IBM FastSetup white paper

Version 3.2.1

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Save time, reduce cost, and increase the return of investment with this time-to-value application.

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Introduction

Owners of IBM® BladeCenter® H chassis, System x® servers, and the newly announced Flex Systems can now take advantage of a new tool in the IBM ToolsCenter family. This tool can drastically cut the time it takes to set up, configure, and update these systems on Day 0. The tool does not require pre-installed software or massive amounts of memory, and it can be used on most Windows clients. Best of all, the tool is readily available today.

IBM understands the business challenge of being able to use systems on demand and the increasing demand for automation of repetitive tasks that can be deployed upon request. Enter IBM FastSetup. The IBM FastSetup software provides remote system discovery for System x servers, BladeCenter H chassis, and Flex System Compute Nodes. You can benefit from using IBM FastSetup's ability to automate firmware deployments and configuration settings to multiple endpoints through the use of template support.

Efficiency is one of the most important reasons for using IBM FastSetup. It combines many important features for maintaining your IBM hardware. It is easy to install and ready to use with no manual configuration required. IBM FastSetup provides the following features:

- Mass deployment of firmware updates on BladeCenter bare metal blades, Flex System Compute Nodes, and System x rack servers, as well as Management Modules and I/O components of BladeCenter and Flex System chassis
- Simple and easy process to push configuration settings
- Automation templates made easy for mass deployments
- Single-user interface for easier understanding of the workflow
- Integrated Help for dialog panels

In addition, IBM FastSetup supports up to 56 endpoints in one session. IBM FastSetup also includes predefined templates, which are ready-to-use automation templates for quick deployments of UpdateXpress System Packs (UXSPs) and system settings for your IBM systems. Although IBM FastSetup provides predefined templates, you have the option to create your own templates to tailor to your needs.

This white paper outlines the advantages of IBM FastSetup and provides useful information to users who are considering adding IBM FastSetup to their environment for quick deployments of updates and configuration settings. While some contents can be used as a reference manual, you should be aware that these topics are not a replacement for documentation that is included with the product.

1 About IBM FastSetup

IBM FastSetup is a stand-alone Windows application that is designed to be the only tool you need in order to configure settings and/or update firmware with minimum intervention. IBM FastSetup is a wizard-type application that displays the progression as you traverse the application. It has a single pane for all phases of IBM FastSetup that guides you through the process of system discovery, task selection,

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update selection, and settings configuration. It provides tasks for updating and configuring your IBM hardware, including:

- Firmware updates for using ToolsCenter UpdateXpress System Pack Installer (UXSPI)
- System settings configuration using ToolsCenter Advanced Settings Utility (ASU)
- RAID configuration using ToolsCenter ServerGuide PRAID
- CMM configuration of Flex System chassis
- IMM configuration of Flex System Compute Nodes and System x servers
- AMM and I/O configuration of BladeCenter H chassis
- AMM/CMM firmware update of BladeCenter H chassis and Flex System chassis
- Firmware update of I/O switches in BladeCenter H chassis and Flex System chassis
- Use of updates repository for working offline
- Capture and clone mechanism for System x servers, BladeCenter blades, and Flex System Compute Nodes

IBM FastSetup has significant advantages over other products that can greatly improve your experience with configuration and firmware updates. IBM FastSetup does not require an operating system on the target system. It provides a preboot environment, which it utilizes for performing its tasks. Another advantage is that it does not require you to be physically present on the terminal for the target system. IBM can remotely discover the target system, push firmware updates to the system, and configure any settings without intervention.

These tasks can also be easily integrated into the templates for easier deployments. In addition, IBM FastSetup supports up to 56 endpoints in one session for deployments. IBM FastSetup also includes predefined templates, which are ready-to-use automation templates for quick deployments of UXSPs and system settings for your IBM systems. You have the option to create your own templates to tailor toward your deployment needs.

IBM FastSetup is available for download from the IBM ToolsCenter website.

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=TOOL-FASTSET

1.1 What's New in IBM FastSetup 3.2

IBM FastSetup has added support for the following systems:

- IBM System x3750 M4, type 8752, 8718
- IBM Flex System x280 X6/x480 X6/x880 X6, type 7903, 4259

IBM FastSetup 3.2 includes the following new features for hardware support, operating system support, and feature enhancements.

1.1.1 System x servers

IBM FastSetup has added support for the following system:

- System x3750 M4, type 8752, 8718

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- Flex System x280 X6/x480 X6/x880 X6, type 7903, 4259

Note: IBM FastSetup requires the Feature On Demand (FOD) key for Integrated Management Module Advanced Upgrade for some rack systems. For more information on obtaining the FOD key, refer to the system's user guide.

2 Getting started

2.1 Workstation requirements

IBM FastSetup can be executed on a regular workstation or laptop. The following minimum configuration is recommended for your workstation.

2.1.1 Hardware requirements

- Intel or AMD processor, x86 or x64
- 2 GB RAM or more
- 500 MB of free disk space for temporary usage
- 10 GB of free disk space for firmware updates storage
- Ethernet adapter

2.1.2 Software requirements

- Microsoft Internet Explorer 8.x, 9.x, or 10.x is recommended
- Microsoft Windows Vista
- Microsoft Windows 7 or 8
- Microsoft Windows Server, 2003, 2003 R2, 2008, 2008 R2, or 2012

2.2 Hardware setup

In order for IBM FastSetup to access and configure your IBM hardware, the IBM FastSetup client requires a network connection to the endpoints. The endpoints are the AMM and BladeCenter switches for the BladeCenter H chassis. For IBM System x servers, the endpoints are the Integrated Management Module (IMM) and a network connection to an Ethernet port. For the IBM Flex System, the endpoints are the Chassis Management Module (CMM) and IBM Flex System network switch.

In order to retrieve system firmware updates during IBM FastSetup sessions, the IBM FastSetup client must also have access to IBM Fix Central. IBM Fix Central can be found at the following location: www.ibm.com/support/fixcentral/.

With the work offline feature, Internet connectivity is not required if a local repository exists on the IBM FastSetup client. For more information on this topic, see section 4.3.

Note: The FTP ports must be allowed via firewall to the IBM FastSetup client. IBM FastSetup makes use of an internal FTP server in order to push firmware updates via the Ethernet NIC. If the ports are not allowed, IBM FastSetup will fail during the Device Inventory phase when it attempts to place the system into maintenance mode.

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The following diagram provides a general network topology that can be used in order to allow IBM FastSetup to connect to IBM hardware.

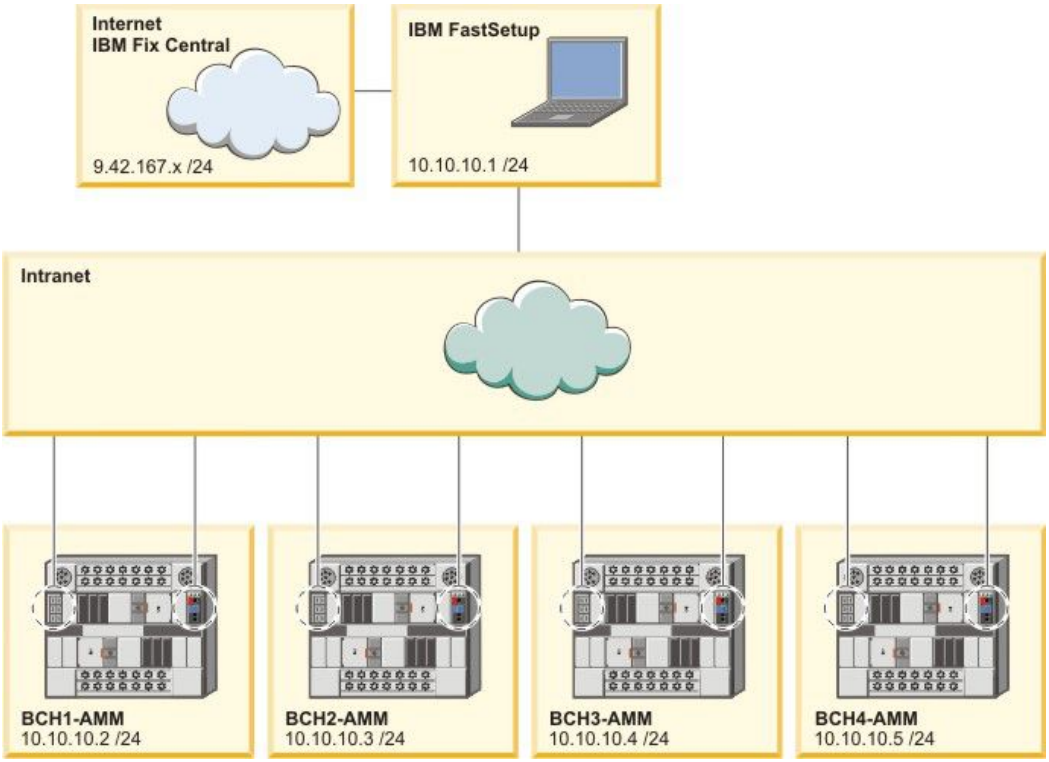

Figure 1: BladeCenter H network cabling

In Figure 1 above, the IBM FastSetup client has two active network connections. The first active connection is 9.42.167.x, and the second active network connection is 10.10.10.1. In this diagram, the BladeCenter chassis is connected to an intranet. The AMM of each BladeCenter chassis as well as the Ethernet ports of the network switch are connected to the intranet.

In this example, the IBM FastSetup client uses the Internet connection to retrieve firmware updates and to manage the BladeCenter chassis. For this example, you must select the second active connection in the IBM FastSetup Network Access panel. If the first connection is selected, IBM FastSetup will fail to collect device inventory.

2.3 Installation

This section describes the steps to install the IBM FastSetup. It includes instructions for installation and removal. The installation process also supports migration from previous versions of IBM FastSetup. Any custom templates from previous versions are supported in the later versions of the product. During the

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installation process, if a version of the product is found, the installation process uninstalls the product at your request.

2.3.1 Installing IBM FastSetup

1. Go to the IBM ToolsCenter website to download the solution.
2. Select and download `ibm_utl_fastsetup_xxx_windows_32-64.exe`, where *xxx* is the version of the release.
3. Double-click the downloaded installation executable file to start the installation. The Welcome to the InstallAnywhere Wizard for IBM FastSetup window displays.
4. Click **Next**.
5. Select the location for the product icons.
6. Click **Next**.
7. Choose the folder for the installation.
8. Click **Next**.
9. Choose the shortcut folder.
10. Click **Next**.
11. Select the post-installation preferences for the installation.
12. Click **Next**.
13. Review the installation selections.
14. Click **Install** to begin the installation.
15. When the installation is complete, click **Done**.

2.3.2 Uninstalling IBM FastSetup

To uninstall IBM FastSetup, use **Add or Remove Programs** from the Control Panel.

3 Using IBM FastSetup

IBM FastSetup must remotely connect to the BladeCenter's AMM, System x IMM, or IBM Flex System CMM in order to discover the systems. These modules must be configured with a valid Internet protocol address that is active on the network.

To launch IBM FastSetup, double-click `IBMFastSetup.exe` from its installed directory. Upon startup, you are presented with the Software License Agreement, which you must accept in order to continue to

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the Welcome panel. The Welcome panel contains information about the general use and flow of IBM FastSetup. See Figure 2. When you click **Next**, the Network Access panel displays.

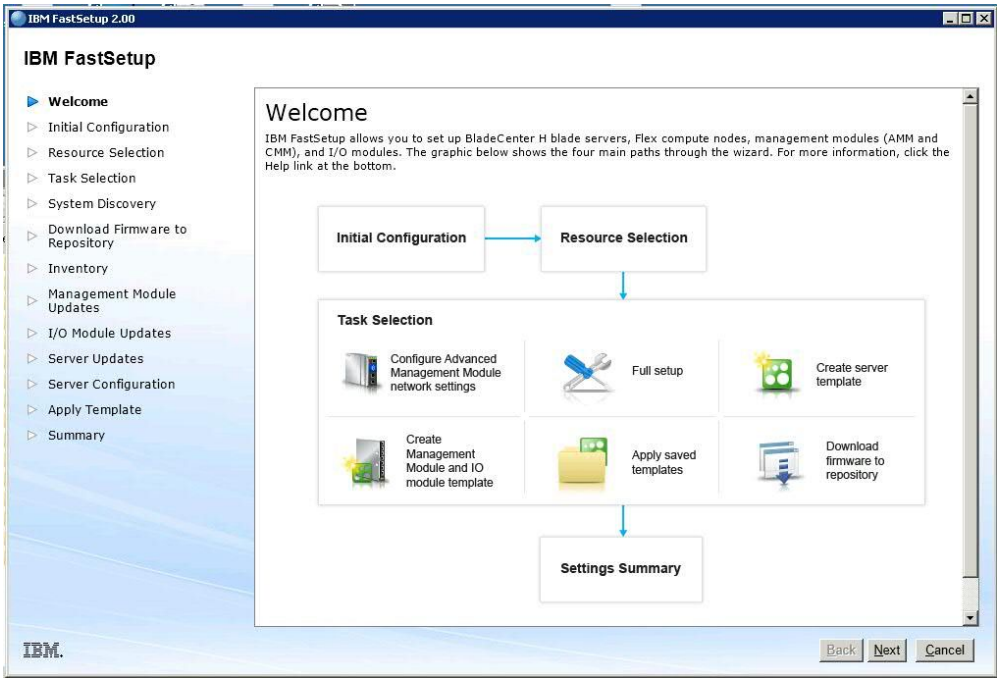

Figure 2: Welcome panel

3.1 Initial Configuration

The Initial Configuration phase of IBM FastSetup is used to configure IBM FastSetup for network access to the target systems. On the Network Access panel, you are asked to provide vital network information in order to connect to your hardware. This information includes optional proxy information, as well as which network port to use to connect to your hardware. The network port is important, as IBM FastSetup makes use of an internal FTP server that binds to the port you select on this panel. If the wrong port is selected, you may experience issues entering maintenance mode. Maintenance mode is a preboot environment that IBM FastSetup utilizes for performing component inventory, system firmware updates, RAID configuration, and system settings configuration.

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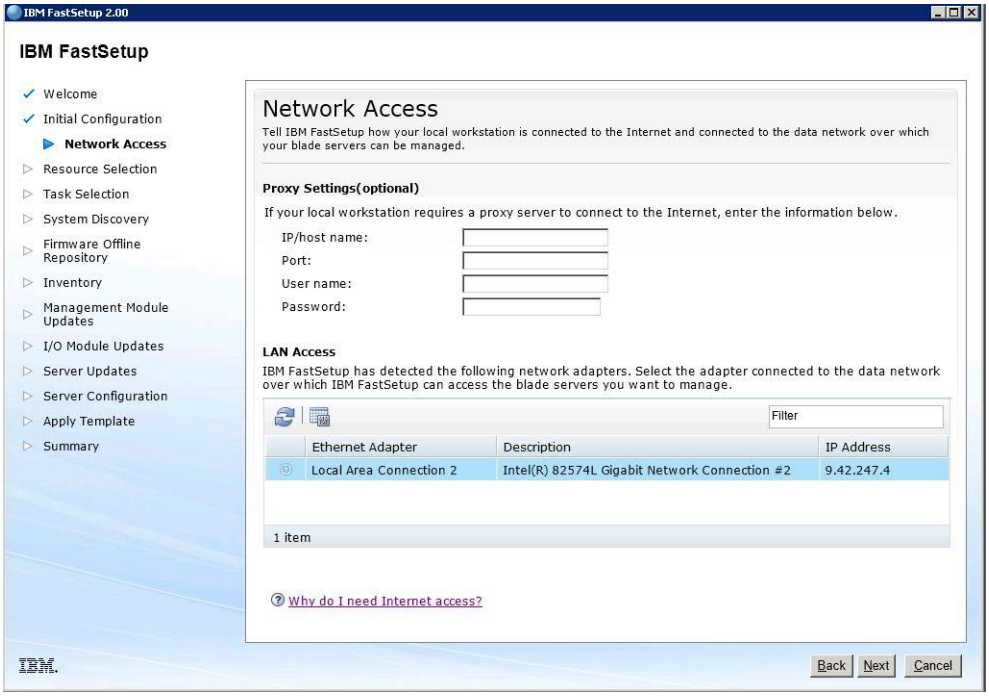

Figure 3: Network Access panel

Note: On the Network Access panel, IBM FastSetup attempts to establish a connection to ibm.com. If the connection fails, IBM FastSetup switches to offline mode. When the switch occurs, IBM FastSetup alerts you of the change. The alert comes in the form of a pop-up window that informs you of the inability to download new updates.

3.2 Resource Selection

Support has been added for more hardware, specifically System x servers and Flex Systems. On this panel, you are prompted to select a resource that you would like IBM FastSetup to configure and/or update during the session. There are three options on this panel:

- IBM BladeCenter H
- IBM Flex System
- System x rack servers

The following table shows the supported hardware based on the resource selection.

Table 1: Resource table

Resource type	Hardware support
BladeCenter H	• BladeCenter Advanced Management Module • BladeCenter HS22 • BladeCenter HS22V • BladeCenter HX5 • BladeCenter HS23 • BladeCenter HS23E

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	• IBM Server Connectivity Module • BNT Virtual Fabric 10GB Switch Module • BNT 6-port 10GB Ethernet Switch Module for IBM BladeCenter • BNT 1/10GB Uplink Ethernet Switch Module for IBM BladeCenter • Cisco Catalyst Switch Module 3110X for IBM BladeCenter • Cisco Catalyst Switch Module 3110G for IBM BladeCenter • Cisco Catalyst Switch 3012 for IBM BladeCenter • Cisco Nexus 4001I Switch Module for IBM BladeCenter • QLogic 20-port 8Gb SAN Switch Module for IBM BladeCenter • BNT Layer 2/3 Copper Gigabit Ethernet Switch Module for IBM BladeCenter • Intelligent Copper Pass-Thru Module for IBM BladeCenter • QLogic 10Gb Virtual Fabric Adapter for IBM BladeCenter • Brocade 8Gb SAN Switch Module for IBM BladeCenter • 2/4 Port Ehternet Expansion Card (CFFh) for IBM BladeCenter • IBM BladeCenter SAS Connectivity Module
Flex System	• Flex System Chassis Management Module • Flex System Compute Node x220 • Flex System Compute Node x222 • Flex System Compute Node x240 • Flex System Compute Node x440 • Flex System Compute Node x280 X6/x480 X6/x880 X6 • IBM Flex System EN2092 1GB Ethernet Scalable Switch • IBM Flex System Fabric EN4093 10GB Scalable Switch • IBM Flex System EN4091 10GB Ethernet Pass-Thru • IBM Flex System FC3171 8GB SAN Switch • IBM Flex System FC3171 8GB SAN Pass-Thru • IBM Flex System FC5022 16GB SAN Scalable Switch • IBM Flex System FC5022 24-port 16GB ESB SAN Scalable Switch • IBM Flex System EN4091 10Gb Ethernet Pass-Thru • IBM Flex System Fabric CN4093 10Gb Converged Scalable Switch • IBM Flex System EN6131 40Gb Ethernet Switch • IBM Flex System Fabric S14093 Server Interconnect Module
System x	• IBM System x3530 M4 • IBM System x3550 M4 • IBM System x3630 M4 • IBM System x3650 M4 • IBM System x3750 M4 • IBM System x3650 M4 HD • IBM System x3650 M4 BD • IBM System x3850 X6/x3950 X6

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3.3 Task Selection

IBM FastSetup provides tasks to assist you with configuring and updating your IBM systems. On this panel, you can select the operation task for the current session. IBM FastSetup provides the following tasks:

- Configure Advanced Management Module
- Full setup
- Create server template
- Create Management Module and I/O Module template
- Apply saved templates
- Download firmware to repository
- Import an existing firmware repository

For more information on each task, see Table 2.

Table 2: Task description

Task	Description
Configure Advanced Management Module	Performs configuration of the AMM's network information and general settings. You must select this option if the AMM requires an IP address other than the default value.
Full setup	Full setup path gives you more control during the IBM FastSetup session on firmware application and system configurations for blades, servers, nodes, switches, and AMMs/CMMs. You must select this option if you would like to choose firmware levels and system configuration options.
Create server template	Create server template records selections for firmware, RAID, and system settings options without applying them at the given time. You must select this option if you want to apply the same firmware to the same systems. This option allows you to apply a template in future IBM FastSetup sessions. During creation phase, you can only select one system as a model for the server template.
Create Management Module and I/O Module template	Same as the full setup path, but it records your selections in order to create a template for later use; only applicable for Management Modules and I/O switch firmware updates. **Note**: For Flex System chassis, only Management Module updates are supported for templates. During the creation phase, you can only select one chassis as a model for the template.
Apply saved templates	Allows you to select a user-created template or predefined template for deployment.

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	You must select this option if you would like to apply updates and/or configuration settings based on a template. **Note**: Predefined templates are not supported in offline mode.
Download firmware to repository	Allows you to download firmware from the IBM support website into a repository that can be exported later to a network share or a USB key. You must select this option if you want to work in offline mode in the future.
Import an existing firmware repository	Allows you to import an existing IBM FastSetup firmware repository for use with IBM FastSetup for the purpose of working offline. You must select this option if you have an IBM FastSetup generated repository from a previous IBM FastSetup client.

3.4 System Discovery

IBM FastSetup must remotely connect to your target system in order to collect information and apply configuration changes. To perform discovery, IBM FastSetup utilizes the Service Location Protocol (SLP) in order to connect to the systems. When IBM FastSetup makes the SLP request, it attempts to connect to the following:

- BladeCenter H AMM
- Flex System CMM
- System x IMM

Based on the resource selection, IBM FastSetup only attempts to connect to one type of the modules listed above. These modules must be configured with a valid IP address, and they must be active on the network with the IBM FastSetup client. The System Discovery panel lists three options for discovery: auto, manual, and a list of previously discovered systems.

Table 3: Discovery methods

Mode	**Description**
Auto	Performs automatic discovery of the supported systems in the subnet of the IBM FastSetup client system. If automatic discovery does not find the intended target, you must use the manual option.
Manual	Allows you to input network addresses for their target systems. To perform a manual discovery of the systems,

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	use the following guidelines: • BladeCenter H AMM and/or blades – AMM IP address is required • Flex System CMM and/or nodes – CMM IP address is required • System x servers – IMM IP address is required
List of previously discovered systems	Holds a list of previously discovered systems from previous IBM FastSetup sessions.

3.5 Inventory and Health

The Inventory and Health panel gives you the chance to verify that the system is working properly. After the target system(s) are discovered, IBM FastSetup presents an inventory of the chassis as well as the health of the chassis. For BladeCenter H and Flex System, the inventory includes all of the included servers, switches, and Management Modules. For System x, it only lists the servers. On the Inventory and Health panel, you can check the system name, slot location, system description, firmware vital product data, system power, and status of the system.

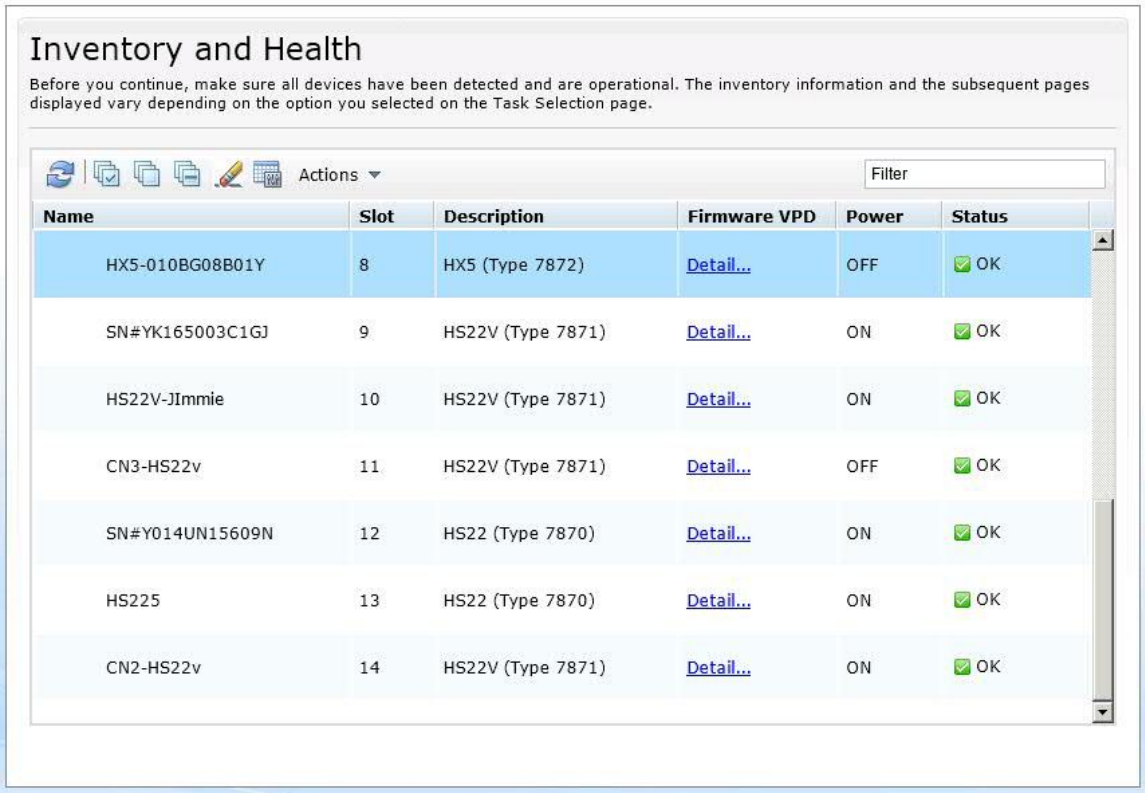

Figure 4: Inventory and Health panel

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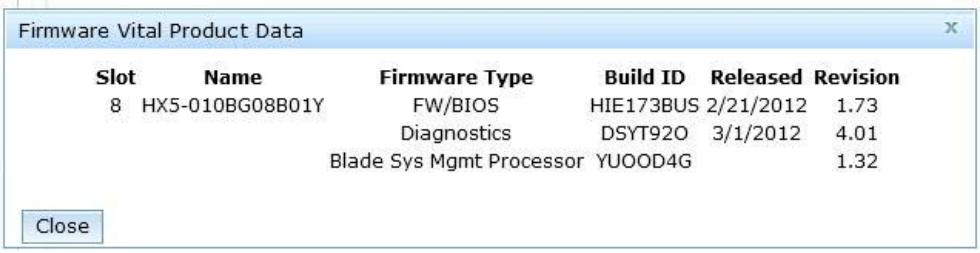

Figure 5: Firmware Vital Product Data

3.6 Device Selection

The Device Selection panel presents you with a list of potential systems that you can select in an IBM FastSetup session for configuration and/or firmware updates. Devices that IBM FastSetup does not support are grayed out. For more information on the reasons for non-support, click the Status column for the line.

In full setup mode, you can select up to 56 devices. For template creation, you can only select one device type.

3.7 Temporary IP Settings

In the Temporary IP Settings phase, IBM FastSetup needs information about the present network in order to configure a temporary network address on the target system. The temporary network address is only used in the given IBM FastSetup session. When IBM FastSetup exits, the system restarts back to its original state.

In order for IBM FastSetup to configure your system, the system must be restarted in order to enter maintenance mode. Maintenance mode is a preboot environment that IBM FastSetup utilizes for performing component inventory, system firmware updates, RAID configuration, and system settings configuration. When maintenance mode is established, network connectivity is required in order to manage the system. In order to configure the network in maintenance mode, IBM FastSetup must have information on the client's network. IBM FastSetup can utilize these options:

- DHCP – Configures the network using DHCP
- Address pools – Configures the network based on the given IP address pool
- Custom – Configures a static IP address

The DHCP option informs IBM FastSetup that a DHCP server is established on the network. After entering maintenance mode, IBM FastSetup configures the target system's network dynamically. The address pool option gives IBM FastSetup a set of IP addresses to use for target systems. Custom allows you to set a static IP address on each target server. When using address pool or the custom options, IBM FastSetup will not check whether the provided IP address is being used. To prevent IP address collisions, ensure that the provided IP address is not in use by a different system.

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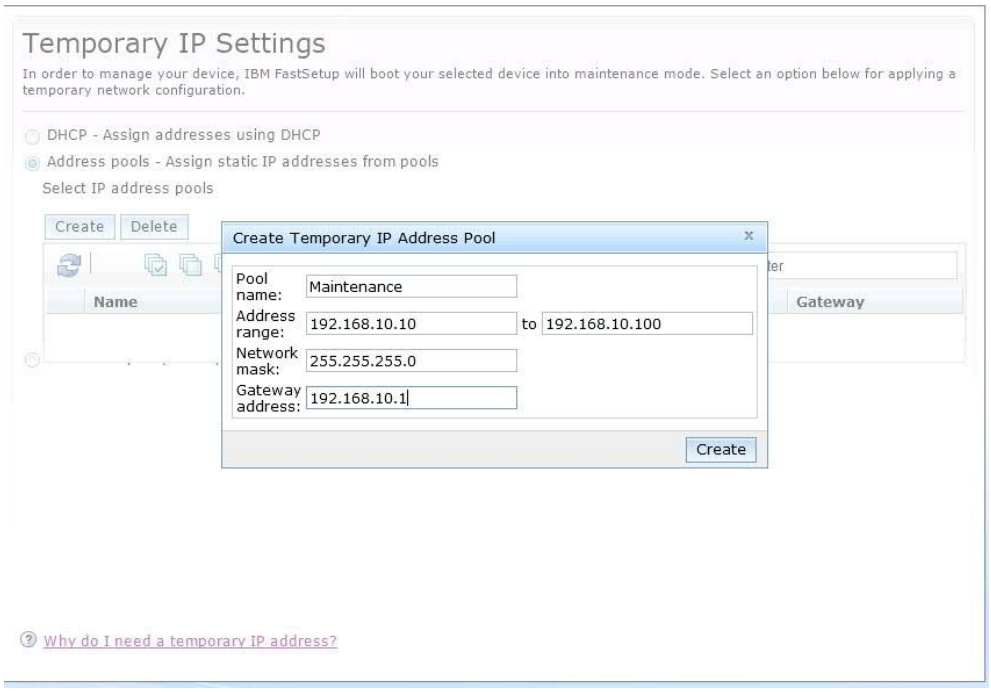

Figure 6: Address pool

Figure 6 depicts the creation of an IP address pool.

3.8 Adapter Port Settings

In order for IBM FastSetup to enter maintenance mode, it requires information on which network port is active and reachable by IBM FastSetup. IBM FastSetup inventories the selected systems to list all of the available network port(s) of the target systems. You select the port to use for the IBM FastSetup session from the drop-down list for each system.

The Adapter Port Settings panel lists a global option as well as an option for each selected server. The global option allows you to select the same adapter port for all selected servers. You can opt to choose an adapter port for each server by selecting the adapter port for each system or use the default selection of the first adapter port of each server.

Note: If the selected adapter port is not connected or not reachable by IBM FastSetup, the target system will fail to enter maintenance mode. Without maintenance mode, IBM FastSetup cannot perform firmware updates or perform any configuration updates to the target systems.

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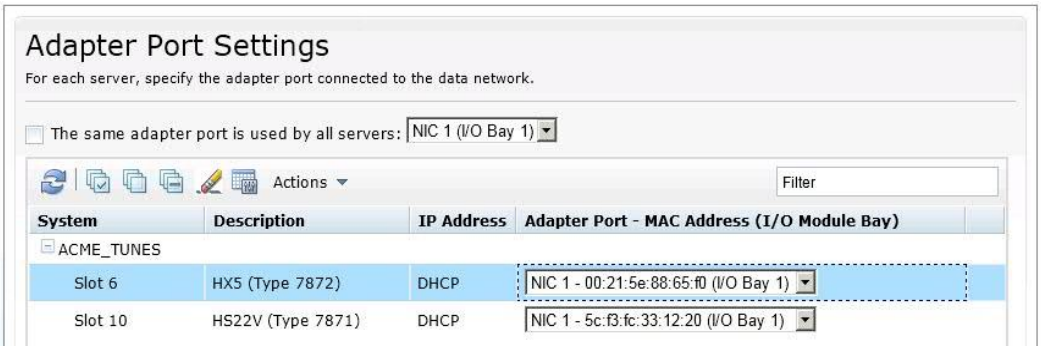

Figure 7: Adapter Port Settings panel

Entering maintenance mode can take from 7 to 20 minutes to complete.

Note: Before using IBM FastSetup, ensure that your work is saved on the target system. In order to enter maintenance mode, IBM FastSetup forcibly reboots the system. If the remote disk is in use, IBM FastSetup clears it and mounts a different disk.

3.9 Device Inventory

The Device Inventory panel provides a list of the components for each selected device. The list contains detailed firmware information about each component in the system such as build ID, release date, and firmware version number. The objective of the Device Inventory panel is to provide useful information about the current state of your system.

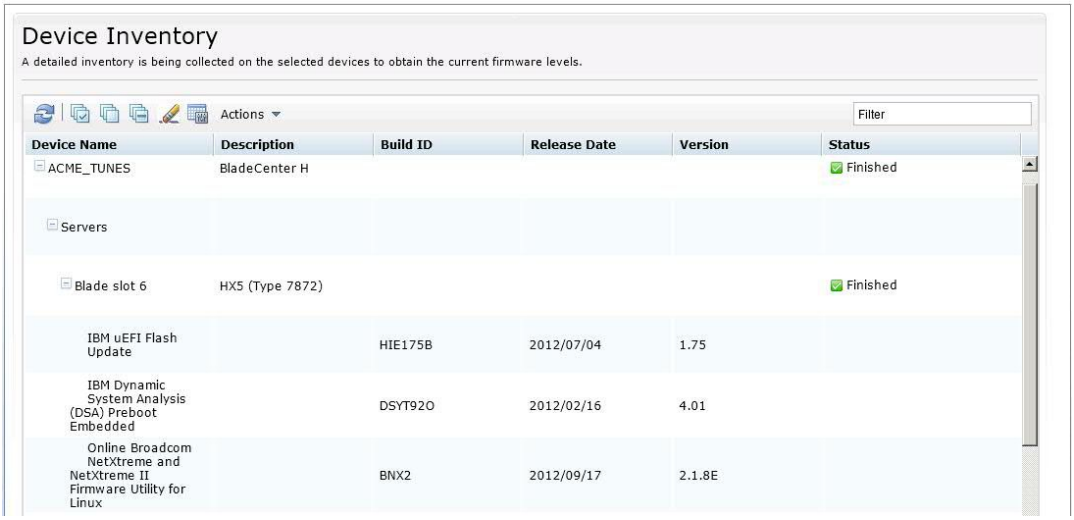

Figure 8: Device Inventory panel

3.10 Server Updates

Server Updates can be used to push firmware updates to the selected systems, switches, and/or Management Modules. For firmware updates, you have the following options:

- Apply a specific UpdateXpress System Pack (UXSP)
- Apply the latest available firmware version

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- Apply a specific available firmware version

If you are working online, each option dynamically connects to ibm.com to download the firmware. If you are working offline, IBM FastSetup only uses firmware that is available in the IBM FastSetup repository.

Applying a specific UXSP or specific firmware version presents you with a list of selectable options. You can choose which version to apply. Selecting the latest available firmware only applies the latest firmware available on ibm.com or in the repository. Figure 9 shows selection of a specific version for a particular server component.

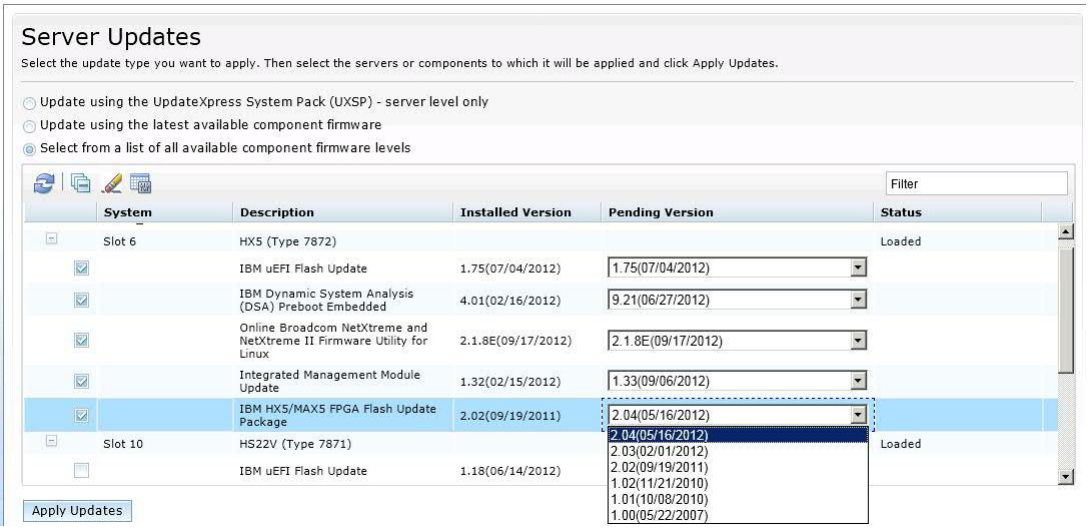

Figure 9: Server Updates panel

Note: You may use IBM FastSetup to backlevel your firmware, but it is generally not supported by the system. In some cases, the process may show success even if the downlevel firmware was not applied. If you backlevel firmware, verify the firmware application by running IBM FastSetup again.

3.11 RAID Configuration

The RAID Configuration panel allows you to apply a new RAID configuration or remove existing RAID configuration on the first RAID controller for a selected device. The objective for RAID configuration is to provide a volume for operating system deployments. The supported RAID levels are RAID 0, 1, 10, 5, 50, 6, and 60.

IBM FastSetup only supports the first RAID controller on the system. The first RAID controller is determined by the system. In order for IBM FastSetup to configure additional RAID controllers, all other RAID controllers must be disabled or removed from the system. The RAID Configuration panel allows you to select the RAID controller disks to be used in a RAID array. After you select the disks, you can specify both the size of the volume to be created and the RAID level.

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Note: On some RAID controllers, a Feature On Demand (FOD) key is required to unlock some of the advanced configuration options, such as RAID 5, RAID 50, RAID 6, and/or RAID 60.

3.12 System Settings

On the System Settings panel, you can configure the boot order for your selected devices. It also gives you the option to reset the system settings to the default values. You have this option after entering maintenance mode.

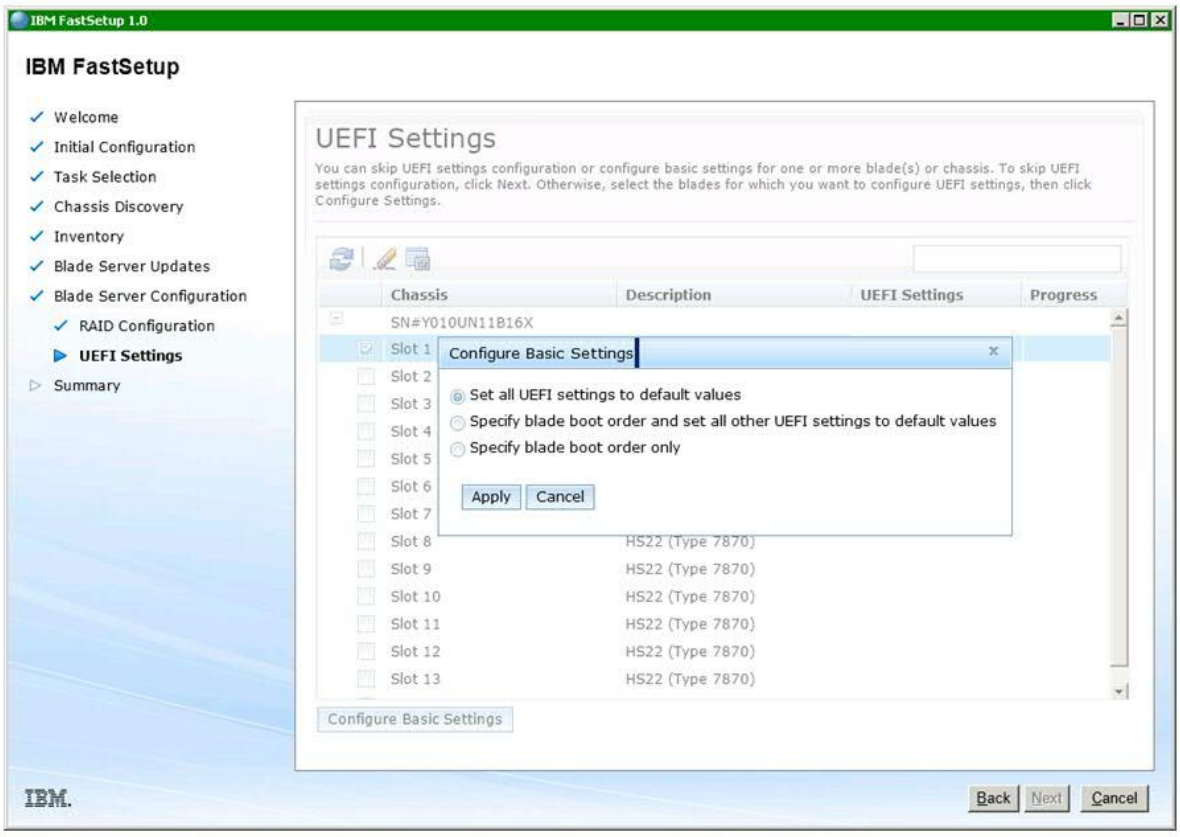

Figure 10: UEFI Settings panel

3.13 Configure AMM

IBM FastSetup supports AMM configuration of BladeCenter H. IBM FastSetup supports the following configuration settings for the AMM:

- AMM host name – provides support to modify the host name of the AMM
- Domain name – provides support to modify the domain name of the AMM
- Domain name register – provides the ability to register the domain name with DNS
- IPv4 network address – provides the ability to configure an IPv4 network address by DHCP or static IP address

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- Login profiles – provides support to create, delete, and modify login profiles. It also provides support for modifying passwords, declaring profiles as supervisors or operators, and configuring the maximum number of sessions.
- Network protocols
    - SMTP server – provides support to modify the SMTP
    - SMTP email – provides support to modify the email domain

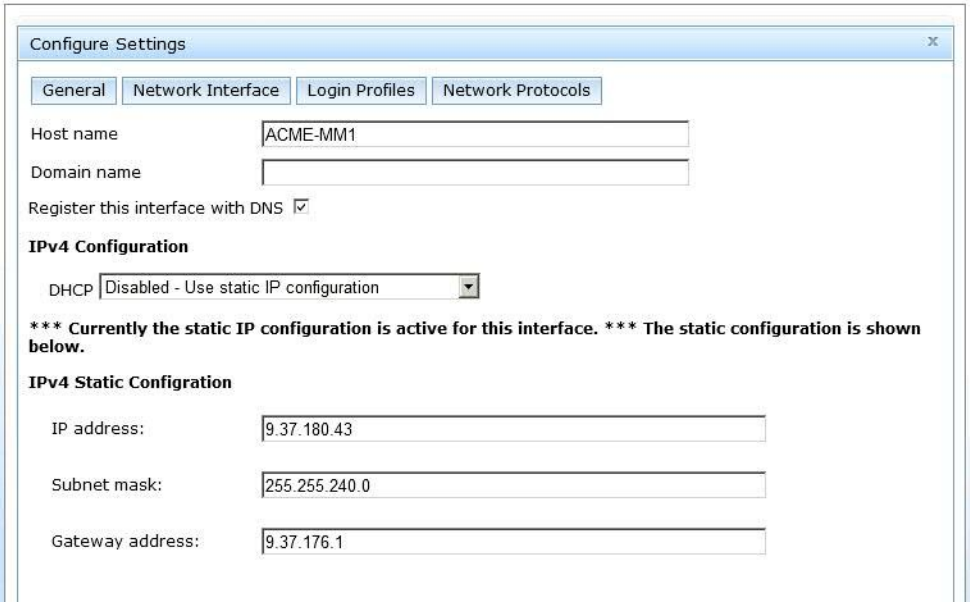

Figure 11: AMM configuration

To configure the AMM, you must select the **Configure Management Modules** or **Full Setup** option during the task selection phase.

3.14 Apply Template

The Apply Template panel is the automation phase of IBM FastSetup. During this phase, IBM FastSetup applies all of the template contents to the target servers/devices. As it progresses, it appends the information to the table. Be sure to scroll down for the latest updates. The Apply Template panel performs the following actions:

- Device Inventory – places the system in maintenance mode and inventories the system for components and firmware levels
- Management Module Updates (if applicable) – applies Management Module updates
- I/O Switch Updates (if applicable) – applies I/O switch updates
- Server Updates (if applicable) – applies server firmware updates based on the template
- RAID configuration (if applicable) – applies RAID configuration
- System Settings configuration (if applicable) – applies system settings configuration

A typical IBM FastSetup process takes from 30 to 45 minutes to complete.

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3.15 Summary

The Summary panel provides a summary of the actions performed during an IBM FastSetup session. It lists the systems selected along with information from server updates, RAID configuration, and system settings configuration.

4 Additional features

The additional features for IBM FastSetup are:

- Templates
- Working offline

4.1 Using the predefined templates in IBM FastSetup

Templates allow you to easily define and automatically deploy a defined configuration to multiple endpoints. IBM FastSetup includes predefined templates for all supported systems that direct the application to automatically download the latest UXSP, apply default settings, and apply the most commonly used boot order. All IBM FastSetup supported hardware has a predefined template, excluding Flex System I/O switches. The predefined templates for servers always apply the latest UXSP, reset the UEFI settings to the default values, and apply a new boot order. The affected boot orders are the standard start-up option and the Wake-on-LAN (WOL) boot order. The standard start-up option changes from the default to CD/DVD-ROM, Floppy Disk, Hard Disk 0, PXE Network, and Legacy Only. The WOL boot order changes from the default to PXE Network, Floppy Disk, CD/DVD-ROM, and Hard Disk 0.

The Apply Template panel contains all predefined templates and user-created templates. You can select a template to be used to apply preconfigured configuration settings and/or firmware updates. These templates run without user interaction. IBM FastSetup ships with the following predefined templates:

- x220 Node Defaults – applies the latest UXSP and resets the UEFI settings to default
- X222 Node Defaults – applies the latest UXSP and resets the UEFI settings to default
- X240 Node Defaults – applies the latest UXSP and resets the UEFI settings to default
- x440 Node Defaults – applies the latest UXSP and resets the UEFI settings to default
- x280 X6/x480 X6/x880 X6 Node Defaults – applies the latest UXSP and resets the UEFI settings to default
- IBM Flex System Defaults – applies the latest CMM firmware available
- HS22 Defaults – applies the latest UXSP and resets the UEFI settings to default
- HS22V Defaults – applies the latest UXSP and resets the UEFI settings to default
- HS23 Defaults – applies the latest UXSP and resets the UEFI settings to default
- HS23E Defaults – applies the latest UXSP and resets the UEFI settings to default
- HX5 Defaults – applies the latest UXSP and resets the UEFI settings to default
- BC-H Defaults – applies the latest available AMM firmware and latest available supported switch firmware
- BC-S Defaults – applies the latest available AMM firmware and latest available supported switch firmware
- x3530M4 Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3630M4 Defaults – applies the latest UXSP and resets the UEFI settings to default

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- x3550M4 Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3650M4 Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3650M4 HD Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3650M4 BD Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3850X6/x3950X6 Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3750M4 Defaults – applies the latest UXSP and resets the UEFI settings to default
- x3750M4 REFRESH Defaults – applies the latest UXSP and resets the UEFI settings to default

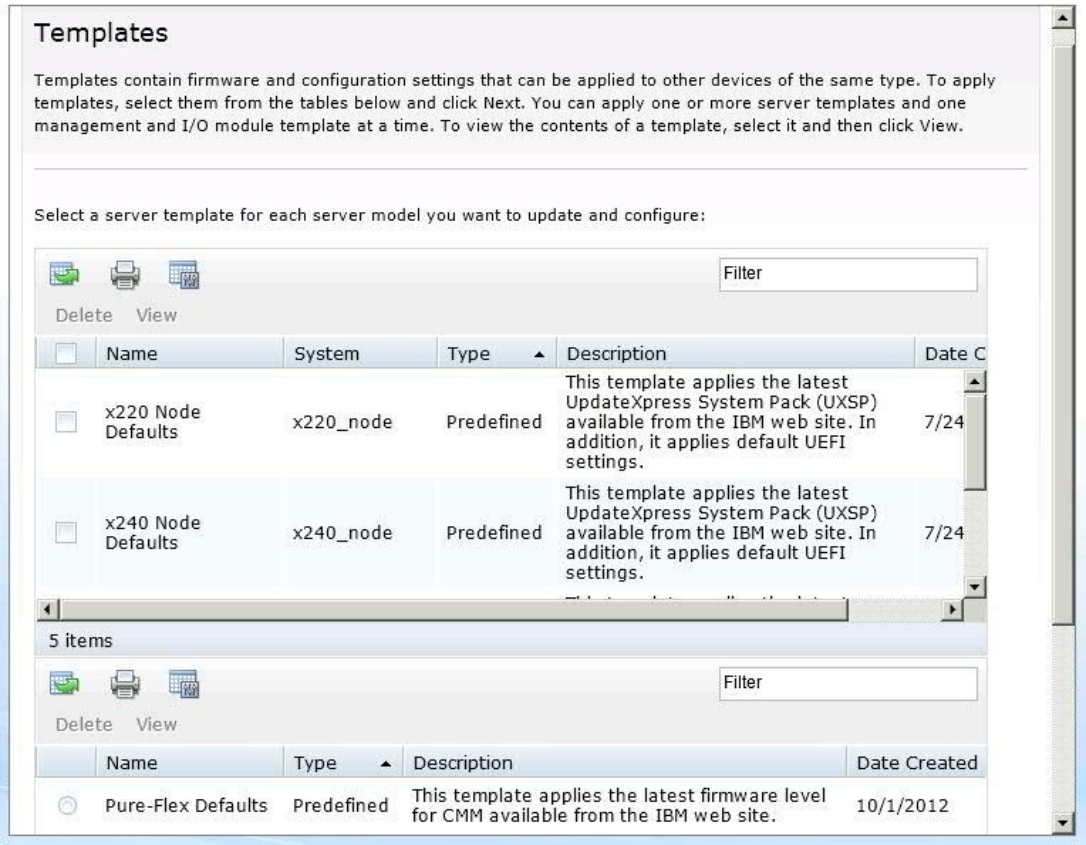

Figure 12: Predefined Templates for Flex System

For predefined templates, you can use the **View** option to validate the firmware updates and configuration settings to be applied during the template application.

Note: Predefined templates are not selectable in offline mode.

4.2 Creating user-defined templates

To create a user-defined template, you must select **Create server template** or **Create Management Module and I/O Module template** during the task selection phase. After the Summary panel, you are prompted to provide a name and description for the template. When you exit the IBM FastSetup session, the template is saved along with any associated firmware updates, if applicable.

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To apply a user-defined template, you must select **Apply saved template** on the Task Selection panel. After task selection, you can select the template. The template automation process starts during the Apply Template phase of the session.

4.2.1 Create server template

Server template creation allows you to create templates without the need to apply the selections. The Create Template task performs a device inventory of the selected system and presents a template summary of firmware updates, RAID configuration, and UEFI settings of the selected system (see figure below). You can elect to save the template without changes to be used later on other systems, or you can elect to change the template.

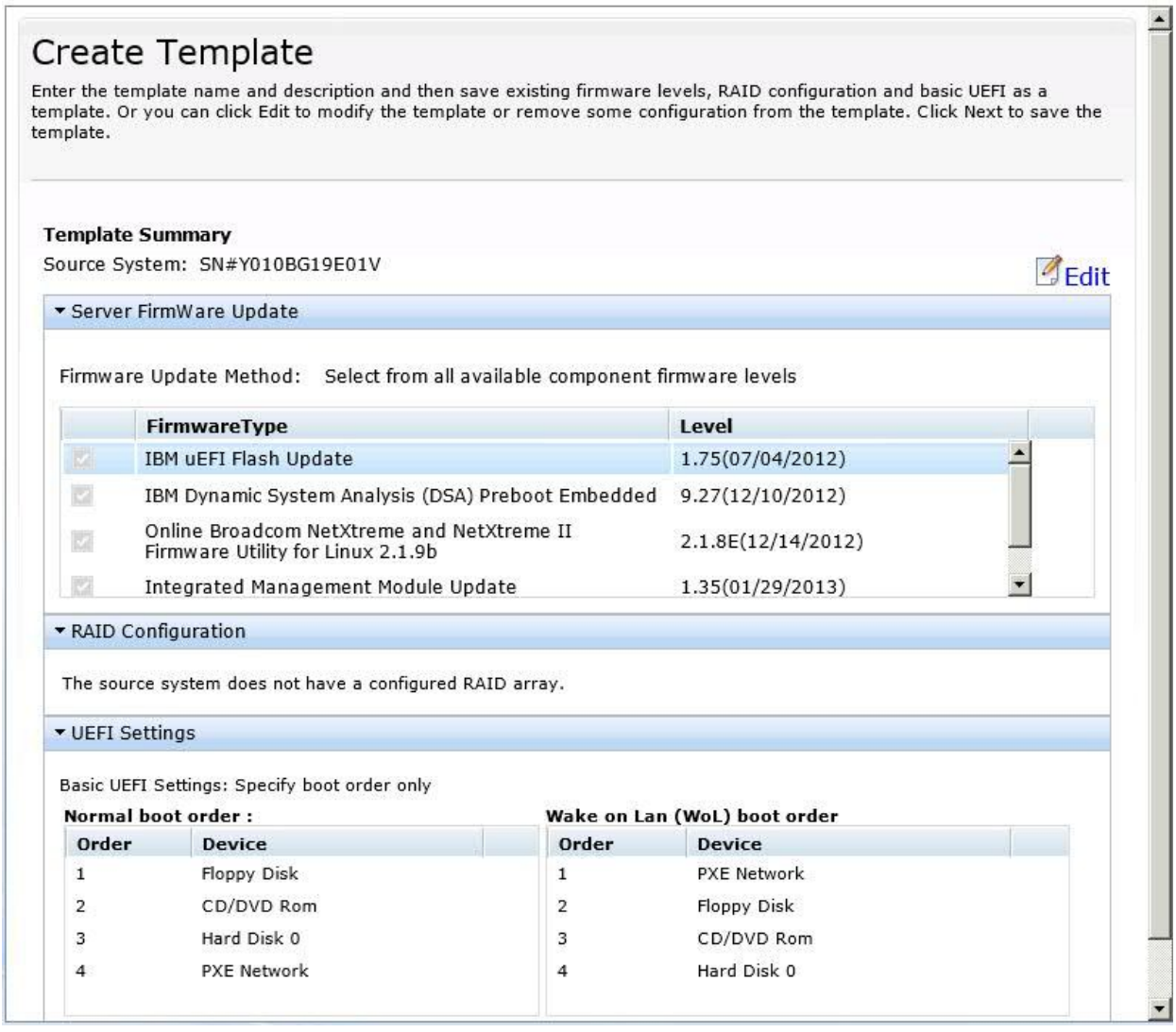

Figure 13: Create Template panel

If it is your desire to change the current template, you can click the “Edit” link on the Template Summary

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panel. When the link is clicked, you can elect to remove or modify the Server Firmware Update, RAID configuration, or UEFI Settings section of the template.

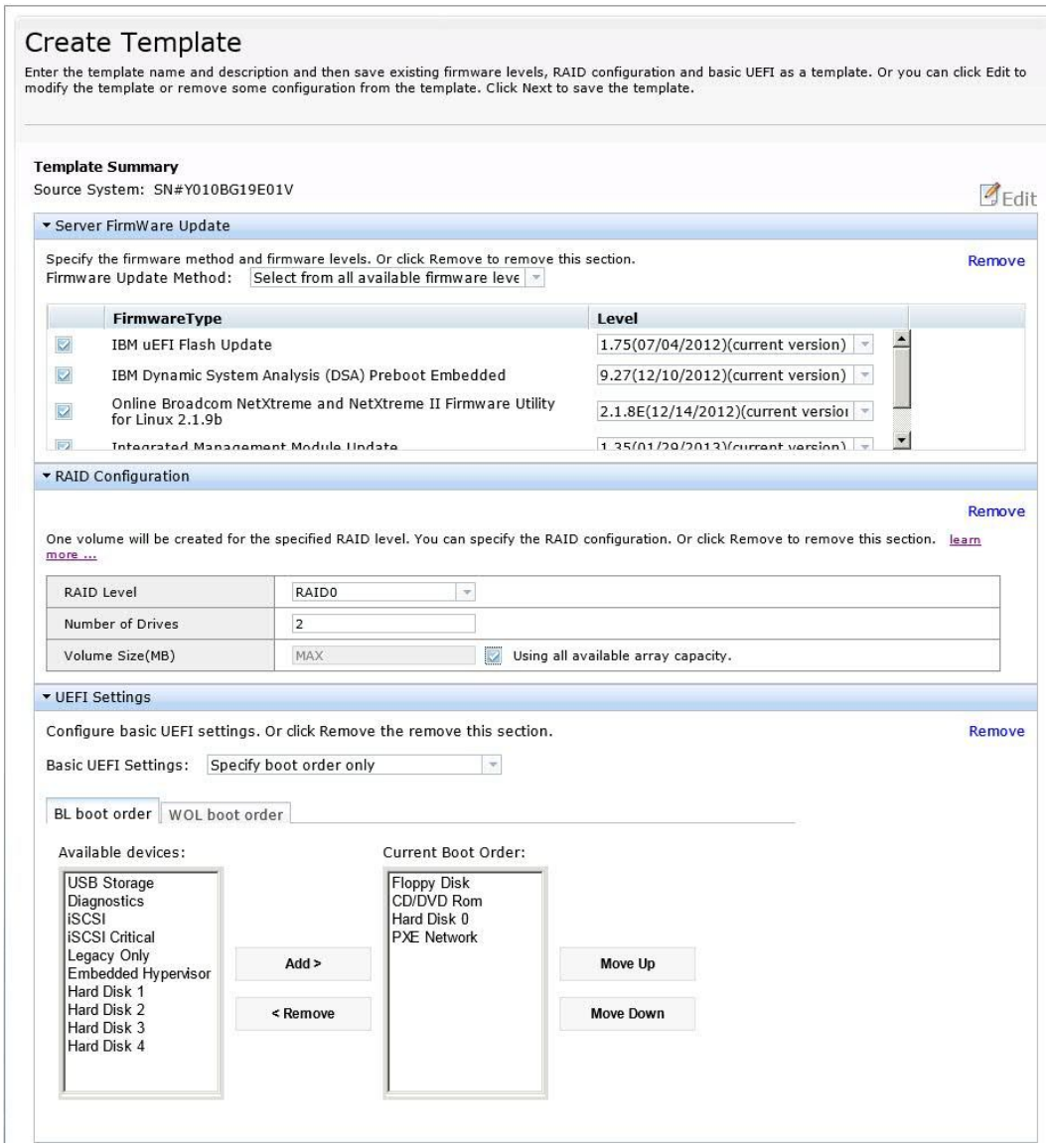

Figure 14: Create Template — edit panel

4.2.1.1 Server Firmware Update

The Server Firmware Update section of the custom template allows you to keep the current firmware settings or modify the firmware update method. You can modify the firmware update method to the following options:

- Select from all available firmware levels
- Select from a specific UXSP level

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The selection from firmware levels displays all levels for each component on the system. You can select or clear components based on their preference from firmware updates.

4.2.1.2 RAID Configuration

The RAID Configuration section allows you to customize a RAID configuration on the first RAID controller. You are given the option to select a RAID level and the number of drives to be included in the RAID array. You can also determine the size of the volume of the array or use the default MAX size.

IBM FastSetup only supports the first RAID controller on the system. The system determines the first RAID controller. In order for IBM FastSetup to configure additional RAID controllers, all other RAID controllers must be disabled or removed from the system. If any RAID configuration exists on the system during the template application, the previous RAID will be removed and can result in data loss.

Note: On some RAID controllers, a Feature On Demand (FOD) key is required to unlock some of the advanced configuration options, such as RAID 5, RAID 50, RAID 6, and/or RAID 60.

4.2.1.3 UEFI Settings

The UEFI Settings section allows you to reset the default UEFI settings. You are also given the option to configure the startup and Wake-on-LAN (WOL) boot options.

4.3 How to work in offline mode

This feature allows you the option to import and export a local repository into IBM FastSetup. To work offline, IBM FastSetup requires an IBM FastSetup generated repository, which may contain firmware updates that can be applied during a given session. IBM FastSetup supports the offline capability by providing the following tasks:

- Download firmware to repository
- Import an existing firmware repository

4.3.1 Download firmware to repository

To create a repository, select the **Download firmware to repository** option during the task selection phase. This option provides a wizard to assist you with creating repositories for your machine types. Using this option, the IBM FastSetup client must be able to connect to ibm.com to download the requested firmware. After the download is complete, IBM FastSetup does not require access to ibm.com for any remaining IBM FastSetup sessions. You also have the option to export the contents to a local directory. IBM FastSetup supports a local directory, a network share, and USB keys for an export directory.

In this task, you have the option to select the target devices such as servers, switches, and Management Modules. You also have the option of selecting the package type of firmware required for your repository. The package types are UpdateXpress System Packs (UXSPs) and component firmware packages. The UXSP is a bundle package of firmware updates that are designated for a specific machine

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type. Component firmware packages are individual packages for devices in the target system, such as network adapters and storage devices. Based on the package type selected, you have the option of selecting a specific version of the package type.

Perform the following steps to create IBM FastSetup repositories. In this example, you create a repository of updates for Flex System Compute Node x240 type 8737.

1. Select **Download firmware to repository** from the Task Selection panel. See Figure 15 below.

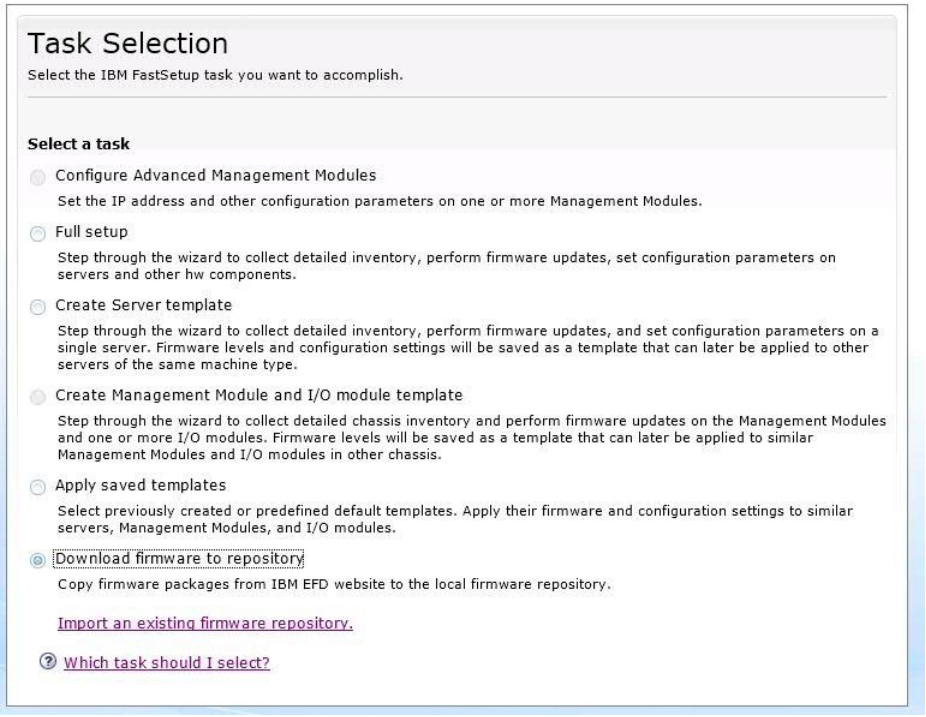

Figure 15: Task Selection panel

The Repository Device Selection panel displays, listing all supported servers, switches, and Management Modules. You may select any of the options available for the repository.

2. Select **8737 IBM Flex System x240** on the Repository Device Selection panel.

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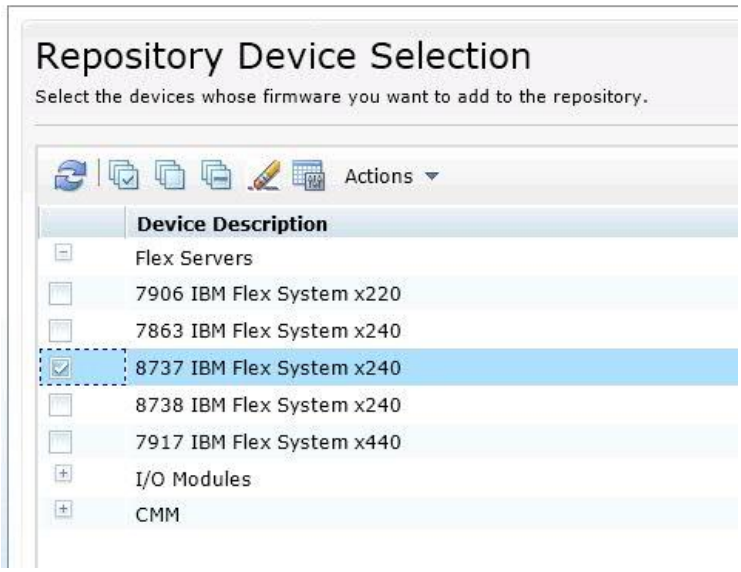

Figure 16: Repository Device Selection panel

3. Click **Next**. The Server Firmware Selection Panel displays and allows you to select the firmware package type from the drop-down list. Available options are **UpdateXpress System Packs** and **Component firmware packages**.

4. Select **UpdateXpress System Packs** from the **Firmware Package type** drop-down list.

5. Select **Latest version only** from the **Firmware Versions** drop-down list.

6. Click **Find Available Firmware**. IBM FastSetup connects to IBM Fix Central to locate the selected package type. The panel shows the progress of the firmware list download and displays the list when the process is complete.

Figure 17: Server Firmware Selection panel

7. Select the package.

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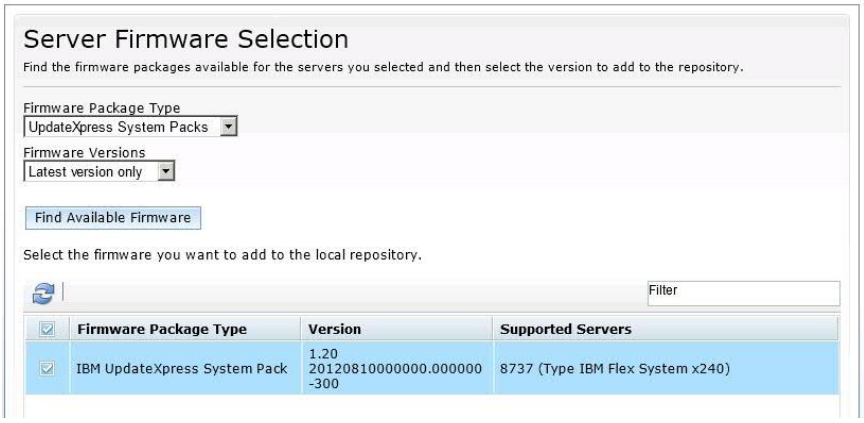

Figure 18: Server Firmware Selection – Package selection

8. Click **Next**. The Summary panel displays. You may choose to review your options. The panel lists the location of the local repository directory.

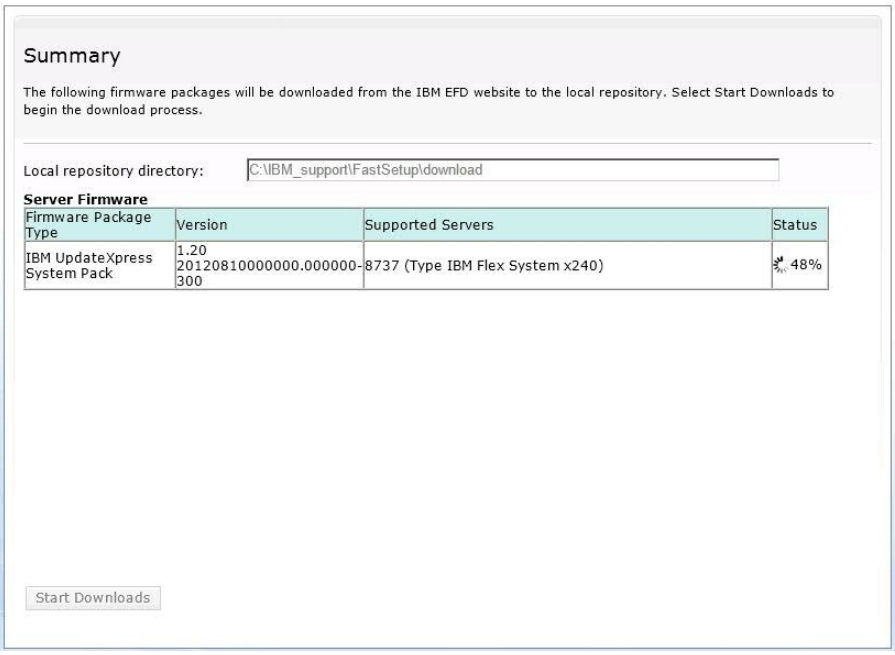

Figure 19: Download Firmware Summary panel

9. Click **Start Downloads**.

10. When the process completes, click **Next**. The Export Repository panel displays.

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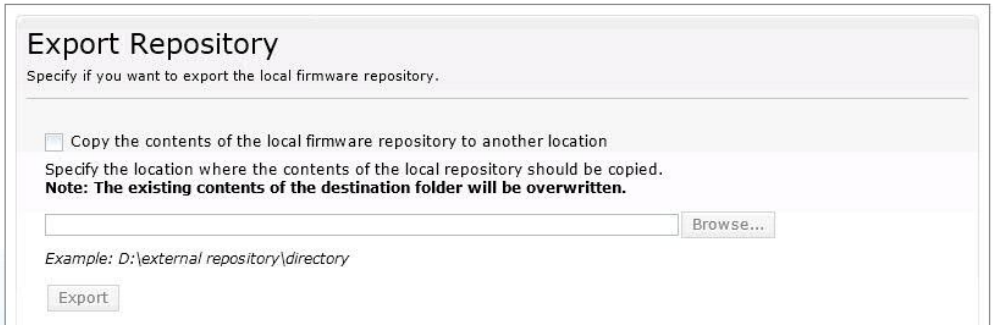

Figure 20: Export Repository panel

11. To export the existing repository:

    a. Select the check box.

    b. Enter or browse to the directory of your choice.

    c. Click **Export**.

12. Click **Next** to exit the application.

4.3.2 Import an existing firmware repository

IBM FastSetup provides a method of sharing repositories between IBM FastSetup clients. This is important for systems that are on private networks and are unable to access the Internet. To share repositories, you must first export an existing repository by using the Download firmware to repository task. See Section 4.3.1 for more information on exporting repositories. Once a repository is exported, it can be imported into any IBM FastSetup client. To import the repository, select **Import an existing firmware repository** during the task selection phase.

Perform the following steps to import IBM FastSetup repositories.

1. Click the “Import an existing firmware repository” link from the Task Selection panel. See Figure 21. The Import Firmware Repository panel displays.

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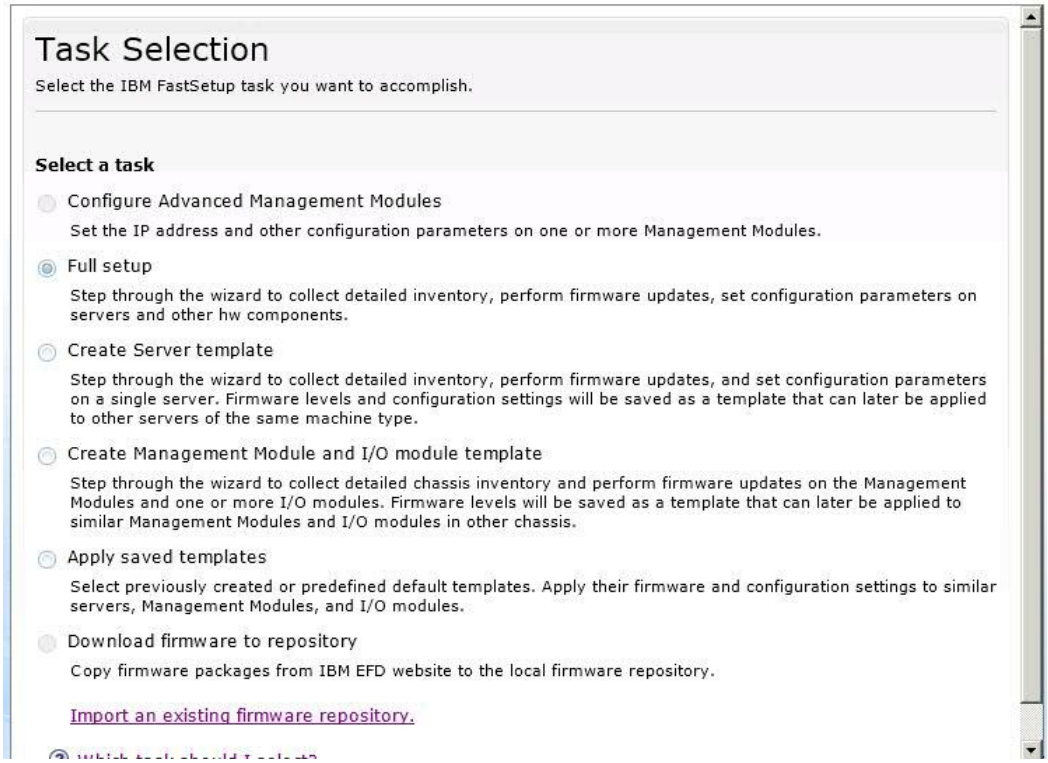

Figure 21: Task Selection panel

2. Enter the location of your repository.

3. Click **Submit**. When the process completes, IBM FastSetup displays the results. After viewing the results, you may select a different task for the given IBM FastSetup session.

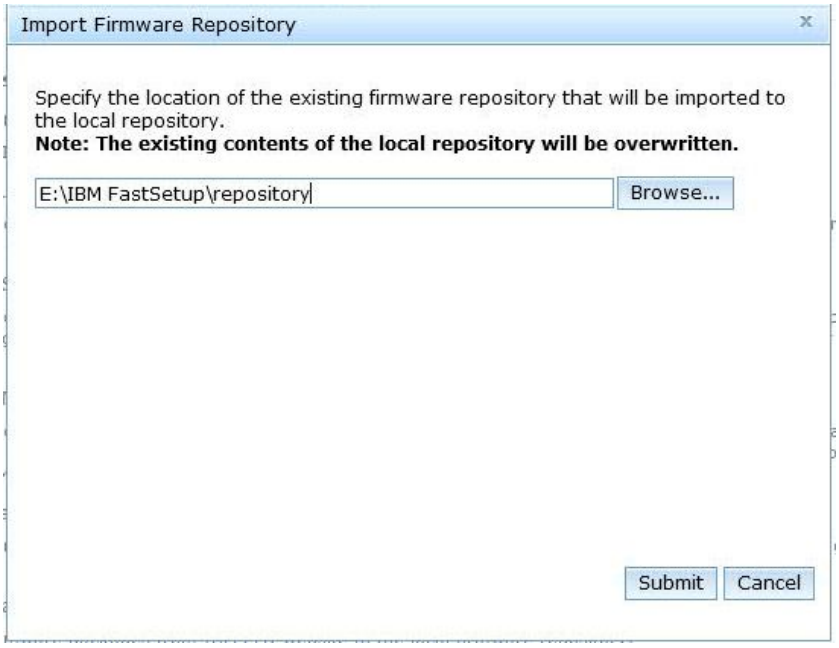

Figure 22: Import Firmware Repository panel

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5 Quick start scenarios

5.1 Scenario 1: Applying latest UXSP and reset settings to default

The objective of this scenario is to demonstrate the steps for applying a predefined template.

In this scenario, you would like to apply the latest UXSP and reset the settings to default values for a new IBM BladeCenter HS23E. IBM FastSetup has made this deployment scenario simple and easy-to-use. To accomplish this task, you must utilize the predefined template for BladeCenter HS23E that IBM FastSetup contains. Follow these steps for this scenario:

1. Launch IBM FastSetup.
2. Read and accept the license agreement. The Welcome panel displays and outlines the tasks that IBM FastSetup can perform.
3. Click **Next**. The Network Access panel displays.
4. Enter proxy information if a proxy is required to access ibm.com. If the IBM FastSetup client system has multiple network connections, select the network connection that should be used to connect to the AMM of the BladeCenter H chassis that houses the HS23E.
5. Click **Next**. The Resource Selection panel displays.
6. Select the **BladeCenter H** radio button.
7. Click **Next**. The Task Selection panel displays.
8. Select **Apply Templates** from the list.
9. Click **Next**. The panel lists all templates (predefined and user-created) for the BladeCenter.
10. Select **HS23E defaults** from the list. (If you want to know the firmware levels that will be applied for this IBM FastSetup session, click **View**.)
11. Click **Next**. The System Discovery panel displays.
12. Select one of the options for discovering the BladeCenter H that houses the HS23E.
13. Click **Discover**. A generated list displays after discovery is complete.
14. Select your BladeCenter H from the list.
15. Click **Next**. The Inventory and Health panel displays, showing the health of your system.
16. Click **Next**. The Device Selection panel displays, showing a list of all of the HS23E systems in the selected BladeCenter H chassis.

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17. Select the slot of for each desired HS23E from the list.
18. Click **Next**. The Temporary IP Settings panel displays.
19. Select the option that best fits your network.
20. Click **Next**. The Adapter Port Settings panel displays, showing a drop-down list for the selected HS23E for all of the adapter ports for the system(s).
21. Select the adapter port to use for the IBM FastSetup connection.
22. Click **Next**. A warning message displays, reminding you of the potential for loss of saved work.
23. Click **Reboot**. The Apply Template panel displays, and automation begins. IBM FastSetup acquires the latest UXSP for the HS23E and applies it. It also updates the system settings. This process usually takes from 20 to 45 minutes to complete. As the template is applied, the panel expands. You can scroll down to see the latest status.
24. Click **Next** when the template is complete. The Summary panel displays.
25. Review the results of the template application and export settings.
26. Click **Next**. The System Completion panel displays.
27. Select an option and exit IBM FastSetup.

5.2 Scenario 2: Applying certified firmware levels to new systems

The objective of this scenario is to demonstrate the steps for creating a user-defined template for servers that contain a specific level of firmware.

In this scenario, you obtain a new system to insert into a data center. You currently have other systems of the same type with firmware that the system administrator has certified. You want to apply the same certified firmware levels to the new system.

For this scenario, you want to insert a new System x3650 M4 type 7915 into an environment with another x3650 M4 type 7915. IBM FastSetup has made this deployment scenario simple. To accomplish this task, use the created server template for System x3650 M4 by following these steps:

1. Launch IBM FastSetup.
2. Read and accept the license agreement. The Welcome panel displays, outlining the tasks that IBM FastSetup can perform.
3. Click **Next**. The Network Access panel displays.

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4. Enter proxy information if a proxy is required to access ibm.com. If the IBM FastSetup client system has multiple network connections, select the network connection that should be used to connect to the IMM of the System x3650 M4.
5. Click **Next**. The Resource Selection panel displays.
6. Select the **Rack Servers** radio button.
7. Click **Next**. The Task Selection panel displays.
8. Select Create Server Template from the list.
9. Click **Next**. The System Discovery panel displays.
10. Select one of the options for discovering the newly inserted System x3650. (To discover, IBM FastSetup requires a connection to the preconfigured IMM of the system.)
11. Click **Discover**. After discovery is complete, the panel displays a generated list.
12. Select your system from the list.
13. Click **Next**. The Inventory and Health panel displays, showing the health of your system.
14. Click **Next**. The Device Selection panel displays, showing a list that contains your system.
15. Select the row for the desired System x3650 M4 from the list.
16. Click **Next**. The Temporary IP Settings panel displays.
17. Select the option that best fits your network.
18. Click **Next**. The Adapter Port Settings panel displays, showing a drop-down list for the selected devices of all of the adapter ports for the system.
19. Select the adapter port to be used for the IBM FastSetup connection.
20. Click **Next**. A warning message displays, reminding you of the potential for loss of saved work.
21. Click **Reboot**. The Device Inventory panel displays, showing the progress of IBM FastSetup performing the process of gathering device and component information. This process usually takes from 7 to 15 minutes to complete. When it is complete, you may view the discovered components.
22. Click **Next**. The Create Template panel displays the current firmware and configuration settings on the selected server.
23. Click **Edit**. The Template Summary displays and allows you to select firmware, edit RAID configuration, and edit system setting configurations.

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24. Click **Next**. You are prompted to name the template for this session. It will be stored for future IBM FastSetup sessions.

25. Type a name and description for the template. Click **Save**. The System Completion panel displays.

26. Select an option.

27. Exit IBM FastSetup.

5.3 Scenario 3: Applying latest firmware on a system not connected to the Internet

The objective of this scenario is to demonstrate the steps for acquiring firmware for systems that are on a private network and cannot connect to the Internet. First, you must connect an IBM FastSetup client to the Internet to acquire the firmware. Once the firmware is acquired, you can move the client to the private network to apply the firmware. The following example is a typical scenario for those who have inserted recently purchased systems into production environments.

In this scenario, you have inserted a new Flex System Compute Node x240 into a private network that does not have access to the IBM website. Despite only having a private network, you would like to update the firmware to the latest UXSP. IBM FastSetup allows you to create a local repository on an Internet-connected IBM FastSetup client. After you create the repository, you can move the system to your private network to update the new Flex System. This scenario contains two procedures:

- Acquire firmware on the IBM FastSetup client
- Apply firmware using the IBM FastSetup client

5.3.1 Acquire Firmware on the IBM FastSetup client

1. Launch IBM FastSetup on a laptop that can connect to the Internet.

2. If this is the first time you have run IBM FastSetup, read and accept the license agreement. A Welcome Panel displays, outlining the tasks that IBM FastSetup can perform.

3. Click **Next**. The Network Access panel displays.

4. Enter proxy information if a proxy is required to access ibm.com. If the IBM FastSetup client system has multiple network connections, select a network connection.

5. Click **Next**. The Resource Selection panel displays.

6. Select the **Flex System** radio button.

7. Click **Next**. The Task Selection panel displays.

8. Select **Download firmware to repository** from the list.

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9. Click **Next**. The Repository Device Selection panel displays.
10. Expand the **Flex servers** option.
11. Select **Flex System x240**.
12. Click **Next**. The Server Firmware Selection panel displays.
13. On the **Firmware Package Type** drop-down list, select **UpdateXpress System Packs**.
14. On the **Firmware Versions** drop-down list, select **Latest version only**.
15. Click **Find Available Firmware**. The download process begins.
16. When the download process is complete, select **IBM UpdateXpress System Pack**.
17. Click **Next**. The Summary panel displays, showing the location of the firmware you downloaded.
18. Click **Start Downloads**.
19. When the download is complete, click **Next**.
20. Exit the IBM FastSetup session.

5.3.2 Apply firmware using the IBM FastSetup client

1. Move your laptop to the private network where the Flex System is located.
2. Connect to the network.
3. Launch IBM FastSetup on the laptop. The Welcome panel, which outlines the tasks that IBM FastSetup can perform, displays.
4. Click **Next**. The Network Access panel displays.
5. Enter proxy information if a proxy is required to access ibm.com. If the IBM FastSetup client system has multiple network connections, select a network connection.
6. Click **Next**. The Resource Selection panel displays.
7. Select the **Flex System** radio button.
8. Click **Next**. The Task Selection panel displays.
9. Select **Full Setup** from the list.
10. Click **Next**. The System Discovery panel displays.

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11. Select one of the options for discovering the Flex System chassis. To discover, IBM FastSetup requires a connection to the system's preconfigured CMM.
12. Click **Discover**.
13. Wait for the discovery process to complete. A list of systems is generated following the process.
14. Select your system from the generated list.
15. Click **Next**. The Inventory and Health panel displays, showing the health of your system.
16. Click **Next**. The Device Selection panel displays, showing a list that contains your system.
17. Select the row for the desired x240 Compute Nodes from the list.
18. Click **Next**. The Temporary IP Settings panel displays.
19. Select the option that best fits your network.
20. Click **Next**. The Adapter Port Settings panel displays, showing a drop-down list for the selected devices of all adapter ports for the system.
21. Select an adapter port that can be used for an IBM FastSetup connection.
22. Click **Next**. A warning message is displayed, reminding you of the potential for loss of saved work.
23. Click **Reboot**. The Device Inventory panel displays, showing the progress of IBM FastSetup gathering device and component information. This process usually takes from 7 to 15 minutes to complete. Discovered components are listed upon completion.
24. Click **Next**. The System Updates panel displays, allowing you to select certified firmware levels for each component on the system.
25. Select the **Select UXSP from available list** option.
26. Select the row for each x240 system.
27. Click **Apply Firmware Updates**. The Inventory and Health panel displays, showing the health of your system.
28. Click **Next**. The Device Selection panel displays, showing a list that contains your system.
29. Select the row that contains the desired System x3650 M4 from the list.
30. Click **Next**. The Temporary IP Settings panel displays.
31. Select the option that best fits your network.

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32. Click **Next**. The Adapter Port Setting panel displays, showing a drop-down list for the selected devices of all adapter ports for the system.

33. Select an adapter port that can be used for the IBM FastSetup connection.

34. Click **Next**. A warning message displays, reminding you of the potential for loss of saved work.

35. Click **Reboot**. The Device Inventory panel displays, showing the progress of IBM FastSetup gathering device and component information. This process usually takes from 7 to 15 minutes to complete. Discovered components are listed upon completion.

36. Click **Next**.

6 Supported systems and options

This section lists the systems and options that IBM FastSetup supports. In general, IBM FastSetup provides support for Server Proven IBM or third-party adapters in the following categories:

- Ethernet
- Fibre Channel
- SAS and SATA RAID

The most up-to-date support information is contained in the readme file shipped with the product. You can download the latest version of the readme from the IBM FastSetup web page.

Table 4: IBM FastSetup supported systems

Model	Type
IBM BladeCenter H	1886, 8852, 7989
IBM BladeCenter HS22	7870, 1936, 7809, 1911
IBM BladeCenter HS22V	7871, 1949
IBM BladeCenter HX5	7872, 1909, 7873, 1910
IBM BladeCenter HS23	7875, 1929
IBM BladeCenter HS23E	8038, 8039
System x3530 M4	7160
System x3550 M4	7914
System x3630 M4	7158

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System x3650 M4	7915
System x3650 M4 HD	5460
System x3650 M4 BD	5466
System x3850 X6/x3950 X6	3837, 3839
System x3750 M4	8722, 8733, 8752, 8718
IBM Flex System	8721, 7893, 8724
IBM Flex System Compute Node x220	7906
IBM Flex System Compute Node x222	7916
IBM Flex System Compute Node x240	8737, 7863
IBM Flex System Compute Node x440	7917
IBM Flex System Compute Node x280 X6/x480 X6/x880 X6	7903, 4259

Table 5: IBM FastSetup supported switches

Chassis	**Switch name**
BladeCenter H	• IBM Server Connectivity Module • BNT Virtual Fabric 10Gb Switch Module • BNT 6-port 10Gb Ethernet Switch Module for IBM BladeCenter • BNT 1/10Gb Uplink Ethernet Switch Module for IBM BladeCenter • Cisco Catalyst Switch Module 3110X for IBM BladeCenter • Cisco Catalyst Switch Module 3110G for IBM BladeCenter • Cisco Catalyst Switch 3012 for IBM BladeCenter • Cisco Nexus 4001I Switch Module

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	for IBM BladeCenter • QLogic 20-port 8Gb SAN Switch Module for IBM BladeCenter • BNT Layer 2/3 Copper Gigabit Ethernet Switch Module for IBM BladeCenter • Intelligent Copper Pass-Thru Module for IBM BladeCenter • QLogic 10Gb Virtual Fabric Adapter for IBM BladeCenter • Brocade 8Gb SAN Switch Module for IBM BladeCenter • 2/4 Port Ethernet Expansion Card (CFFh) for IBM BladeCenter
Flex System	• IBM Flex System EN2092 1GB Ethernet Scalable Switch • IBM Flex System Fabric EN4093 10GB Scalable Switch • IBM Flex System EN4091 10GB Ethernet Pass-Thru • IBM Flex System FC3171 8GB SAN Switch • IBM Flex System FC3171 8GB SAN Pass-Thru • IBM Flex System FC5022 16GB SAN Scalable Switch • IBM Flex System FC5022 24-port 16GB ESB SAN Scalable Switch

7 Conclusion

One of the main missions of IBM FastSetup is to assist you with your IBM systems on the first day. To this end, it takes advantage of the strengths of the ToolsCenter tools and brings them together under one product. IBM FastSetup delivers outstanding results for Day 0 in the following areas:

- Efficiency – with IBM FastSetup, you will see significant reduction in the time required to set up, configure, and update your IBM systems
- Centralized management – IBM FastSetup provides an easy-to-use tool for system discovery, health analysis, device inventory, firmware updates, and system configuration
- Automation – IBM FastSetup simplifies the process for creating automation templates, which can be reused at any time for faster deployments in the future
- Selectable updates – IBM FastSetup provides a nice user interface for selecting an update for any system that is listed on ibm.com

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With all of these benefits and more, you can use IBM FastSetup to maximize the potential for a successful deployment your system. After deployments, you can increase your return on investments.

IBM FastSetup is available for download from the IBM ToolsCenter website:

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=TOOL-FASTSET

8 References

IBM FastSetup

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=TOOL-FASTSET

UpdateXpress

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=SERV-XPRESS#uxspinstall

BladeCenter Interoperability Guide (BIG) - IBM BladeCenter

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5073016&brandind=5000020

Installation and User's Guide - IBM BladeCenter H

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-63306&brandind=5000020

Advanced Management Module Installation Guide - IBM BladeCenter

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5073392&brandind=5000020

Installation and User's Guide - IBM BladeCenter HS22 (7870, 1936, 1911)

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5079689&brandind=5000020

Installation and User's Guide - IBM BladeCenter HS22V

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5083318&brandind=5000020

Installation and User's Guide - IBM BladeCenter HS23

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