22. Navigating to Configuration Components from Hardware Definition

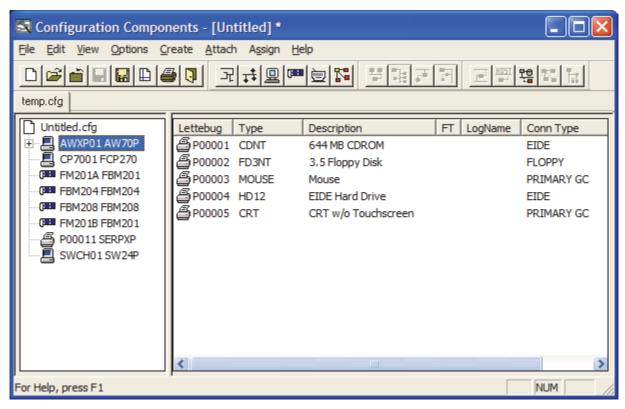The Configuration Components screen appears as shown in Figure 1-23.

Figure 1-23. Configuration Components Screen

2. Select the root configuration object (**Untitled.cfg**) in the tree structure located in the left pane. The Configuration Components screen appears as shown in Figure 1-24.

24

3. Select the Fieldbus Module (FBM) individually on the right side of the screen by pressing and holding the left mouse button on the icon of the module. Drag the field module over the name of the appropriate station in the Untitled.cfg area (shown in Figure 1-24) and release the mouse button.

> **NOTE**
>
> FBMs cannot be assigned to FCP280s in SysDef. You will have to assign them to the appropriate HDLC fieldbus supported by the FCP280 with a control configurator (ICC or the Foxboro Evo Control Editors) after the Day 0 or Day 1 installation with the Commit media generated by SysDef.
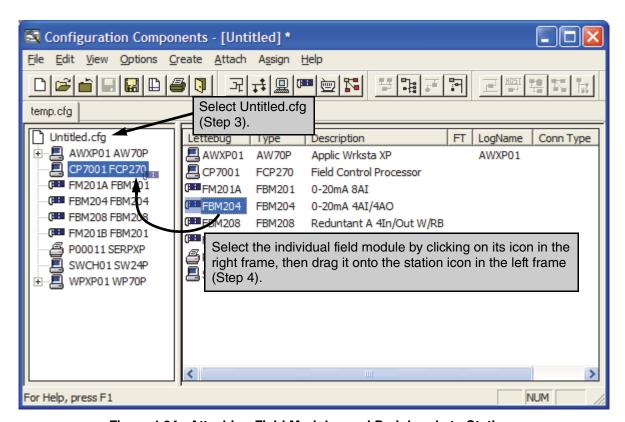
Figure 1-24. Attaching Field Modules and Peripherals to Stations

4. Select the peripheral (in this example configuration, the printer or serial card) individually on the right side of the screen by pressing and holding the left mouse button on the icon of the peripheral. Drag the peripheral over the name of the appropriate station in the Untitled.cfg area in the left side of the screen and release the mouse button.

> **NOTE**
>
> You can drag multiple modules/peripherals by holding down the `<Ctrl>` key and individually selecting each module or peripheral on the right side of the screen by pressing the left mouse button on the module icon. Release the `<Ctrl>` key. Drag your selections over the name of the appropriate station in the Untitled.cfg area on the left side of the screen (see Figure 1-24) and release the mouse button.

After field modules and peripherals are dragged over to their desired station, the example Configuration Components screen looks as shown in Figure 1-25.
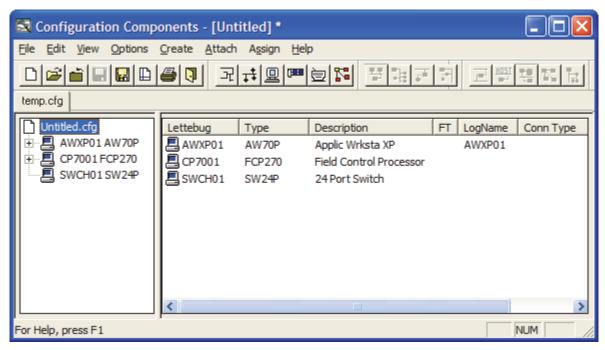

Figure 1-25. Configuration Components Screen After Attaching Modules and Peripherals to Stations

Attaching Stations and FCMs to Switches

After attaching field modules and peripherals to stations, attach the applicable workstations, control stations, or FCM100Ets to their switches.

To attach stations to switches, proceed as follows:

♦ On the Configuration Components screen, select the station individually on the right side of the screen by pressing and holding the left mouse button on the icon of the station. Drag the station over the name of the appropriate switch in the Untitled.cfg area on the left side of the screen (as shown in Figure 1-26) and release the mouse button.
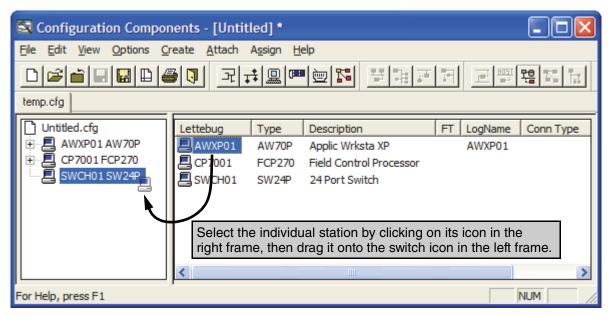
Figure 1-26. Attaching Stations to Switches

> **─ NOTE ───────────────────────────────**
> You can drag multiple stations by holding down the Ctrl key and individually
> selecting each station on the right side of the screen by pressing the left mouse but-
> ton on the station's icon. Release the Ctrl key. Drag the selected stations over the
> name of the appropriate switch in the Untitled.cfg area on the left side of the screen
> (as shown in Figure 1-26) and release the mouse button.

After stations are dragged over to their desired switch, the example Configuration Components
screen looks as shown in Figure 1-27.
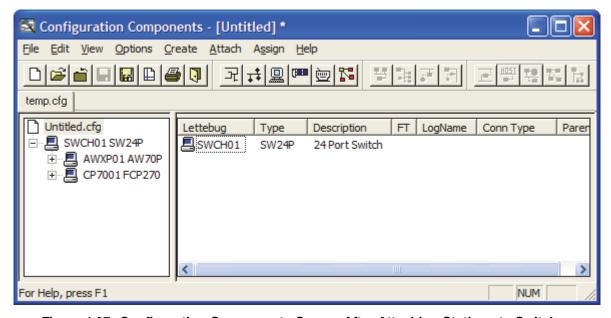
Figure 1-27. Configuration Components Screen After Attaching Stations to Switches

Creating Nodes

After your field modules and peripherals have been attached to their associated station, and stations to their associated switches, create the node(s) for the stations and switches.

To create a node from the Configuration Components screen, proceed as follows:

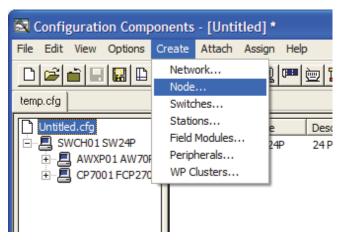1. Click **Create** then select **Node** from the pull-down menu as shown in Figure 1-28.

Figure 1-28. Creating Nodes

The Create Nodes dialog box appears as shown in Figure 1-29.

2. Select the types of nodes you would like to create. To change the quantity of nodes, highlight the quantity field and type the required number of nodes.

    ♦ Select **ENODE** for a single Ethernet node

    ♦ Select **HPS** for a network created for the I/A Series software v8.x or Control Core Services v9.0 or later (i.e. The Foxboro Evo Control Network)

    ♦ Select **MNODE** for a Nodebus and Ethernet bus node (for use with a Micro-I/A™ station, for example)

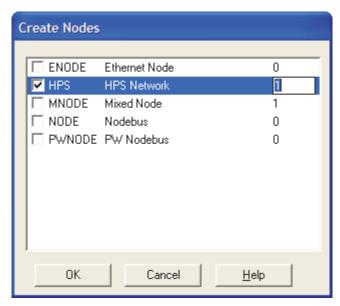   ♦ Select **NODE** for a Nodebus node

Figure 1-29. Create Nodes Dialog Box

The example, as selected, uses a network created for the I/A Series software v8.x or Control Core Services v9.0 or later. The stations and the selected network appear on both sides of the Configuration Components screen as shown in Figure 1-30.
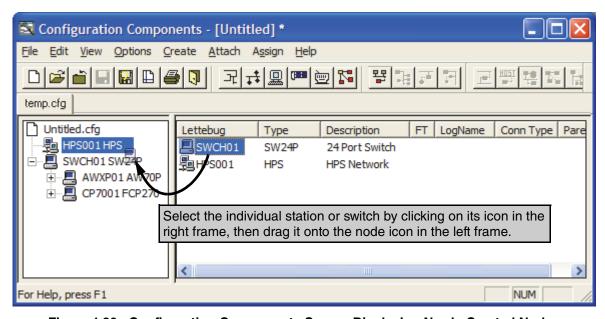

Figure 1-30. Configuration Components Screen Displaying Newly Created Nodes

3. Next, attach the stations or switches to the appropriate nodes. Select each station or switch individually by pressing and holding the left mouse button on its icon on the right side of the screen, drag the selected item over the name of the appropriate node in the Untitled.cfg area on the left side of the screen (as shown in Figure 1-30), and release the mouse button. This attaches the item(s) you selected to the appropriate node. If you have more than one node, attach (drag) the item to the proper node.

NOTE

To drag multiple stations/switches, hold down the Ctrl key and individually select each station or switch on the right side of the screen by pressing the left mouse button on their icons. Release the Ctrl key. Drag your selected items over the name of the appropriate node in the Untitled.cfg area on the left side of the screen (see Figure 1-30) and release the mouse button.

After dragging stations and switches to their desired node, only the node(s) should appear on your Configuration Components screen, as shown in Figure 1-31. If you have stations and switches appearing with nodes on your Configuration Components screen at this point, you have not attached all the required items to a node.
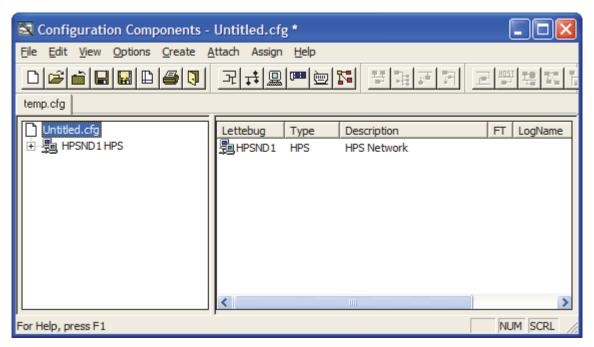
Figure 1-31. Configuration Components Screen After Attaching Stations and Switches to Node

To expand the node, click on the **+** symbol next to the node.
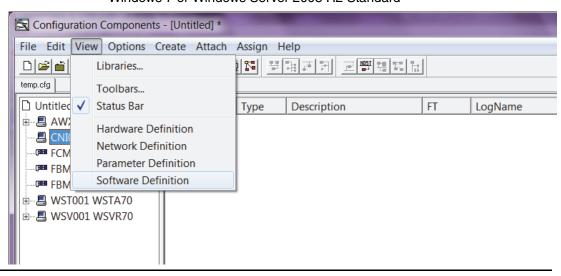
Assigning Software

As you create hardware, the required software is automatically saved and assigned by System Definition. However, you may have ordered optional software, and you must select the optional software for each station and field module.

To assign software from the Configuration Components screen, proceed as follows:

1. Select **View** then **Software Definition** from the pull-down menu as shown in Figure 1-32.
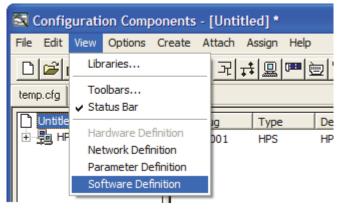
Windows 7 or Windows Server 2008 R2 Standard

Windows XP or Windows Server 2003 R2

Figure 1-32. Navigating to Software Definition from Configuration Components

The Software Definition screen appears as shown in Figure 1-33.

Windows 7 or Windows Server 2008 R2 Standard

File   Edit   View   Options   Assign   Help

temp.cfg

HARDWARE:

	Letterbug	Type	Description	Log Name	Parent	Cfg Check	Verified
1	CNI001	CNI	Ctrl Ntwrk Interface	N/A		No	No
2	WST001	WSTA70	Applic Wrksta Windows 7	WST001		No	No
3	WSV001	WSVR70	Applic Server 2008	WSV001		No	No
4	AWX001	AW70P	Applic Wrksta XP	AWX001		No	No
5	FBM001	FBM10	120V ac I/O	N/A		No	No
6	FBM002	FBM210	8 ch 0-20 mA Analog In	N/A		No	No

Windows XP or Windows Server 2003 R2

Software Definition - [Untitled] *

File   Edit   View   Options   Assign   Help

temp.cfg

HARDWARE:

	Letterbug	Type	Description	Log Name	Parent	Cfg Check	Ve
1	AWXP01	AW70P	Applic Wrksta XP	AWXP01	SWCH01	No	
2	CP7001	FCP270	Field Control Processor	CP7001	SWCH01	No	
3	FM201A	FBM201	0-20mA 8AI	N/A	CP7001	No	
4	FM201B	FBM201	0-20mA 8AI	N/A	CP7001	No	
5	FBM204	FBM204	0-20mA 4AI/4AO	N/A	CP7001	No	
6	FBM208	FBM208	Reduntant A 4In/Out W/RB	N/A	CP7001	No	

SOFTWARE:

	Name	Description	Target	Status	(

For Help, press F1   NUM
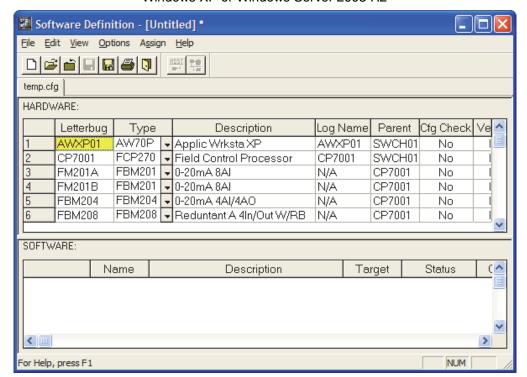
Figure 1-33. Software Definition Screen

The hardware is shown on the upper portion of the screen, and the software is shown on the bottom portion of the screen. If you click on the numbered buttons (1, 2, and so forth) on the left side of the HARDWARE portion of the screen, the SOFTWARE portion of the screen lists the default software for the selected item. A software component highlighted in blue identifies the operating system for the selected station.

In Figure 1-34, button 1 is selected in the HARDWARE portion of the screen, corresponding to Control Network Interface (CNI). When this station is selected, the default software for the station appears in the SOFTWARE portion of the screen, with the station's operating system highlighted in blue as shown in Figure 1-34.
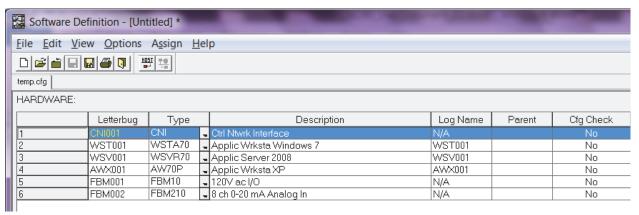
Figure 1-34. Software Definition Screen with Hardware Selected (Windows 7 Version)

In Figure 1-35, button 1 is selected in the HARDWARE portion of the screen, corresponding to an AW70P. When this workstation is selected, the default software for the workstation appears in the SOFTWARE portion of the screen, with the station's operating system highlighted in blue as shown in Figure 1-35.
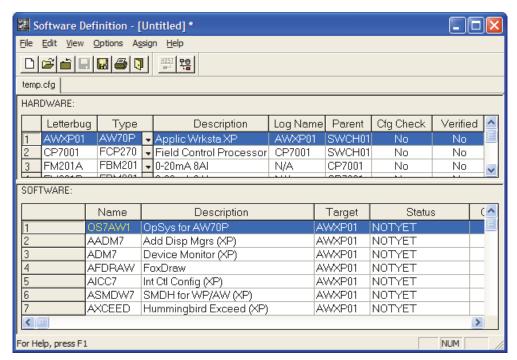
Figure 1-35. Software Definition Screen with Hardware Selected (Windows XP Version)

2. Select **Assign** then **Software** from the main menu bar as shown in Figure 1-36.
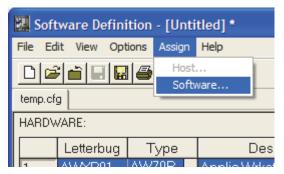
Figure 1-36. Assigning Software

The Assign Software dialog box appears as shown in Figure 1-37.

Figure 1-37. Assign Software Dialog Box

3. Select a hardware station or field module from the Hardware portion of the Assign Software dialog box as shown in Figure 1-38.

   The optional software for the station or field module you selected appears in the Optional Software Packages portion of the dialog box.

4. Select each of the desired optional software packages for that station or field module. Use the scroll bar to view all the packages. If no optional software packages are shown, that component does not have any optional software.

   In Figure 1-38, the optional Message Manager software is assigned.

Figure 1-38. Assigning an Optional Software Package to a Workstation

5. Select **Assign** to associate the software to the station.

6. Repeat Steps 5, 6, and 7 for each hardware component.

7. After you select optional software for each hardware component, click **Close** on the Assign Software dialog box. The System Definition screen refreshes to show your selections.

8. Verify your selections by reviewing the Software Definition screen.

─ **NOTE** ─────────────────────────────

Each system requires one and only one Compound Summary Access (for example, Com Sum Access, ACSA7) software package.

─────────────────────────────
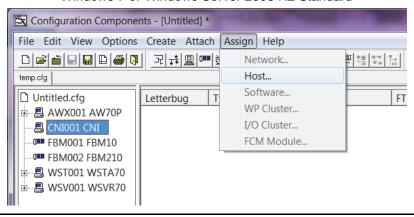
Assigning the Software Host

Assigning the software host defines where the software for a hardware module resides. The procedure for assigning the host for each hardware module that requires a host (not all modules require a host) is basically the same as the procedure for assigning the software.

To assign a software host:

1. Select **Assign** then **Host** from the pull-down menu as shown in Figure 1-39.

   If a software host is not required for the selected hardware module, the Host pull-down option on the Assign menu is disabled.

Windows 7 or Windows Server 2008 R2 Standard

Windows XP or Windows Server 2003 R2
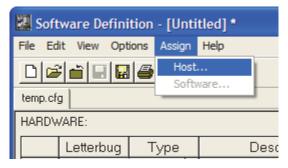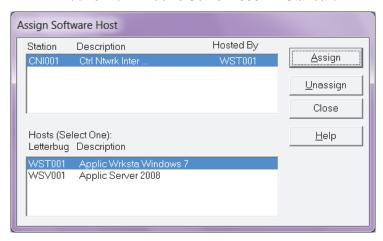
Figure 1-39. Assigning a Software Host to a Station

The Assign Software Host dialog box appears as shown in Figure 1-40.

Windows 7 or Windows Server 2008 R2 Standard

Windows XP or Windows Server 2003 R2
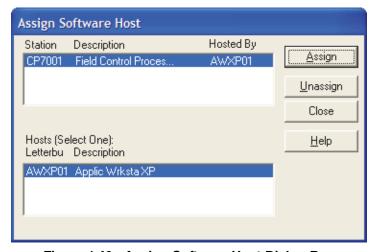
Figure 1-40. Assign Software Host Dialog Box

Hardware items that require the assignment of a host station are shown on the upper portion of the dialog box, and the possible host stations are shown on the bottom portion of the dialog box. Only the host stations available to the selected hardware item are available in the Hosts field.

2. Select a station from the Station portion of the dialog box as shown in Figure 1-40.

3. Select a host for the station selected in Step 2 from the Hosts portion of the dialog box.

4. Click `Assign` from the Assign Software Host dialog box.

   In Figure 1-40, in the Windows 7 dialog box, the Control Network Interface is assigned to the WST001 workstation.

   In Figure 1-40, in the Windows XP dialog box, the FCP270 is assigned to the AW70P.

5. Repeat Steps 2, 3, and 4 for each hardware component.

6. Select `Close` in the Assign Software Host dialog box after each hardware component has been assigned a software host.

Configuring Control Network Interface

If you have a Control Network Interface in your system, you must make additional configurations to it at this point in System Definition. You can use its Hardware Editor to update its:

♦ Letterbug

♦ CNI Type (single or fault-tolerant)

♦ Description (user-defined text)

♦ Host Processor (if not already configured)

♦ Type of connection to its switch - Ethernet, etc.

♦ TCP/IP address

♦ MAC address

♦ Switch to which the CNI is connected - You must connect the CNI to a switch.

To configure a Control Network Interface:

1. Assign the CNI to a switch on The Foxboro Evo Control Network from the Configuration Components window. Select the CNI, drag it onto the appropriate switch (SW24P), and release it, as shown in Figure 1-41.
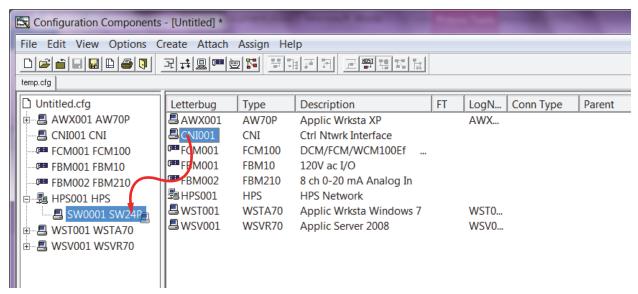
Figure 1-41. Attaching CNI to a Switch on The Foxboro Evo Control Network

After the CNI is released over the desired switch, the Configuration Components window appears as shown in Figure 1-42. A connection between the CNI and the selected switch is established.

For the second switch, a manual connection between the CNI and switch must be made using the Hardware Editor. This is described later in this procedure.
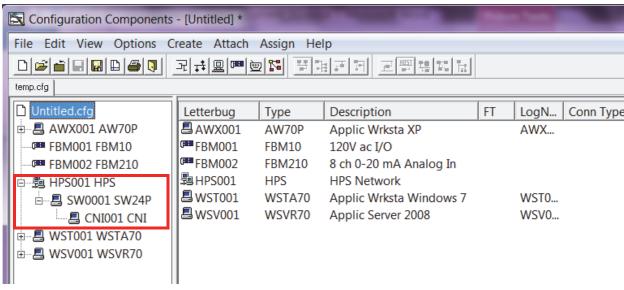
Figure 1-42. Configuration Components Window After Attaching CNI to Switch on The Foxboro Evo Control Network

Be aware that the CNI does not support assigning/attaching any hardware (FCM, FBM, etc.) to it. For example, if you attempt to drag-and-drop an FBM, such as FBM001 shown in Figure 1-43, onto the CNI in the Configuration Components window, the operation will fail.
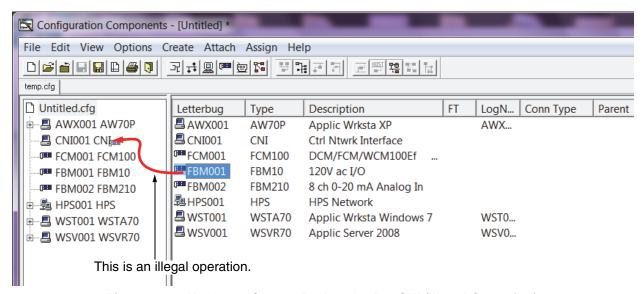
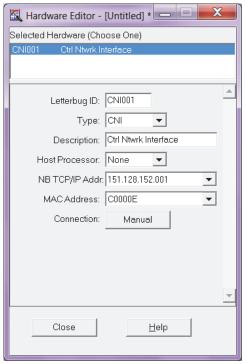**Figure 1-43. Hardware Cannot Be Attached to CNI (Illegal Operation)**

─── **NOTE** ───────────────────────────────────────

To configure the CNI to connect to switches in the customer-supplied network (which links the Foxboro Evo systems), refer to the *Control Network Interface (CNI) User's Guide* (B0700GE).

2. Invoke the Hardware Editor for the CNI using one of the following methods:

   ♦ In the Configuration Components window, double-click on the CNI you want to configure.

   ♦ In the Hardware Definition window, double-click on the record of the CNI you want to configure.
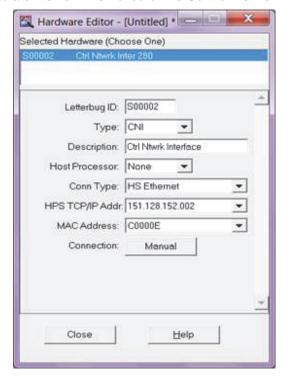
   (These methods work for other hardware components as well.)

   The Hardware Editor appears as shown in Figure 1-44.

INCORRECT - Invoked for a CNI not connected to a switch on The Foxboro Evo Control Network

CORRECT - Invoked for a CNI connected to a switch on The Foxboro Evo Control Network

NOTE: A CNI MUST be connected to a switch.

Figure 1-44. Hardware Editor for CNI - Incorrect vs. Correct

3. To set the letterbug for the CNI, type in the six-digit letterbug in the Letterbug ID: field.

   Alternatively, you can set the CNI's letterbug as described in "Changing Letterbugs" on page 22.

4. To change the CNI station type, from the Type drop-down menu, select **CNI** to set the CNI as Single (simplex), or **CNIFT** to set the CNI as Fault-Tolerant, as shown in Figure 1-45.
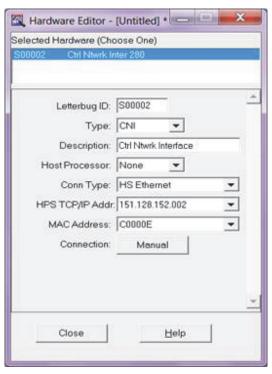
Figure 1-45. Hardware Editor for CNI - Setting Type

After changing the CNI station type, the Change Hardware Type dialog box appears, as shown in Figure 1-46. Click **Yes** to change the CNI station type.
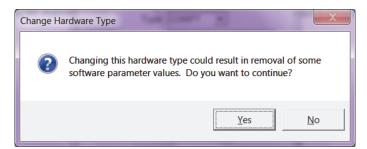
Figure 1-46. Change Hardware Type Dialog Box

5. To set a description, type the new text into the Description: field.

6. To assign a host for the CNI, click on the Host Processor drop-down menu and select any workstation or server (WSTA70 or WSVR70) from the list as shown in Figure 1-47.
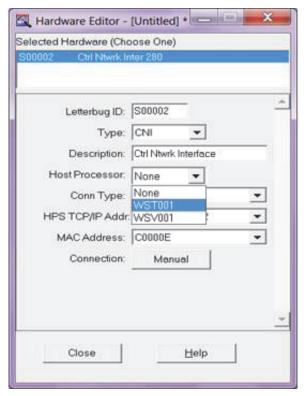
Figure 1-47. Hardware Editor for CNI - Setting Host Processor

7. Leave the Conn Type: drop-down menu as is. (There should be only one pick.) Be aware that the CNI must be connected to a network (that is, a switch on The Foxboro Evo Control Network) **before** you invoke the Hardware Editor in order for this field to appear in the Editor.

8. (Optional) You can assign the TCP/IP address that this CNI will use to connect to The Foxboro Evo Control Network. To change this TCP/IP address for The Foxboro Evo Control Network, select the appropriate address from the TCP/IP Addr: drop-down menu. This field is labeled "NB TCP/IP Addr" if the CNI was not connected to a network before invoking the Hardware Editor, and it is labeled "HPS TCP/IP Addr" if the CNI was connected to a network before invoking the Hardware Editor.

   To configure the TCP/IP address that this CNI will use to connect to the customer-supplied network (which links the Foxboro Evo systems), refer to "Connecting CNI to SSA Chassis Managed Switch (Router)" in the *Control Network Integration (CNI) User's Guide* (B0700GE).

9. (Optional) To change the MAC address of this CNI, select the appropriate address from the MAC Address: drop-down menu.

10. To set a redundant switch on The Foxboro Evo Control Network to which the CNI is connected, proceed as follows:

NOTE ──────────────────────────────────────

You can only assign a primary switch on The Foxboro Evo Control Network to a CNI using the drag-and-drop functionality described in Step 1 of this procedure. You **cannot** establish the secondary switch connection to The Foxboro Evo Control Network using the drag-and-drop functionality.

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a. Click the **Manual** button adjacent to Connection:. The Manual Connection dialog box appears, as shown in Figure 1-48.
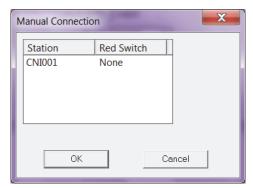
Figure 1-48. Manual Connection Dialog Box

b. Click the field adjacent to the station which hosts the switch on The Foxboro Evo Control Network to which you want this CNI to be connected. A list of available switches appears, as shown in Figure 1-49. Select the desired switch and click **OK**.
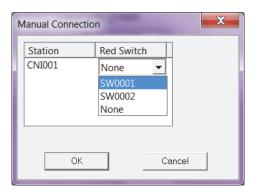
Figure 1-49. Manual Connection Dialog Box - Available Switches from a Host

Manual connection between the CNI and the selected switch is established.
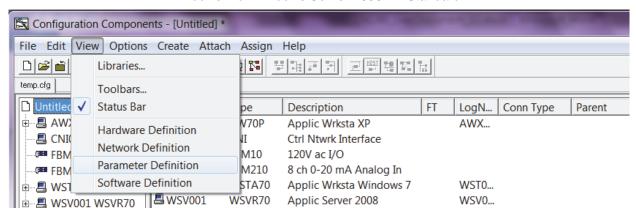
11. When finished with configuration for the CNI, click **Close**.

Assigning Parameter Definitions

Assigning parameter definitions involves parameters which require the assignment of names or values that are dependent upon your system requirements; for example, logical names of library volumes, number of stop and start bits in a character, character baud rate, and so forth. To print or view the individual parameters for any software package from any screen in System Definition, refer to "Printing Parameter Worksheets" on page 46.

To assign parameter definitions:

1. Select **View** then **Parameter Definition** from the Software Definition top menu bar as shown in Figure 1-50.

Windows 7 or Windows Server 2008 R2 Standard

Windows XP or Windows Server 2003 R2
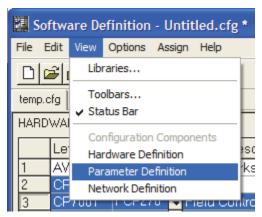
Figure 1-50. Navigating to Parameter Definition from Software Definition

44

The Parameter Definition screen appears as shown in Figure 1-51.

Windows 7 or Windows Server 2008 R2 Standard
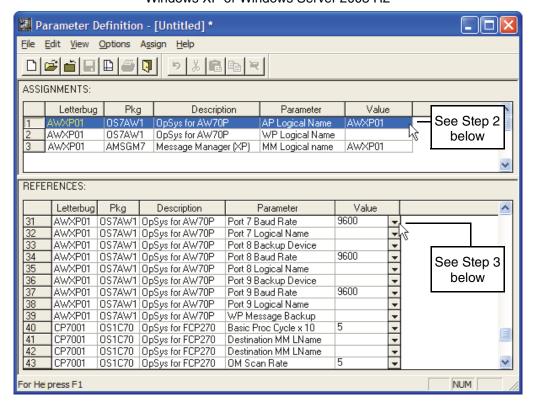

Windows XP or Windows Server 2003 R2

Figure 1-51. Parameter Definition Screen

The ASSIGNMENTS (top portion) of the Parameter Definition screen shows user-defined parameters for which you must enter the value by typing in the appropriate cell. Type the values of your parameters in the Value column of the ASSIGNMENTS portion of the Parameter Definition screen.

The REFERENCES (lower portion) of the Parameter Definition screen shows parameter for which you must select a value from a drop-down list.

─ **NOTE** ──

You cannot type values in the REFERENCES portion of the Parameter Definition screen; select them from the drop-down list.

───

In both the ASSIGNMENTS and REFERENCES portions of the window, you can keep the defaults if they are assigned and meet the requirements for your system.

2. To define a parameter in ASSIGNMENTS:

   a. Click (highlight) the `Value` field for a parameter listed in ASSIGNMENTS.

   b. Type the new parameter in the appropriate cell.

   Repeat Steps a and b for each parameter.

   To set the Basic Processing Cycle (BPC) for a station, set the "Basic Proc Cycle x 10" parameter to the appropriate length, in hundreds of milliseconds (0.5 = .05 sec, 1 = 0.1 sec, 2 = 0.2 sec, 5 = 0.5 sec, and 10 = 1.0 sec).

3. To define a new value for a parameter listed in REFERENCES:

   a. Click the down arrow in the parameter's `Value` list.

   b. Click the new value from the pop-up list.

   Repeat Steps a and b for each component.

Parameter descriptions for each software or hardware component are contained in worksheets in the user's guide, which is available from the Help menu. It is suggested that you print and/or view the individual worksheets for each of your hardware or software components to determine the meaning and value range of each parameter. Hardware worksheets contain the parameter values for a particular processor. Software worksheets contain the parameter values for all other software.

Printing Parameter Worksheets

To print or view the individual parameter worksheets from the Parameter Definition screen or any screen in System Definition, proceed as follows:

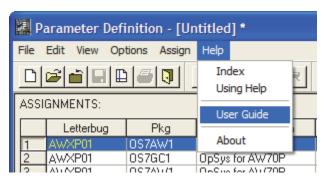1. Select `Help,` then `User Guide` from the pull-down menu as shown in Figure 1-52.

Figure 1-52. Selecting Help

2. Select **Hardware Worksheets** (Hardware in the example) or **Software Work-sheets** located at the bottom of the Contents page for Help. The Hardware Work-sheets or Software Worksheets list appears. An example hardware list is shown in Figure 1-53.
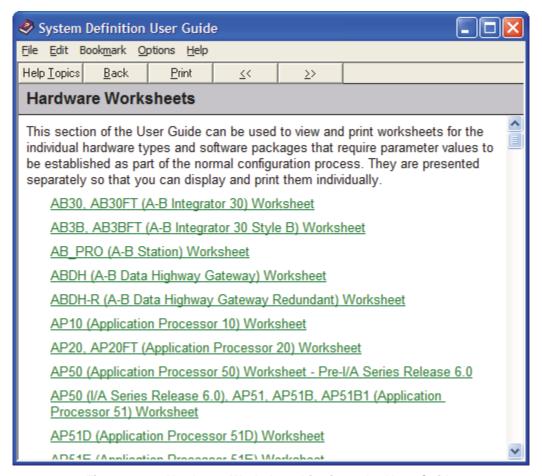

Figure 1-53. Hardware Worksheet List from the User Guide

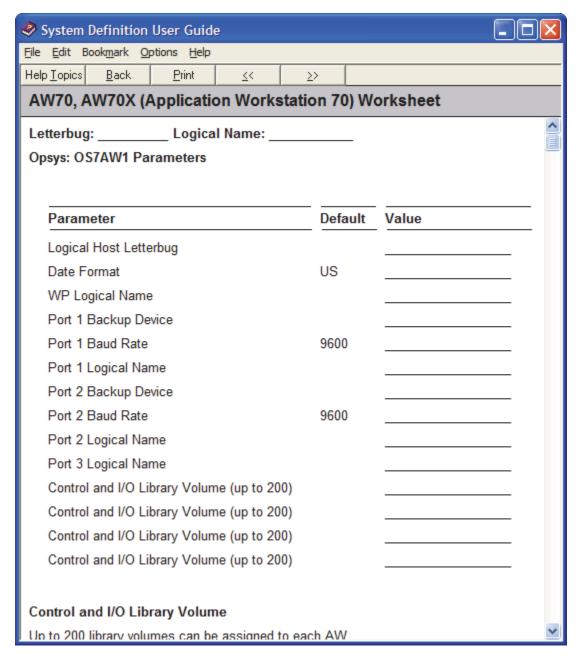3. Select the individual worksheet from the **Hardware Worksheets** or **Software Worksheets** list. Figure 1-54 shows an example of a AW70 worksheet.

Figure 1-54. AW70 Hardware Worksheet

4. Print the Hardware and Software Worksheets for all required components as follows:

   a. Select **File**.

   b. Select **Print Topic**.

   c. To exit Help, select the **x** button at the upper-right corner of the Help screen.

Documenting the Configuration (Optional)

Documenting the configuration is an optional step that allows you to build a graphical view of your configured system.

To document a system from the Hardware Definition screen, proceed as follows:

1. Select the components that you want to display graphically by clicking on the numbered button(s) (for example 1, 2, and so forth) in the SWITCHES, STATIONS, MODULES, and PERIPHERALS sections of the Hardware Definition screen. Figure 1-55 shows various components selected to appear on the graphical representation of the system configuration.
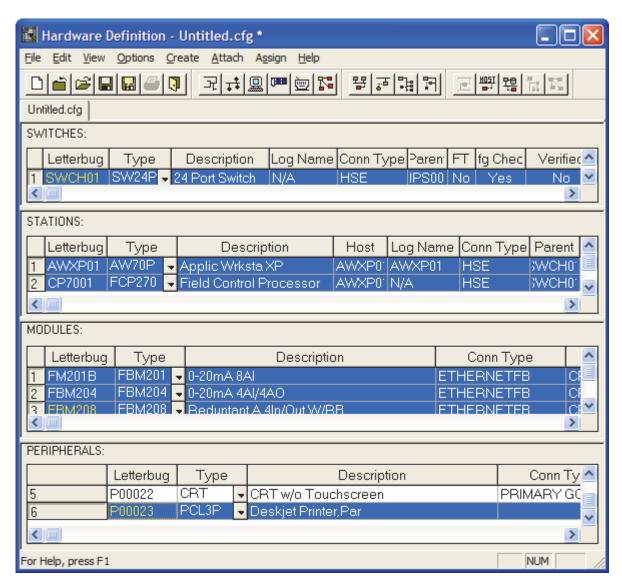
Figure 1-55. Selecting Hardware Items for Graphical Representation

2. Select **Edit** > **Copy** from the Hardware Definition main menu bar.

3. Select **View** then **Network Definition** from the main menu bar of the Hardware Definition screen as shown in Figure 1-56.
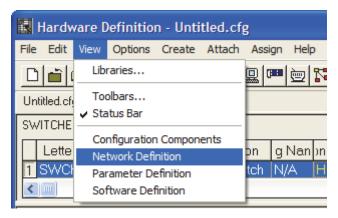

Figure 1-56. Navigating to Network Definition from Hardware Definition

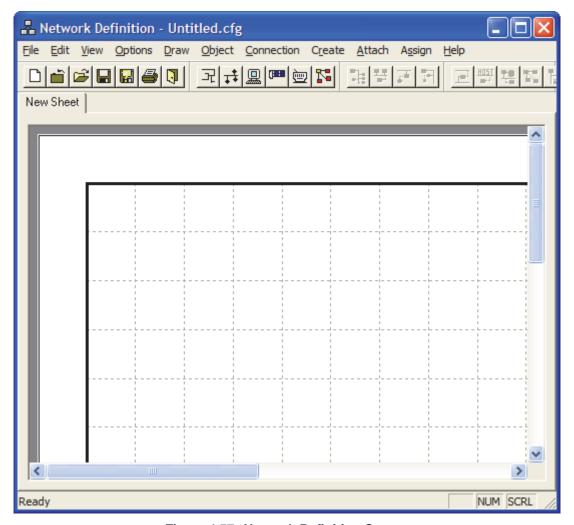The Network Definition screen appears as shown in Figure 1-57.

Figure 1-57. Network Definition Screen

4. Select **Edit** then **Paste** from the main menu bar of the Network Definition screen as shown in Figure 1-58.
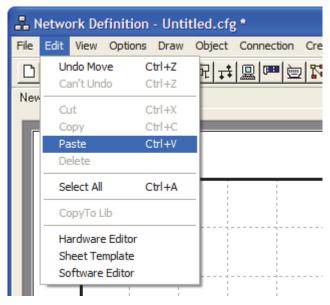

Figure 1-58. Pasting Selected Components to Network Definition

The components copied from the Hardware Definition screen appear in the center of the Network Definition screen. The components for this example were pasted as a group and display as shown in Figure 1-59.
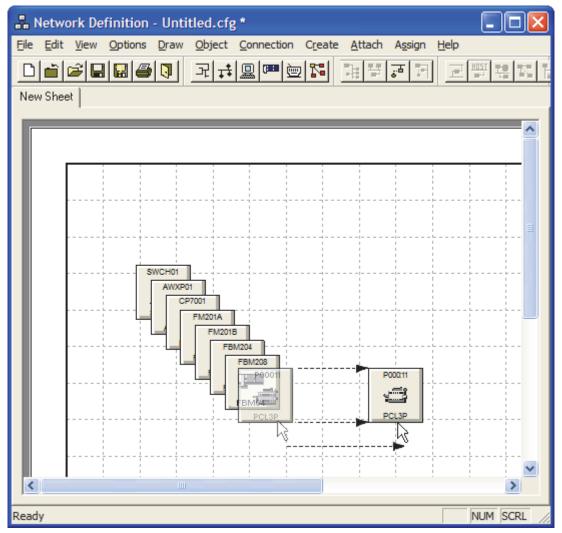
Figure 1-59. Network Definition Displaying Pasted Hardware Components

5. Arrange the components to accurately represent your system configuration. To move items on the display, press and hold the left mouse button on the component and drag it to the desired location on the screen as shown in Figure 1-59. You can also resize components by clicking on a component and grabbing the rectangular boxes on the component to resize it. Refer to the user's guide available from the Help menu for additional information about the drawing tools you can use in the Network Definition component. After dragging and resizing the components, the example looks as shown in Figure 1-60.
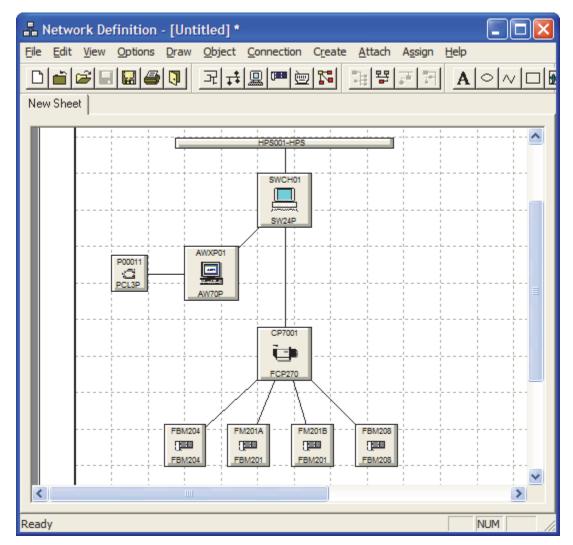
Figure 1-60. Graphical Representation of a System in Network Definition

To print a copy of the Network Definition screen:

1.   Select `File`.
2.   Select `Print`.

Checking the Configuration

Checking the system configuration verifies the installability of the configuration. If a system configuration cannot pass the configuration check, you cannot produce Commit installation media for software installation.

To check the configuration, proceed as follows:

1.   Select `Options` > `Utilities` > `Check Configuration` as shown in Figure 1-61.
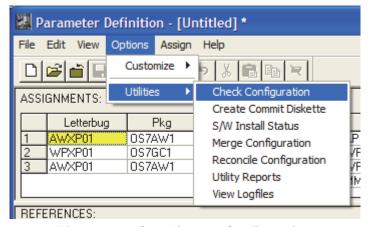
53

Figure 1-61. Checking the Configuration

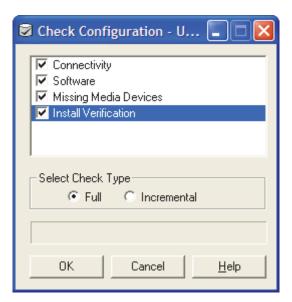The Check Configuration dialog box appears as shown in Figure 1-62.

Figure 1-62. Check Configuration Dialog Box

2. Check all selections (**Connectivity**, **Software**, **Missing Media Devices**, and **Install Verification**) from the list as shown in Figure 1-62.

3. Select **Full** from the Select Check Type.

4. Click **OK** from the Check Configuration dialog box.

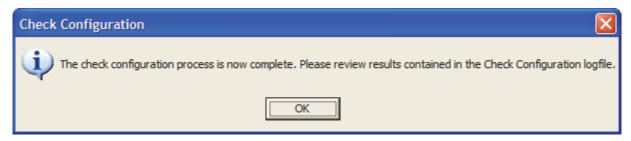   A Check Configuration message appears as shown in Figure 1-63.

Figure 1-63. Completing the Configuration Check

5. Click **OK** on the Check Configuration message and view the Check Configuration logfiles as shown below.

6. Select **Options** from the Parameter Definition screen on the main menu bar, then select **Utilities** > **View Logfiles** from the pull-down menu as shown in Figure 1-64.
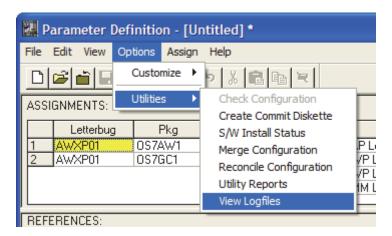

Figure 1-64. Viewing the Check Configuration Logfiles

In the resulting View Logfiles dialog box, choose to view the logfiles with or without timestamps.

♦   To view the logfile without timestamps, select **No** under Time Stamp in the View Logfiles dialog box.

♦   To view the logfile with timestamps, select **Yes** under Time Stamp in the View Logfiles dialog box.

In the View Logfiles dialog box, you can also opt to display the complete logfile or only the errors that have ocurred during your configuration check.

♦   To view the complete logfile, select **Entire Logfile**.

♦   To view only the errors that ocurred during your configuration check, select **Errors Only**.

7. Select **Errors Only**. In order for your system to pass a configuration check, your configuration must not contain errors.

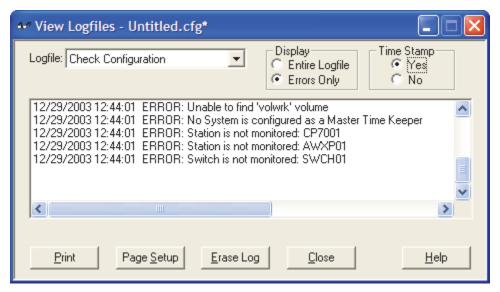The logfile shown in Figure 1-65 shows only errors in a check configuration logfile with time stamps for each entry.

Figure 1-65. Check Configuration Logfile (Errors Only With Timestamps)

8. View the logfiles and record or print all errors as shown in the View Logfiles dialog box. Return to the appropriate procedure as previously described to correct all errors. After the errors have been corrected, rerun the Check Configuration procedure. For detailed information and procedures about correcting check configuration errors, refer to the user guide available from the Help menu.

9. Select **Close** to exit the Check Configuration dialog box.

Creating Commit Installation Media

Creating Commit installation media allows you to install the Control Core Services and/or Foxboro Evo Control Software when the time comes. Identification and location of the installed software packages are based upon the selections that you made during the definition of your system.

Commit data can be saved to a variety of installation media, including a USB memory stick, external/internal hard drive, DVD/CD. or floppy diskette. The following procedure uses the example of saving Commit data to a floppy diskette.

To create Commit installation media, proceed as follows:

1. Ensure the media platform on which you want to install the Commit data is accessible by the Foxboro station. For example, the USB memory stick is in the station's USB slot, the writable DVD/CD is in the appropriate drive, the external hard drive or any externally mounted floppy diskette drive is connected to the station, etc.

2. Select **Options** from the Parameter Definition main menu bar then select **Utilities** > **Create Commit** from the pull-down menus shown in Figure 1-66.
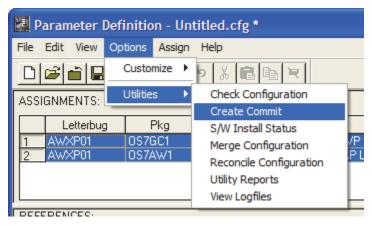
Figure 1-66. Creating a Commit Installation Media

The Create Commit dialog box appears as shown in Figure 1-67.

Figure 1-67. Create Commit Media Dialog Box

3. Click `Select`.

   The Select Commit Diskette Drive dialog box appears as shown in Figure 1-68. (This dialog box can also be used to save the Commit data to other types of installation media as well.)

Note: Other drives mounted to this station will appear in this dialog box if found.

Figure 1-68. Select Commit Diskette Drive Dialog Box

4. Select the drive from the Select Commit Diskette Drive dialog box.

5. Click **OK** on the Select Commit Diskette Drive dialog box.

    The Create Commit Diskette dialog box shown in Figure 1-67 reappears.

6. Select **Start** on the Create Commit Diskette dialog box.

7. If you are saving to floppy diskettes, when requested by a dialog box, insert the *appropriate* media distribution diskette #10091, which is the diskette that matches the **Day 0** version of the software that is currently running on your system.
    For all other installation media, skip this step.

8. Click **OK** from the Media Distribution dialog box.

9. If you are saving to floppy diskettes, when requested by a dialog box, insert a blank, formatted, 3.5-inch diskette into the selected diskette drive of the PC.

    This diskette, after the data is transferred, is the Commit installation media to be used for software installation.

    For all other installation media, skip this step as the media should already be accessible to the station.

10. Click **OK** from the Select Commit Diskette dialog box.

    The length of time that it takes to create Commit installation media depends on the speed of the PC on which you are building the database and the size of the system configuration.

11. Select **Y** (Yes) or **N** (No) when a dialog box appears asking if you wish to make additional copies of the Commit installation media. If you select **Yes**, repeat Steps 7 through 11. If you select **No**, you are automatically exited to the screen from which you entered the Create Commit Diskette function.

Saving the Configuration

To save a completed system configuration database, proceed as follows:

1. Select **File** from the Parameter Definition screen on the main menu bar as shown in Figure 1-69.
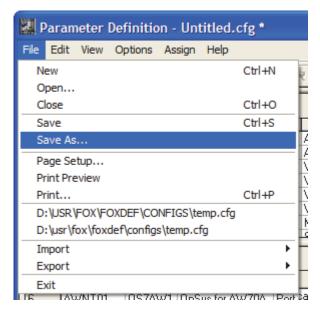
Figure 1-69. Saving the Configuration

2. Select **Save As** from the pull-down menu.

   The Save Configuration As dialog box appears as shown in Figure 1-70
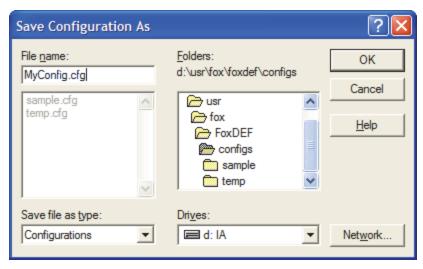

Figure 1-70. Save Configuration Dialog Box

3. Select or enter the filename to which you desire to save the configuration.

   Do not save the file in the directory called buffer. Buffer is used by the System Definition to save temporary operations and overwrites your saved files.

4. Click **OK** on the Save Configuration As dialog box.

Your configuration is now stored and completed. The Commit installation media is ready to be used for software installation.

Make a hard copy of your letterbug assignments and your network configuration for file and reference purposes.

Reconciling the System Configuration

One of the results of the software installation process is Reconcile installation media. This installation media contains the results of all software package installations on the installed system. Once a system has been installed, you must reconcile the configuration which is stored within System Definition with the physical state of installed software packages. After the Reconcile process has been completed, the status of any software package can be as shown in Table 1-1.

Table 1-1. Software Package Status

Status	Description
NOTYET	Software package has not yet been installed.
DONE	Software package has been installed successfully.
FAILED	Software package installation failed.
REINST	Software package will be reinstalled.
REREAD	Software package needs to be reinstalled.

From the Hardware, Network, Parameter, or Software Definition screen, perform the following steps:

1. Open the database that is stored within System Definition and matches the database from the software installation process.

2. Select **Options** > **Utilities** > **Reconcile Configuration**.

3. From the Process Reconcile Diskette dialog box, choose the **Select** button to choose the device from which you wish to read the Reconcile installation media.

4. Select the appropriate drive. Choose **OK** to continue the Reconcile process or choose **Cancel** to discontinue the Reconcile process.

5. Select **Start** to begin the Reconcile process.

6. If necessary, insert the Reconcile installation media into the selected drive. Choose **OK** to continue the Reconcile process or choose **Cancel** to discontinue the Reconcile process.

   The progress bar in the middle of the dialog box keeps you informed of the progress being made. You can select **Cancel** at any time during the Reconcile process to terminate the procedure.

   ─ **NOTE** ─────────────────────────────

   Data corruption can occur when you select Cancel to stop the Reconcile installation media creation. To avoid corrupting your configuration, make sure you do not save any configuration files after selecting Cancel.
   ───────────────────────────────────────

7. From the dialog box, choose **Yes** if you have additional installation media to reconcile or, choose **No** if you do not have additional Reconcile installation media. If you choose **Yes**, the software jumps to Step 6, above. If you choose **No**, a dialog box reminds you to review the Process Reconcile logfiles.

8. Click **OK** to end the Reconcile process.

9. If necessary, remove the Reconcile installation media from the drive and file the Reconcile installation media.

10. Save the reconciled database within System Definition. This is the Day 1 Configuration of the system.

The Reconcile process is now complete. You should review the Reconcile Process logfile.

You can view the Reconcile Process logfile by performing the following steps from the Hardware, Network, Parameter, or Software Definition screen:

1. Select **Options**.

2. Select **Utilities**.

3. Select **View Logfiles**.

4. Select the **Reconcile Process** logfile.

View the logfile for the software package status as defined in Table 1-1. When you are finished, select **Close** to exit the logfile. Depending on the software package status, you may wish to install or reinstall packages that have not been installed.

Summary

Table 1-2 is a summary of the procedural steps used to define a system configuration

Table 1-2. System Definition Summary

Function	Procedural Steps
Access System Definition	1. **Start**
	2. **Programs**
	3. **System Definition**
	4. **Hardware Definition**
Select the Software Release	1. **File**
	2. **New**
	3. Select the appropriate software release.
	4. **OK**
Create Switches	1. **Create**
	2. **Switches**
	3. Select the switches.
	4. **OK**
Create Stations	1. **Create**
	2. **Stations**
	3. Select the stations.
	4. **OK**

Table 1-2. System Definition Summary (Continued)

Function	Procedural Steps
Create Field Modules	1. `Create`
	2. `Field Modules`
	3. Select modules.
	4. `OK`
Create Peripherals	1. `Create`
	2. `Peripherals`
	3. Select peripherals.
	4. `OK`
Change Letterbugs	1. Select letterbug.
	2. Delete old letterbug.
	3. Type new letterbug.
	4. Repeat Steps 1, 2, and 3 for more changes.
Attach Modules and Peripherals to Stations	1. `View`
	2. `Configuration Components`
	3. `Untitled.cfg`
	4. Drag module(s) to station.
	5. Drag peripheral(s) to station.
Attach Stations and FCMs to Switches	1. `View`
	2. `Configuration Components`
	3. `Untitled.cfg`
	4. Drag stations and FCMs to switches.
Create Nodes (or Networks)	1. `Create`
	2. `Node`
	3. Select the appropriate node type(s).
	4. Drag station(s) or switch(es) to appropriate node.
Assign Software	1. `View`
	2. `Software Definition`
	3. Select numbered button.
	4. `Assign`
	5. `Software`
	6. Select hardware station.
	7. Select optional software.
	8. `Assign`
	9. Repeat Steps 6, 7, and 8, for all stations.
	10. `Close`
	11. Verify software selections.

Table 1-2. System Definition Summary (Continued)

Function	Procedural Steps
Assign Software Host	1. `Assign`
	2. `Host`
	3. Select station.
	4. Select host for station.
	5. `Assign`
	6. Repeat Steps 3, 4, and 5 for each component.
	7. `Close`
Assign Parameter Definitions	1. `View`
	2. `Parameter Definitions`
	3. Highlight component in ASSIGNMENTS.
	4. Type new value.
	5. Repeat Steps 3 and 4 for each component.
	6. Select down arrow for component in REFERENCES.
	7. Release mouse on new value.
	8. Repeat Steps 6 and 7 for each component.
Print the Parameter Worksheets	1. `Help`
	2. `User Guide`
	3. `Hardware Worksheets` or `Software Worksheets`
	4. Select individual worksheet.
	5. `File`
	6. `Print Topic`
Document the Configuration (Optional)	1. On Hardware Definition screen, highlight all components for display.
	2. `Edit`
	3. `Copy`
	4. `View`
	5. `Network Definition`
	6. `Edit`
	7. `Paste`
	8. Drag components to desired screen locations.
	9. `File`
	10. `Print`

Table 1-2. System Definition Summary (Continued)

Function	Procedural Steps
Check Configuration	1. `Options`
	2. `Utilities`
	3. `Check Configuration`
	4. Select all selections in Check Configuration dialog box.
	5. Check Type – `Full`.
	6. `OK`
	7. Check Configuration complete message – `OK`.
	8. `Options`
	9. `Utilities`
	10. `View Logfiles`
	11. `Errors Only`
	12. `Close`
	13. Correct errors.
	14. If necessary, repeat Steps 1 through 12.
Create Commit	1. `Options`
	2. `Utilities`
	3. `Create Commit`
	4. `Select`
	5. Select drive.
	6. `OK`
	7. `Start`
	8. Insert #10091 installation media.
	9. `OK`
	10. Insert blank formatted 3.5-inch diskette.
	11. `OK`
	11. `Y` or `N` to copy Commit installation media
Save Configuration	1. `File`
	2. `Save As`
	3. Select directory.
	4. `OK`

Table 1-2. System Definition Summary (Continued)

Function	Procedural Steps
Reconcile Configuration	1. Open database.
	2. `Options`
	3. `Utilities`
	4. `Reconcile Configuration`
	5. `Select`
	6. Select drive. `OK` or `Cancel`
	7. `Start`
	8. Insert Reconcile installation media. `OK` or `Cancel`
	9. Additional Reconcile installation media? `Yes` (repeat Step 8) or `No`
	10. `OK`
	11. Save reconciled configuration.
View Reconcile Process logfile	1. `Options`
	2. `Utilities`
	3. `View Logfiles`
	4. `Reconcile Process`
	5. `Close`

Index

hardware 47
printing 46, 63
software 47