



IBM UpdateXpress System Pack Installer User's Guide

Version 9.21





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Note

Before using this information and the product it supports, read the information in “Notices” on page 77.

| This edition applies to version 9.21 of the IBM UpdateXpress System Pack Installer and to all subsequent releases
| and modifications until otherwise indicated in new editions.

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About this guide

IBM® UpdateXpress System Pack Installer is a software application that applies UpdateXpress System Packs and individual updates to your system.

The purpose of this guide is to describe the UpdateXpress System Pack Installer software. It includes the descriptions of:

- Physical components that comprise the software.
- User interfaces.

Accessibility

IBM strives to provide products with usable access for everyone, regardless of age or ability.

Accessibility features for UpdateXpress System Pack Installer

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

The following list includes the major accessibility features in IBM UpdateXpress System Pack Installer:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers

The UpdateXpress System Pack Installer topic collection in the IBM System x ToolsCenter information center, and its related publications, are accessibility-enabled.

Keyboard navigation

The command line interface (CLI) is controlled by the keyboard. For more information, see “Command-line interface” on page 18.

You can use the following keyboard shortcuts from the graphical user interface:

Shortcut (Linux)	Shortcut (Windows)	Action
Alt+C	Alt+C	Close the graphical user interface.
Alt+N	Alt+N	Go to the next page.
Alt+P	Alt+P	Go to the previous page.
Tab	Tab	Go to the next control.
Shift+Tab	Shift+Tab	Move to the previous control.
Left arrow	Left arrow	Move back one character.
Right arrow	Right arrow	Move forward one character.
Backspace	Backspace	Delete the character to the left of the cursor.

Shortcut (Linux)	Shortcut (Windows)	Action
Delete	Delete	Delete the character under the cursor.
Up arrow	Up arrow	Move focus and selection upwards through the radio buttons.
Down arrow	Down arrow	Move focus and selection downwards through the radio buttons.
Space	Space	Select or clear an option.

IBM and accessibility

For more information about IBM's commit to accessibility, see IBM Human Ability and Accessibility Center on the web at www.ibm.com/able.

Who should read this guide

This guide is for system administrators or other individuals responsible for system administration who are familiar with firmware and device driver maintenance.

New in version 9.20

UpdateXpress System Pack Installer, v9.20 provides a number of enhancements since the previous release, v9.00.

Support for operating systems

For complete operating system support information, see “Supported operating systems” on page 11.

Support for additional hardware

The following hardware is now supported by UpdateXpress System Pack Installer, v9.20:

- IBM System x[®] 3530 M4, type 7160
- IBM System x 3630 M4, type 7158
- IBM System x 3750 M4, type 8722, 8733
- IBM BladeCenter[®] HS23E, type 8038, 8039
- IBM Flex System x 220 Compute Node, type 7906, 2585
- IBM Flex System x 240 Compute Node, type 8737, 8738, 7863

For complete hardware support information, see “Supported hardware components” on page 9.

Chapter 1. Technical overview of UpdateXpress System Pack Installer

UpdateXpress System Pack Installer deploys UpdateXpress System Pack and individual updates.

UpdateXpress System Packs contain Windows and Linux firmware and device driver updates. UpdateXpress System Pack Installer allows you to acquire and deploy these updates as well as individual updates.

The three main functions of UpdateXpress System Pack Installer are:

Acquire Updates

The Acquire Updates function allows you to download UpdateXpress System Pack and individual updates for supported machine types from a remote location such as IBM support.

Compare and Update

The Compare and Update functions inventory the system on which the update will be performed, query the update directory for a list of applicable update packages, compare the inventory to the applicable update list, recommend a set of updates to apply, and then deploy those updates to the system.

Update BladeCenter

The **bladecenter** command provides the capability to update the BladeCenter Management Module, the I/O Modules, and the RSSM infrastructure.

Chapter 2. Web resources

The following pages provide resources for understanding, using, and troubleshooting IBM System x and systems-management tools.

Websites

- **IBM ToolsCenter for System x and BladeCenter**

www.ibm.com/systems/support/supportsite.wss/docdisplay?Indocid=TOOL-CENTER&brandind=5000016

View this website to download tools that support IBM System x and IBM BladeCenter products.

- **UpdateXpress**

www.ibm.com/systems/support/supportsite.wss/docdisplay?Indocid=SERVICE-XPRESS&brandind=5000016

View this website to download the tool, UpdateXpress System Pack libraries and tools, including UpdateXpress System Pack Installer.

- **Support for IBM BladeCenter**

www-304.ibm.com/systems/support/supportsite.wss/brandmain?brandind=5000020

View this website to find information about online technical support, downloads and drivers, and RETAIN[®] tips, and to provide feedback about IBM BladeCenter products.

- **Support for IBM System x**

http://www-947.ibm.com/support/entry/portal/Overview?brandind=Hardware~Systems~System_x

View this website to find information about online technical support, downloads and drivers, and RETAIN tips, and to provide feedback about IBM System x products.

- **IBM ServerProven[®]**

www.ibm.com/servers/eserver/serverproven/compat/us/

View this website to learn about hardware compatibility of IBM System x and IBM BladeCenter systems with IBM applications and middleware.

- **IBM System x Firmware Update Best Practices**

<http://www.ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5082923&brandind=5000008>

View this white paper for more information on best practices for updating System x firmware.

Forums

- **IBM System x Forum**

www.ibm.com/developerworks/forums/forum.jspa?forumID=740

View this website on ibm.com[®] to learn about various forums that are available to discuss technology-related and product-related issues pertaining to IBM System x hardware and software products. This website includes a link for obtaining the forum using a Rich Site Summary (RSS) feed.

- **IBM BladeCenter Forum**

www.ibm.com/developerworks/forums/forum.jspa?forumID=819

View this website on ibm.com to learn about various forums that are available to discuss technology-related and product-related issues pertaining to IBM BladeCenter hardware and software products. This website includes a link for obtaining the forum using a Rich Site Summary (RSS) feed.

Chapter 3. Concepts

This section discusses concepts about how UpdateXpress System Pack Installer works, to help you use UpdateXpress System Pack Installer most effectively.

UpdateXpress System Pack

An *UpdateXpress System Pack* (UXSP) is an integration-tested bundle of online firmware and driver updates for IBM System x and IBM BladeCenter servers.

UpdateXpress System Packs simplify the downloading and installation of all online driver and firmware updates for a given system, ensuring that you are always working with a complete, current set of updates that have been tested together and bundled by IBM.

UpdateXpress System Packs are created for a machine type and operating system combination. Separate UpdateXpress System Packs are provided for Windows and each of the Linux distributions. For example, there could be several UpdateXpress System Packs for one particular machine type. There might be one for Windows, and then one for each Linux distribution. UpdateXpress System Packs are generally released semiannually for the first three years and annually for the final three years of support.

UXSP format

A UXSP is delivered as an XML file. The naming convention for a UXSP has the following format: `ibm_utl_uxsp_version_operatingsystem_arch.xml`. **Example:** `ibm_utl_uxsp_a3sp27a-1.00_windows_32-64.xml`.

How UpdateXpress System Pack Installer applies updates

Regardless of whether you run UpdateXpress System Pack Installer from the command-line interface (CLI) or the graphical user interface (GUI), follow the same step-by-step process:

1. Download the UpdateXpress System Pack Installer from the IBM website.
2. Use the installer to acquire the UpdateXpress System Pack for the desired machine-type/operating system combination into a local or network-shared directory.
3. Run the installer.

Note: You can also download the updates directly from the IBM website. Just remember to download the update payload as well as the XML file.

For convenience choose the same destination directory for each UpdateXpress System Pack download; otherwise you will have to specify the destination directory with the `-l` command line argument. You can download multiple system packs for different machine-types into the same directory. When you run the installer, it detects the machine-type and uses the correct content for the machine-type. In some cases, there may be common files between system packs. Common files that are already present in the directory are not downloaded again and the overall download time is reduced.

You use the UpdateXpress System Pack Installer to apply UpdateXpress System Pack updates to your system. UpdateXpress System Pack Installer inventories the system on which the update is to be performed, queries a specified location for a list of applicable update packages, compares the inventory to the applicable update list, recommends a set of updates to apply, and then deploys those updates to the system.

The tasks can be performed two ways:

1. As an **update**, which performs all four tasks.
2. As a **compare**, which performs only the first 3 tasks: inventory, query, and compare.

For more information on compare and update, see “Compare and Update” on page 28.

Handling an UpdateXpress System Pack as a bundle

UpdateXpress System Pack Installer is designed to download and apply UpdateXpress System Packs. The System Pack is a collection of individual updates as specified by the UpdateXpress System Pack XML. When running the Installer tool from the CLI, the tool downloads and applies System Packs by default. If you want to work with individual updates, specify the `-L (--latest)` argument. When running the Installer tool from the GUI, you can select either UpdateXpress System Packs or Individual Updates. In most cases it is recommended to work with UpdateXpress System Packs, but the option to also work with individual updates gives you the greatest flexibility in choosing which updates to use.

Handling update requisites

To successfully apply updates, all pre and corequisites for the update must also be acquired and applied. The UpdateXpress System Pack Installer automatically checks for, acquires, and applies pre and corequisite files. This topic describes how these updates are acquired and applied.

Updates frequently require you to apply prerequisite files before they can be successfully applied or to include corequisite packages to properly use the applied update. To simplify the update process, the UpdateXpress System Pack Installer uses information included in the update file to identify requisite packages for your specified updates. UpdateXpress then applies these requisite packages to successfully complete your specified updates.

Prerequisite files

The update packages supplied by IBM include information on what prerequisite files must be applied before you can successfully apply the update. When you specify an update, the UpdateXpress System Pack Installer reads this information and locates the prerequisite packages. By default, the UpdateXpress System Pack Installer acquires these packages and evaluates them to determine whether the prerequisite conditions have been met, and if necessary apply the prerequisite updates automatically before applying the specified update. You can choose not to acquire or apply these files. However, if you do your update, it might not complete successfully, or not all of the function included in the update might be available.

If prerequisite packages have pre or corequisites, these will be acquired, evaluated, and applied in the same manner.

Corequisite files

Similarly, some updates require corequisites: additional packages that must be applied to successfully complete the update but do not have to be applied prior to the update you have specified. By default, the UpdateXpress System Pack Installer identifies, acquires, evaluates, and applies these packages as part of your update.

If corequisite packages have pre or corequisites, these are acquired, evaluated, and applied in the same manner.

Example

As an example, consider an update that has both prerequisites and corequisites. By default, the UpdateXpress System Pack Installer takes the following steps:

1. To ensure that the update can be completed, the UpdateXpress System Pack Installer first downloads the update.
2. The prerequisite files are downloaded.
3. The corequisite files are downloaded.
4. The pre and corequisites are evaluated against the current state of the system. If the system is already at the required level because the requisites have already been applied, the requisite is ignored.
5. Needed prerequisites are applied.
6. The update is applied.
7. Needed corequisites are applied.

Missing requisites

Occasionally, the UpdateXpress System Pack Installer may be unable to resolve a requisite condition. This can occur when requisite lists conflict or cannot be resolved or can be due to system firmware that does not support the requisite checking performed by the UpdateXpress System Pack Installer. In this case you receive a message similar to this one in the log:

```
(1) [ ] IBM Preboot Diagnostics Flash Update
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_fw_diag_bwy29a_linux_i386
      Requisites    : ibm_fw_mptsas_bc-sasexp-2.62_linux_32-64
                    : Be sure the requisite is equal or above the required
                    : level before applying this update. Installing without
                    : requisite may produce unstable results.
      New Version   : 1.12 (BWYT29A)
      Installed Version : (BWYT29A)
```

If you encounter this problem, you should manually validate that the requisite has been met, then select the update and apply it. If the requisite is not met, use the UpdateXpress System Pack Installer to acquire and apply the requisite package, then attempt your update again.

OS independent updates

Some individual updates apply to a specific machine type regardless of the operating system being used. These are treated as *OS independent* updates. You can select OS independent updates the same way that you select operating system specific updates.

Select OS independent updates the same way that you select operating system specific updates.

Note: When you select updates for a specific operating system, OS independent updates are included as part of the package. Select OS independent updates only if you are not selecting any OS updates for a machine type.

Identify update packages that cannot be applied

Individual updates might include update packages that UpdateXpress System Pack Installer cannot apply. Some examples of these update packages are CPLD firmware, and other legacy Symantec packages. If the UpdateXpress System Pack Installer encounters one of these updates, it displays a warning message **Warning: offline update *filename* detected, will not apply**, where filename corresponds to the name of the update and the update is ignored.

Missing or incomplete inventory data

Sometimes an update package applies to a component for which UpdateXpress System Pack Installer cannot determine the system version. In this case, UpdateXpress System Pack Installer displays no value for the system version, displays the version of the update package, and selects the package as a recommended update. If no installed version is detected, the update is not selected by default.

Installing required drivers

UpdateXpress System Pack Installer installs device drivers.

About this task

UpdateXpress System Pack Installer installs every driver in the UpdateXpress System Pack when:

- The current device driver is detected to be at an earlier version than the available driver in the UpdateXpress System Pack, or
- The UpdateXpress System Pack Installer is unable to determine the current device driver version, which typically occurs when the device driver is not installed.

Note: The installer displays Undetected when no installed version is detected.

You can take advantage of this behavior to install the following device drivers, which are required for firmware updates:

- Intelligent Peripheral Management Interface (IPMI)
- IPMI Mapping Layer
- Remote Supervisor Adapter II (RSAII)

Chapter 4. Requirements

Before you begin using UpdateXpress System Pack Installer, review the hardware and operating system support as well as the local operating system privilege requirements. The systems running UpdateXpress System Pack Installer requires 1 GB or more of RAM.

Supported hardware components

UpdateXpress System Pack Installer supports Windows and Linux device drivers and firmware that are included in available UpdateXpress System Packs. A current list of supported components (device drivers and firmware) can be found in the UpdateXpress System Pack readme file that is included with each system pack.

The following table lists IBM systems that are supported by UpdateXpress System Pack Installer. It also shows which systems support the latest UXSPs (indicated by “Yes” in the third column) and which systems support only individual updates (indicated by “No” in the third column).

Table 1. Supported IBM systems

Server	Machine type	UXSP support
System x 3200 M2	4367, 4368	Yes
System x 3200 M3	7327, 7328	Yes
System x 3250 M2	7657, 4190, 4191, 4194	Yes
System x 3250 M3	4251, 4252, 4261	Yes
System x 3250 M4	2583	Yes
System x 3400	7973, 7974, 7975, 7976	Yes
System x 3400 M2	7836, 7837	Yes
System x 3400 M3	7378, 7379	Yes
System x 3500	7977	Yes
System x 3500 M2	7839	Yes
System x 3500 M3	7380	Yes
System x 3500 M4	7383	Yes
System x 3530 M4	7160	Yes
System x 3550	1013, 1913, 7978	Yes
System x 3550 M2	4198, 7946	Yes
System x 3550 M3	4254, 7944	Yes
System x 3550 M4	7914	Yes
System x 3620 M3	7376	Yes
System x 3630 M3	7377	Yes
System x 3650	7979, 1914	Yes
System x 3630 M4	7158	Yes
System x 3650 M2	4199, 7947	Yes
System x 3650 M3	4255, 5454, 7945	Yes

Table 1. Supported IBM systems (continued)

Server	Machine type	UXSP support
System x 3650 M4	7915	Yes
System x 3690 X5	7147, 7148, 7149, 7192	Yes
System x 3750 M4	8722, 8733	Yes
System x 3755 M3	7164	Yes
System x 3850 M2 and System x 3950 M2	7141, 7144, 7233, 7234	Yes
System x 3850 X5	7143, 7145, 7146, 7191	Yes
System x 3950 M2 2-4 node	7141, 7233, 7234	Yes
System x 3950 X5	7143, 7145, 7146, 7191	Yes
BladeCenter HS12	8014, 8028, 1916	Yes
BladeCenter HS21	1885, 8853	Yes
BladeCenter HS21 XM	1915, 7995	Yes
BladeCenter HS22	7870, 1936, 7809, 1911	Yes
BladeCenter HS22V	1949, 7871	Yes
BladeCenter HS23	7875	Yes
BladeCenter HS23E	8038, 8039	Yes
BladeCenter HX5	1909, 1910, 7872, 7873	Yes
BladeCenter LS21	7971	Yes
BladeCenter LS22	7901	Yes
BladeCenter LS42	7902	Yes
BladeCenter LS41	7972	Yes
iDataPlex® dx320	6388	Yes
iDataPlex dx360 M2	6380, 7321, 7323	Yes
iDataPlex dx360 M3	6391	Yes
iDataPlex dx360 M4	7912, 7913	Yes
iDataPlex dx360 M4	7912, 7913	Yes
iDataPlex Direct Water Cooled dx360 M4	7918, 7919	Yes
IBM Flex System x 220 Compute Node	7906, 2585	Yes
IBM Flex System x 240 Compute Node	8737, 8738, 7863	Yes
IBM Smart Analytics System	7949	Yes

Notes:

- System x 3450 does not detect all firmware, specifically BIOS and BMC update; however, you can use UpdateXpress System Pack Installer to update the BIOS/BMC image.
- System x 3850 M2 and System x 3950 M2 are supported in single node as well as multi node.
- System x 460, MXE-460 and System x 3950 are supported only in single node. To update a multi-node system, you must break apart the nodes and update as single nodes.
- System x 3450 machine type 4197 is not supported by the IBM ToolsCenter Bootable Media Creator.

Unsupported systems

The following systems are not supported by UXSP Installer:

Table 2. Systems not supported by UXSPI

Server	Machine type
System x 236	8841
eServer™ 326	8848
eServer 326m	7969, 7992
System x 100	8486
System x 206	8482, 8487
System x 306	1878, 8836, 8489
System x 325	8671
System x 335	8676
System x 345	8670
System x 3200	4362, 4363
System x 3250	4364, 4365, 4366
System x 3350	4192, 4193
System x 3950 E	7364, 7367, 8879
System x 3450	7948, 4197
BladeCenter HS20	1883, 7981, 8832, 8843
BladeCenter HS40	8839

For details on how UpdateXpress System Pack Installer applies updates, see “How UpdateXpress System Pack Installer applies updates” on page 5.

Supported operating systems

UpdateXpress System Pack Installer is supported on Linux and Windows operating systems as well as on the specified versions of VMware ESX Server and ESXi. UpdateXpress System Pack Installer, v9.20, is supported on both 32-bit and 64-bit operating systems.

You may need to determine which operating systems your server supports. This information can be found on the www.ibm.com/servers/ website (<http://www.ibm.com/servers/>).

Windows

UpdateXpress System Pack Installer is supported on Windows operating systems.

Table 3. Supported Windows operating systems

Operating system	Acquire Updates	Compare/Update
Windows Storage Server 2003 / 2003 R2	x	x
Windows Small Business Server 2003 / 2003 R2 <ul style="list-style-type: none">• Standard Edition [SE]• Professional Edition [PE]	x	x

Table 3. Supported Windows operating systems (continued)

Operating system	Acquire Updates	Compare/Update
Windows Server 2003 / 2003 R2 <ul style="list-style-type: none"> • Standard Edition [SE] • Enterprise Edition [EE] 	x	x
Windows Server 2008	x	x
Windows Server 2008 R2	x	x
Windows 2008 Server Core ²		x
Microsoft Hyper-V Server 2008		x
Windows Server 2008 R2 ¹ / SP1	x	x
Windows Server 2008 Core R2 ^{1,2}		x
Windows XP Business Edition	x	
Windows Vista	x	
Windows 7	x	
Windows HPC 2008 R2	x	x
Windows Small Business Server 2011 ³	x	x
Windows Small Business Server 2011 Essential	x	x

1. x64 support requires WOW.
2. The GUI can be used only from a non-Server Core Windows operating system. You can compare and push updates to Server Core systems over the network using the CLI --remote command. See the CLI commands for usage and details.
3. After installing and configuring Windows Small Business Server 2011 the Administrator account is disabled by default. You must enable the Administrator account to use UpdateXpress System Pack Installer.

In v9.20 of the installer, the Windows executable is named:

ibm_utl_uxspi_9.20_winsrvr_32-64.exe

Linux

UpdateXpress System Pack Installer is supported on Linux operating systems.

Table 4. Supported Linux operating systems

Operating system	Executable file
RHEL 4.0 x86 <ul style="list-style-type: none"> • Entry Server [ES] • Advanced Server [AS] • Workstation Server [WS] 	ibm_utl_uxspi_9.20_rhel4_32-64.bin
RHEL 4.0 AMD64/EM64T <ul style="list-style-type: none"> • Entry Server [ES] • Advanced Server [AS] • Workstation Server [WS] 	ibm_utl_uxspi_9.20_rhel4_32-64.bin
RHEL 5.0 x86 with and without XEN component <ul style="list-style-type: none"> • Entry Server [ES] • Advanced Server [AS] • Workstation Server [WS] 	ibm_utl_uxspi_9.20_rhel5_32-64.bin

Table 4. Supported Linux operating systems (continued)

Operating system	Executable file
RHEL 5.0 AMD64/EM64T with and without XEN component <ul style="list-style-type: none"> • Entry Server [ES] • Advanced Server [AS] • Workstation Server [WS] 	ibm_utl_uxspi_9.20_rhel5_32-64.bin
RHEL 6.0 x86 without XEN component <ul style="list-style-type: none"> • Entry Server [ES] • Advanced Server [AS] • Workstation Server [WS] 	ibm_utl_uxspi_9.20_rhel6_32-64.bin
RHEL 6.0 AMD64/EM64T without XEN component <ul style="list-style-type: none"> • Entry Server [ES] • Advanced Server [AS] • Workstation Server [WS] 	ibm_utl_uxspi_9.20_rhel6_32-64.bin
SLES 10.0 x86 with and without XEN component	ibm_utl_uxspi_9.20_rhel10_32-64.bin
SLES 10.0 AMD64/EM64T with and without Xen component	ibm_utl_uxspi_9.20_rhel10_32-64.bin
SLES 11.0 x86 with and without XEN component	ibm_utl_uxspi_9.20_rhel11_32-64.bin
SLES 11.0 AMD64/EM64T with and without XEN component	ibm_utl_uxspi_9.20_rhel11_32-64.bin

Note: 500 MB of free disk space is recommended when running Linux versions of the UpdateXpress System Pack Installer.

Note: Linux device driver updates require specific packages. The Linux device driver update packs require the following packages to be installed:

- rpm-build, perl, and bash for Redhat Enterprise Linux
- perl and bash for SuSE Enterprise Linux

Note: 64-bit Linux operating systems require installation of the compatibility libraries (compat-libstdc++-296-2.96).

Note: RHEL 6 requires manual installation of the full-featured SOAP library for Python (SOAPpy). See RHEL 6 requires installation of SOAPpy in the Workarounds section for more information.

VMware

UpdateXpress System Pack Installer is supported on VMware.

Table 5. VMware support

Operating system	Executable file
VMware ESX Server 4.0u3	ibm_utl_uxspi_9.20_rhel5_32-64.bin
VMware ESX Server 4.1	ibm_utl_uxspi_9.20_rhel5_32-64.bin

Notes:

- To use the remote functions of VMware ESX server, you must make specific adjustments to your configuration. These adjustments are detailed in Additional considerations when using VMware ESX remote functions in “Limitations and problems” on page 55.
- To perform updates using VMware ESXi 4.1u1, you must run UXSPI on the local system to update the remote ESXi 4.1 u1 host.
- Beginning in UpdateXpress System Pack Installer v4.40, UXSPI supports updating the ESXi hypervisor. Currently this function is only supported for the IBM Advanced Customized ESXi 4.1 U1 and U2, and 5.0 hypervisor. Other versions of ESXi, for example the standard VMWare ESXi or IBM standard customized ESXi, are not supported.

To update the remote hypervisor, you must run UXSPI from your local client. UXSPI connects to the remote ESXi host to perform the updates. Use the version of UXSPI that matches the operating system of your local client.

- Before running UXSPI to update VMWare ESXi 4.1u2 and ESXi 5.0, the following conditions must be met:
 - After the initial power-on or subsequent reboot of VMware ESXi 4.1u2, you must allow IBM CIM providers to complete the initialization and loading process before continuing. This process can take up to 15 minutes.
 - Verify the /etc/cim/ibm/imm_fw_schema file is present.
 1. SSH into the ESXi system.
 2. Verify the /etc/cim/ibm/imm_fw_schema file is present.
 3. Open the file and check that the following lines are contained in the file:
 - SCHEMA_STATE=check
 - FW_VERSION=<IMM_Version>
- To update firmware on VMware ESXi systems, the system must be IMM-based.
- To update firmware in VMWare ESXi 5.0, you must turn off the firewall. To do this:
 1. SSH into the ESXi system.
 2. Issue this command: `esxcli network firewall set -d true`
- On VMWare ESXi systems, do not select usb0 when configuring network adapters.
- To determine whether the IMM has completed initialization, ssh into the ESXi system and run this command: `cat /etc/cim/ibm/imm_fw_schema`
If the IMM has completed initialization, the IMM version is detectable. If it has not, the installed version of DSA/uEFI/IMM/FPGA shows as undetected.

Table 6. VMware ESXi Support (IBM customized image)

VMware ESXi Version	4.1 U1 and 4.1 U2	5.0 and 5.0 U1 Customized Image	5.0 U1 and Patch
uEFI/iMM/DSA/FPGA	Y	Y	Y
LSI	N	Y (MR only)	Y
Broadcom	N	N	Y
QLogic CNA	Y	N	Y
QLogic FC	N/A	N/A	N/A
Emulex	N	Y (CNA only)	Y
Brocade	Y	Y	Y

Notes:

- For ESXi 4.1 U1, only the updates to the IBM ESW (DSA/uEFI/iMM/FPGA), Brocade and QLogic options, and to the ESXi image itself are supported.

- For ESXi 4.1 U2, only the updates to the IBM ESW (DSA/uEFI/iMM/FPGA), Brocade and QLogic options are supported
- The support of QLogic FC is N/A (not applicable) because the firmware of QLogic FC is embedded in the driver.

Operating system privileges

To run UpdateXpress System Pack Installer, you must have administrator or root equivalent operating system privileges. UpdateXpress System Pack Installer returns an error if a user with insufficient privileges attempts to run it.

Chapter 5. Using UpdateXpress System Pack Installer

To run UpdateXpress System Pack Installer, invoke the executable file for your operating system. No installation is required to run UpdateXpress System Pack Installer. You can invoke the UpdateXpress System Pack Installer executable file from a command-line interface or a graphical user interface (GUI).

Windows

In v9.20 of the installer, the Windows executable file is named:

```
ibm_util_uxspi_9.20_winsrvr_32-64.exe
```

For each release of the installer, you can distinguish the Windows executable file name by its version number. The Windows executable file is specified on the command line as **ibm_util_uxspi***version***_winsrvr_32-64.exe**, where *uxspi* is the name of the executable file and *version* indicates the installer version number.

Linux

In v9.20 of the installer, the Linux executable files are named:

```
ibm_util_uxspi_9.20_rhel4_32-64.bin
ibm_util_uxspi_9.20_rhel5_32-64.bin
ibm_util_uxspi_9.20_rhel6_32-64.bin
ibm_util_uxspi_9.20_sles10_32-64.bin
ibm_util_uxspi_9.20_sles11_32-64.bin
```

For each release of the installer, you can distinguish the Linux executable files by their version number. Linux executable files are indicated on the command line as **uxspi***version***.LinuxOS**, where *uxspi* is the name of the executable file, *version* indicates the installer version number, and **LinuxOS** is the Linux operating system name. For example, the executable file names for V3.0.2 are:

```
uxspi302.rhel4
uxspi302.rhel5
uxspi302.sles10
```

In an ESXi 4.1u1 environment, select the operating system that is in use on the remote client.

VMware

In v9.20 of the installer, the executable file for VMWare ESX Server 4 is named:

```
ibm_util_uxspi_9.20_rhel4_32-64.bin
```

In this documentation, **<program>** is used to refer to the name of the UpdateXpress System Pack Installer executable file. **<program>** refers to the Windows executable file that supports all of the supported Windows operating systems or the Linux executable files that support the supported Linux operating systems. See “Supported operating systems” on page 11 for complete OS support.

The UpdateXpress System Pack Installer user interfaces

You can access UpdateXpress System Pack Installer functions through a command-line interface or a graphical user interface.

Functional differences

While the UpdateXpress System Pack Installer command-line interface and GUI contain nearly the same functional capabilities, there are some functions that are available in the CLI - and not in the GUI. Only when using the command-line interface can you direct the installer to:

- Run unattended in a scriptable environment.
- Customize a UXSP by including or excluding specific updates.
- Acquire an individual update by specifying the update filename.
- Perform updates on remote systems.
- Perform updates to IBM BladeCenter systems.

Command-line interface

You can run UpdateXpress System Pack Installer by specifying commands and options in the CLI.

The general syntax for typing UpdateXpress System Pack Installer commands in the CLI is as follows:

```
<program> <command> [common options] [command options]
```

A description of <program> and [common options] follows. For details on <command> and [command options] for the UpdateXpress System Pack Installer commands, see the following sections:

- “Acquire Updates” on page 25
- “Compare and Update” on page 28
- “Update BladeCenter” on page 34

[common options]

The following options are available to use with the Windows and Linux versions of UpdateXpress System Pack Installer:

--command-help

Displays the specific usage information for specified command. You can specify one of these commands:

--acquire-help

--bladecenter-help

--update-help

--compare-help

-c file | --commands=file

Specifies an optional command file that is used to specify additional command arguments. The arguments contained in the command file have the exact same syntax as the command arguments with the exception that a new line is interpreted as a space character. This new line exception means that arguments in the command file may be specified on multiple lines. An example of a command file used for acquisition is:

```
-m 7147, 7148, 7149, 7192  
-o rhel4,rhel5,windows  
-l groups1-2-3
```

-h | --help | -?

Displays help in the current console window and exit.

Note: You cannot specify other options with this option.

--license

Displays license information. You can output this information to a file using the > redirect character.

--reboot-imm

Reboots all of the Integrated Management Modules (IMMs) within a partition.

Note: This parameter is necessary only when updating IMM-based multi-node systems with multiple partitions. For all other systems, the IMM reboots automatically.

-u | --unattended

Runs UXSPI in unattended mode. This is non-interactive, but displays messages to standard output.

-V | --version

Displays the version of UpdateXpress System Pack Installer in the current console window and exits.

Note: You cannot specify other options with this option.

Screen display and CLI input

The UpdateXpress System Pack Installer CLI screen displays information in two formats:

```

C:\> Command Prompt

<7> [*] IBM ServeRAID 8i, 8k, 8k-1, 8s Controller Driver
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_dd_aacraid_5.2.0.11829_windows_32-64

      Update        : arcsas.sys
      New Version   : 5.2.0.11829
      Installed Version : 5.1.0.10170

<8> [ ] MegaRAID 8480 SAS Controller Driver
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : lsi_dd_megasas_1.24_windows_32-64

      Update        : msas2k3.sys
      New Version   : 1.24.0.32
      Installed Version : 2.17.0.32

<9> [*] RSA II Daemon for IA32 Windows
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_svc_rsa2_hlp416a_winsrvr_i386
      New Version   : 5.40
      Installed Version : Undetected

<10> [*] BIOS Flash Utility
      Severity      : Non-Critical
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_fw_bios_zye133a_windows_amd32
      New Version   : 1.13 <ZYE133A>
      Installed Version : 1.10 <ZYE120A>

<11> [ ] IBM Preboot Diagnostics Flash Update
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_fw_diag_zyvt18a_windows_i386
      New Version   : 1.03 <ZYVT18A>
      Installed Version : <ZYVT18A>

<12> [ ] IBM ServeRAID 8i, 8k, 8k-1 and 8s BIOS and Firmware Update
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_fw_aacraid_5.2.0-11844_windows_32-64

      Update        : ServeRAID 8k Firmware
      New Version   : 5.2-0
      Installed Version : 5.2-0

      Update        : ServeRAID 8k Bios
      New Version   : 5.2-0
      Installed Version : 5.2-0

<13> [ ] IBM System x3755 Remote Supervisor Adapter II Update
      Severity      : Non-Critical
      Reboot        : Reboot Required to take effect

```

Figure 1. CLI - Screen display

The first format is for updates that include individual update files. In this format, you see the package data and the individual update file data:

```

[*] IBM ServeRAID 8i, 8k, 8k-1, 8s Controller Driver
  Severity      : Recommended
  Reboot        : Reboot required to take effect
  Update ID     : ibm_dd_aacraid_5.2.0.11829_windows_32-64

  Update        : arcsas.sys
  New Version   : 5.2.0.11829
  Installed Version : 5.1.0.10170

```

When there are updates associated with multiple driver files, all of the installed driver files and version are displayed. For example, the MPTSAS driver on Linux may display similar to the following:

```
[*] IBM and LSI Basic or Integrated RAID SAS Controller Driver
Severity          : Recommended
Reboot           : Reboot Required to take effect
Update ID        : ibm_dd_mptsas_4.00.21.00_sles10_32-64

Update           : mptscsih.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse

Update           : mptbase.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse

Update           : mptctl.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse

Update           : mptfc.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse

Update           : mptlan.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse

Update           : mptsas.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse

Update           : mptspi.ko
New Version      : 4.00.21.00
Installed Version : 3.04.02-suse
```

The second format is for updates that do not include data about individual update files:

```
[*] RSA II Daemon for IA32 Windows
Severity          : Recommended
Reboot           : Reboot required to take effect
Update ID        : ibm_svc_rsa2_hlp416a_winsrvr_i386
New Version      : 5.40
Installed Version : Undetected
```

```

C:\> Command Prompt

<14> [ ] Online Broadcom NetXtreme and NetXtreme II Firmware Update Utility
      Severity      : Non-Critical
      Reboot        : Not Required
      Update ID     : brcm_fw_nic_2.0.3_windows_32-64

      Update        : b8c1 <#1>
      New Version   : 3.4.4
      Installed Version : 3.4.4

      Update        : b8c1 <#2>
      New Version   : 3.4.4
      Installed Version : 3.4.4

<15> [ ] eServer System x3755 BMC Update
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : ibm_fw_bmc_zybt42a_windows_i386
      New Version   : 1.05 <ZYBT42A>
      Installed Version : 1.05 <ZYBT42A>

<16> [*] MegaRAID 8480 SAS Controller Firmware
      Severity      : Recommended
      Reboot        : Reboot Required to take effect
      Update ID     : lsi_fw_megasas_1.03.00-0225_windows_32-64
      New Version   : 1.03.00-0225
      Installed Version : Undetected

Legend:
Type the item number to toggle selected [*] or not selected [ ]
Type 'a' to accept the menu
Type 'f' to select all entries
Type 'q' to quit without processing the entries
[1-16,a,q,f]>

```

Figure 2. CLI - Interactive commands

When using the command-line interface, you may be prompted to provide input. When the available updates are displayed, you can select the updates you would like to install. For the update you want to install, type the number of the update and press the ENTER key on the command line. An asterisk '['*']' appears in the field next to the update. If you do not want to install the update, retype the number of the update on the command line. A space '[']' appears in the field next to the update to indicate that the updated is no longer selected. A summary list of the updates is displayed each time a change is made to the selected updates. The other possible commands are: ENTER, a, f, q. Here is a description of each command:

number

Typing the number of the update toggles between selecting and deselecting the update. This command displays a summary list of the currently selected updates.

enter

Pressing the ENTER key by itself redisplay the full update information screen instead of the summary list of selected updates.

a

Apply selected updates.

f

Toggle between selecting and deselecting all updates. This command displays a summary list of the currently selected updates.

q

Quit immediately without applying any updates.

The following fields can be displayed on the screen after CLI input:

Table 7. Data displayed on screen after CLI input

Column	Description
Severity	This field displays the importance of an update.
Reboot	This field displays if a reboot is required for updates to take effect and when the reboot is to occur if needed.
Update ID	This field displays the name of the update package as downloaded from the IBM website, without the .xml filename extension.
Update	This field (if shown) displays the name of the individual update contained within the update package. For example the .sys driver file in Windows or the .ko kernel object in Linux.
New Version	If the update is currently uninstalled or undetected, this field displays the version of the overall update package. If the update is detected, this field displays the individual update contained within the update package.
Installed Version	This field displays the version of the individual update that is currently installed on the system.

Command processing and general usage notes

Usage notes for UpdateXpress System Pack Installer include command processing and general usage information.

When using the CLI to invoke the UpdateXpress System Pack Installer GUI, you only need to type an executable filename. In the following examples, `<program>` stands in for the executable filename. You do not need to specify an option or a command. The GUI can be operated by either a mouse or a keyboard.

You can use the help or version options by typing them in the CLI with or without a command (The second example shown below displays the use of these options without a command).

Options are processed before commands. Some examples of this behavior are as follows:

1. `<program> update --local=uxsp -h -V`

Although this command processes the `-local` option first, that option only sets a variable, which goes unnoticed. What you will see is the command returning the version information and exiting before running the update command, because the `-V` option, which exits the program when complete, is processed first.

2. `<program> -V -h`

This command returns the version information and exits before printing the help information or launching the GUI, because the first option to be processed is `-V`, which is an option that exits the program when complete.

3. `<program> --acquire-help`

This command returns the help information specific to the acquire command and exits.

4. `<program> --bladecenter-help`

This command returns the help information specific to updating BladeCenter components such as the Management Module, I/O Modules and including RSSM.

5. `<program> --update-help`

This command returns the help information specific to the update command and exits.

Sometimes an update package applies to a component for which UpdateXpress System Pack Installer cannot determine the system version. In this case, UpdateXpress System Pack Installer displays undetectable for the system version, displays the version of the update package, and selects the package as a recommended update.

UpdateXpress System Pack Installer does not restart the system for any update. If an update does not take effect until the system is restarted, you must restart the system. Information is displayed to let you know which updates require a restart.

Remote functionality

This section provides information about UpdateXpress System Pack Installer remote command-line interface functionality.

You can use the command-line interface, on Linux and Windows to run the compare and update commands on a remote server. The update command is performed in unattended mode. You can use the compare command to view updates that are to be applied to the remote system. Remote command execution is logged on the target system. Remote functionality is only supported when source and target systems are the same operating system type such as Windows-to-Windows or Linux-to-Linux.

All command line options are supported by remote execution. If you wish to only execute a subset of updates you can use the `--include` and `--exclude` command line options. Also, `--drivers` and `--firmware` command line options can be used to specify a category of updates.

Usage examples

`<program> acquire --os=windows -l x3800dir -m 8865`

This command acquires the Windows-only updates for an xSeries® 260, model type 8865, and places them in the local folder x3800dir. The folder could also be a networked shared location.

`<program> compare --local=x3800dir --remote=10.2.33.44 --remote-user=administrator --remote-password=AdminPwd`

This command compares the updates in the local folder x3800dir with the currently installed version of the firmware and drivers. The results are displayed in a format similar to *Figure 1. CLI - Screen display* in the previous section. This folder should contain the update packages and the UpdateXpress System Pack Installer executable for the target operating system.


```
<program> update --local=x260dir --drivers --remote=10.2.33.44  
--remote-user=administrator --remote-password=AdminPwd
```

This command forces the application of the driver only updates to the target system identified by IP address 10.2.33.44.

Notes and suggestions

The log file is located on the remote target system at:

C:\IBM_Support\UXSP\systemname_machinetype_timestamp.log

(Windows) or at:

/var/log/IBM_Support/systemname_machinetype_timestamp.log

(Linux). *systemname* is the dns name of the system, *machinetype* is the 4-digit machine yType, and *timestamp* is the time stamp of when the tool was called. Linux syslog or Windows event log, which contain only high-level, predefined strings, register the <program> executions on the remote system.

Also note that using the source system as the target system is not supported. Only one instance of the program is allowed per server. Attempting to point the <program> to 127.0.0.1 is therefore not a valid scenario.

See “Return codes” on page 70 for more specific <program> execution details and troubleshooting information.

GUI

You can operate the UpdateXpress System Pack Installer through a graphical user interface (GUI).

Launching the GUI

You can use the CLI to invoke the UpdateXpress System Pack Installer GUI by typing **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** or by double-clicking on the **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** program icon.

Notes:

- A screen resolution of 800x600 or higher is recommended when running the GUI. If you must use a resolution of 640x480, the command-line interface is recommended.
- To use the GUI, at least one of the following supported browsers must be accessible to UXSPI:
 - Firefox 2.0 or higher
 - Mozilla 1.7 or higher
 - Internet Explorer 6.0 or higher
 - SeaMonkey 1.1.4 or higher

Acquire Updates

The Acquire Updates function allows you to download UpdateXpress System Pack(s) and individual updates for supported machine types from a remote location such as IBM support.

Using the CLI

Use the following information to run the **acquire** command using the CLI.

acquire (ac) - acquire updates

Format

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe acquire [options]
```

Description

The **acquire** command downloads UpdateXpress System Pack updates or individual updates for supported machine types from the IBM support site.

Options

--check-update

Checks the web for a newer version of UXSPI and downloads it if available.

-i update-id, --id=update-id

Acquires update specified by update ID. This update ID is the file name of the update without any file extension (for example, `--id=ibm_fw_bios_bcell15e_windows_i386`). If this option is specified, only the update specified by the update ID is downloaded.

-l UXSP_path, --local=UXSP_path

Specifies the UXSPI directory on the local system where downloaded UXSPs and individual updates are saved. This directory can specify a Windows network share in the format `\\server\share` or a Linux remote mount point. HTTP and FTP URL-style addresses are not supported.

-L, --latest

Acquires the latest individual update instead of UXSPs for the specified machine-types and operating systems. This option also downloads offline updates that match the search criteria of machine-types and operating systems.

-m type, --machine-type=type

Specifies a list of comma-separated, 4-digit machine types to use for the download criteria. Spaces are not allowed in comma separated values. The machine type must be a number; wild cards are not allowed.

If you specify **all**, updates for all machine types are downloaded

--no-proxy

Specifies to not use a proxy for acquisition. If this value is used with any of the set proxy arguments (**--proxy-address**, **--proxy-port**, **--proxy-user**, **--proxy-password**) an error message is displayed and error code 10 is returned.

-o operating_systems, --os=operating_systems

Specifies a list of comma separated operating systems to use for the download criteria (for example, `--os=rhel5`). The valid operating-systems are: **all**, **none**, **windows**, **rhel4**, **rhel5**, **rhel6**, **sles10**, **sles11**, and **vmware**. **OS independent updates** is used to indicate updates for systems that do not have an operating system, such as Management Modules and BladeCenter IO Modules.

If you specify **all**, updates for all operating systems including OS-independent updates are downloaded. If you specify **none**, only OS-independent updates are downloaded.

--proxy-address=address

Sets the proxy address setting to *address* (for example, --proxy-address=10.0.0.10). Address may be an IPv4, IPv6, or DNS address.

Note: When using an IPv6 address, you must enclose the address in brackets as shown here: [*IPv6_address*].

--proxy-port=port

Sets the proxy port setting to *port*. Port must be a number (for example, --proxy-port=40).

--proxy-user=user

Sets the proxy user setting to *user* (for example, --proxy-user=fred).

--proxy-password=password

Sets the proxy password setting to *password* (for example, --proxy-password=passw0rd).

--proxy-password-secure=password

Sets the secure proxy password setting to *password*. For example: --proxy-password-secure=STPXR6yggjRIs.

-r, --report

Queries the IBM update repository to determine the matching update set, but does not actually download any update. Instead displays a list of update-ids, each update-id is displayed on a new line. Those updates that are already present in the UXSPI directory are distinguished from those updates that need to be downloaded. If necessary, user can redirect the result of the report to a text file using the shell **stdout** redirection command. If any part of an update is missing, such as the readme, change history, payload or xml, then it is considered not present for report generation.

--xml Specifies that the file ac_result.xml should be created in the IBM_Support directory to create summary report files.

--vmware-esxi-update=version

Specifies to download the IBM-customized VMWare ESXi self update package together with firmware updates. This package is not downloaded by default because it is larger than 200 MB. If you specify this option, the ESXi self update package is downloaded together with other firmware updates. Currently the only supported version is 4.1. For example: --vmware-esxi-update=4.1.

Using the GUI

You can use the UpdateXpress System Pack Installer GUI to acquire UpdateXpress System Packs and the latest individual updates.

To acquire updates using the GUI:

1. Launch the UpdateXpress System Pack Installer GUI by double-clicking **ibm_utl_uxspi_9.20_winsrvr_32-64.exe**.
2. See the appropriate task in Chapter 6, "UpdateXpress System Pack Installer scenarios," on page 43

Compare and Update

The Compare and Update functions inventory the system on which the update is to be performed, query the update directory for a list of applicable update packages, compare the inventory to the applicable update list, recommend a set of updates to apply, and then deploy those updates to the system.

Using the CLI

Use the following information to run the compare and update commands using the CLI. The compare and update commands share the same set of command line arguments. The only difference between the compare and update command is that the compare command stops at the compare step and does not proceed to the update step.

Attention: There are special considerations when updating multi-node systems in a scalable complex with multiple partitions. Failure to follow the correct procedure can render the complex unusable. For information on how to safely update multi-node systems with multiple partitions, see “Updating multi-node systems” on page 33.

compare (co) - Compare updates with installed versions

Format

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe compare [options]
```

Description

The **compare** command gathers the inventory on the system and queries a specified location. It then compares the data and displays the result.

update (up) - Apply updates

Format

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe update [options]
```

Description

The **update** command gathers the inventory on the system and queries a specified location. It then compares the data and deploys the recommended set of updates.

Note: Before running the **update** command, be sure to close all running programs and any open dialog boxes, such as Windows **New Hardware Found** dialogs. If this dialog is open, the installer cannot perform updates.

command options

-D | --drivers

Applies only driver updates.

--disable-imm-lan

Disables the IMM over LAN interface after package installation. You can enable the IMM over LAN interface using device manager for Windows or the ifconfig utility for Linux.

-e update_ids, --exclude=update_ids

Excludes the updates specified by the list of comma separated update IDs (for example, **-e ibm_lib_mlayr_vap914a_winsrvr_x86-64**). It is an error to specify the same update-id in both a **--include** and **--exclude** options. If a

fix ID specified in update IDs cannot be found, an error is displayed, and UXSPI exits without deploying any updates. You can use this option with the **--latest** option. You can use this option to customize the content of a UXSP and exclude specific updates from a UXSP. If excluded updates has earlier versions in the UXSPI directory that are in the same supersede chain, the latest update in the supersede chain is included. The value of update IDs might be all. This is useful when used in conjunction with the **-i** option and only applies those updates specified by **-i**.

--esxi-updatefile=ftp://userid:password@ftp_server_IPaddress/path

Sets the path of the VMware ESXi self update image on the FTP server. To update the VMware ESXi image itself, specify this option together with the **--vmware-esxi** option.

Note:

- The VMware ESXi self update package and xml file must be located in the same directory.
- You must unzip the self-update package in the same directory as the xml file prior to running the updates.

-f update_ids, --force=update_ids

Specifies that if the update is run, the installer applies the update even if it means back-leveling the system. At this time, not all updates support running an update in 'force' mode. Use the **--include** option to apply the 'force' function to either all or a comma delimited list of updates. When not supported by an update, specifying the 'force' is no different than specifying the **no force** argument. Note that this argument doesn't specify whether the update is selected to be run. The decision to select the update is determined by the version comparison check or specifying the **--select** argument.

-F | --firmware

Applies only firmware updates.

Note: The **--firmware** option does not install or upgrade any drivers, even if the driver is required as a prerequisite.

-i update_ids, --include=update_ids

Includes the updates specified by the list of comma separated update IDs (for example, **-i ibm_lib_mlayr_vap914a_winsrvr_x86-64**). More recent versions of the included update are not deployed; that is, subsequent updates in the supersede chain are not included. However, if update IDs contains two or more updates belonging to the same supersede chain, an error 36 is returned with a message displayed and no update is deployed. It is an error to specify the same update ID in both a **--include** and **--exclude** option. You can use this option to customize the content of a UXSP or used with the **--latest** argument. If this **--include** option is used with a UXSP, the fix ID that it supersedes in the UXSP is automatically excluded from the list of updates deployed. This argument has higher priority than **--drivers** and can be combined with **--drivers** to include a specific firmware update. Similarly **--include** has higher priority than **--firmware** and can be used to include a specific driver update. It is an error to include a fix ID that does not exist in the local update directory.

--ignore-hwcheck

Disables hardware checking. Specifying this option displays all available packages, whether the applicable hardware is present or not.

-l UXSP | --local=UXSP

Specifies the path and name of a UpdateXpress System Pack XML file or the directory (on either a shared network or on the local system) in which to search for an applicable UpdateXpress System Pack XML file. This can also specify a Windows network share in the format `\\server\share`. HTTP and FTP URL-style addresses are not supported.

-L | --latest

Applies the latest updates whether the latest updates are from a UXSP, individual updates or a combination of UXSP and individual updates. If this option is not specified, latest UXSP update found in the UXSPI directory are applied.

-m machine_type | --machine type=machine_type

Specifies the machine type to be used by compare and update. Setting this value prevents UXSPI from determining the machine type of the host system from inventory and instead uses the specified machine type for comparison and update operations.

-n | --new

Selects all updates that are newer than the currently installed versions. This includes updates where `updateSelection=never` in the update XML (QLogic and Emulex) that are not normally selected for update by default. This has the effect of making the QLogic/Emulex update behave like other updates.

--noinventory

Performs minimal inventory that just gets the machine-type and OS.

--nouxsp

Does not deploy UXSPs. If this option or the **--latest** option is not specified, the default behavior is to automatically deploy a UXSP. The **--nouxsp** option is particularly useful when used with **--include** option. In that case, only those updates specified by **--include** are deployed. The specified options must result in at least one update in the compare or update list; otherwise, an error is generated.

-o update_ids | --linux-override=update_ids

Applies the Linux driver override command to the list of comma separated update IDs (for example, `-o all`). Only effects Linux drivers. Deploy Linux drivers with the **--update -override** options instead **--update-force-if-overridden**. This causes drivers to be updated even if the current driver was distributed with the Linux distribution. If a fix ID specified in update IDs cannot be found, a warning is displayed, but UXSPI continues to complete the compare or update command. Update IDs can have the value `all`, which means the override command should be applied to all Linux drivers.

--remote=remote_address

Runs the **update** command on a remote server that is identified by the specified address. The address can be a DNS name or an IP address (for example `--remote=10.0.0.1`). Do not prefixed the address by `"/"` characters. The remote update function is supported only in unattended mode.

Note: When using an IPv6 address, you must enclose the address in brackets as shown here: `[IPv6_address]`.

--remote-dir=directory

Sets the staging or working directory of the remote server (for example, `--remote-dir=c:\tmp`).

--remote-password=*password*

Sets the password to the specified password when authenticating with the remote server (for example, **--remote-password=UXSPI0**). If **--remote-user** is specified but **--remote-password** or **--remote-password-secure** are not specified, you are prompted to enter a password, which is not echoed to the console. If this option is specified, the **--remote** option must also be specified. Specify **--remote-password** with no value to pass an empty password.

--remote-password-secure=*secure-password*

Sets the secure password to the specified password when authenticating with the remote server (for example, **--remote-password-secure=UXSPI0**). If **--remote-user** is specified but **--remote-password** or **--remote-password-secure** are not specified, are be prompted to enter a password, which is not echoed to the console. If this option is specified, the **--remote** option must also be specified. Specify **--remote-password-secure** with no value to pass an empty password.

--remote-user=*user*

Sets the username to user when authenticating with the remote server (for example, **--remote-user=admin**). If none is specified, the current username is used. If this option is specified, the **--remote** option must also be specified.

-r | --report

Displays a summary report of updates used for the compare step. The summary report displays the fix ID, description, and whether the update would be deployed for each update. Because nothing is actually deployed, this option behaves the same for the **compare** and **update** commands.

-s *update_ids*, **--select=**[*update_ids* | **all** | **undetected**]

Deploys the appropriate set of updates to the target system even if the system version is newer than the update package version (for example, **-s brcm_fw_nic_1.0.0_windows_32-64**). The default behavior is to backlevel uEFI/BIOS, diagnostics and IMM/BMC firmware updates. Other updates do not backlevel the system to an older version. This option overrides that behavior and selects all updates for deployment including QLogic and Emulex updates.

update_ids

Specifies the updates to deploy.

all Deploys all applicable updates, including updating firmware whose level cannot be detected to a detectable level.

undetected

Specifies that updates should be deployed on systems whose firmware levels cannot be detected. This can be useful for setting firmware to known and detectable levels on systems where it cannot be detected. This is useful when correcting errors due to unknown Windows devices.

You can specify the **all** value to select all updates. This is equivalent to the **--force** option available in UXSP Installer version 1.20/1.21.

--update-args="*category1*:**--backup** **--user=***IMM_user_id*
--password_type=*IMM_password*, *category_2:options* "

Specifies the options for use with operating system independent ESW

updates. Separate multiple options for a category with spaces. Separate multiple categories with commas. If no options are specified, ESW updates are flashed with the default options.

Valid values for *category* are:

- IMM
- UEFI
- DSA
- FPGA

The **--backup** option updates the backup bank for IMM and uEFI systems. This option is valid only for these categories. For example:

```
--update-args="UEFI:--backup,IMM:--user=userid --password=password"
```

The *password_type* option can be:

--password=password

Sets the password to the specified password when authenticating with the remote server (for example, **--password=UXSPI0**).

--password-secure=secure-password

Sets the secure password to the specified password when authenticating with the remote server (for example, **--remote-password-secure=UXSPI0**).

--vmware-esxi=https://userid:password@vmware_esxi_IPaddress:port

Specifies the authorization info to the remote ESXi system when comparing or updating IBM-customized VMware ESXi 4.1 U1. The default port is 5989.

Note: There is no support for updating Broadcom, LSI, or Emulex firmware in this release.

--xml Specifies that the files `co_result.xml` and `up_result.xml` should be created in the `IBM_Support` directory to create summary report files.

Note: The ordering of options is not significant. Therefore, the following command:

```
<program> update --include=ibm_fw_bios_ne34a_i386 --drivers
```

is equivalent to:

```
<program> update --drivers --include=ibm_fw_bios_ne34a_i386
```

This example deploys drivers and the BIOS update specified by the `-include` option.

Example: Running the update command on a system running Windows

```
C:\><program>.exe update --local=uxsp\4199\windows\ -u -s all
```

This example shows how you can:

1. Invoke UpdateXpress System Pack Installer on a local system running Windows. The filepath for location of the UpdateXpress System Pack XML file is:
uxsp\4199\windows\
2. Issue the **update** command to inventory, query, compare, and deploy updates.
3. Select all updates as applicable, regardless of the system version or the available version (`-s all`).

4. Run the updates in unattended mode (-u).

Example: Running the compare command on a system running Linux

```
[root@localhost /root/uxsp/4199/rhel4]# ./<program> co
```

This example shows how you can:

1. Invoke UpdateXpress System Pack Installer on a local system running Red Hat Linux 4.0. The filepath for the location of the UpdateXpress System Pack XML file is:

```
[root@localhost /root/uxsp/4199/rhel4]# ./
```

2. Run the **compare** (co) command to inventory, query, and compare updates.

Linux device drivers and UXSPs

The default operation for Linux device drivers is to maintain the Linux distribution certified drivers whenever possible. This means that by default the installer will not apply the Linux device drivers from the UpdateXpress System Pack. To override this behavior you need to specify the **--linuxoverride** argument with either the update name to override or **all** to override all linux device drivers. Once a device driver is no longer the same as the Linux distribution certified driver, you no longer need to specify this **--linuxoverride** on subsequent UpdateXpress System Pack updates.

Using the GUI

You can use the UpdateXpress System Pack Installer GUI to compare and update UpdateXpress System Packs and the latest individual updates.

To compare and install updates using the GUI:

1. Launch the UpdateXpress System Pack Installer GUI by double-clicking **ibm_utl_uxspi_9.20_winsrvr_32-64.exe**.
2. See the appropriate task in Chapter 6, “UpdateXpress System Pack Installer scenarios,” on page 43

Note: Before running the installer, be sure to close all running programs and any open dialog boxes, such as Windows **New Hardware Found** dialogs. If this dialog is open, the installer cannot perform updates.

Updating multi-node systems

This section describes the process for updating multi-node systems with multiple partitions. There are special considerations in updating the firmware in scalable complexes. Please read this section before attempting to update your multi-node, multi-partition system using UpdateXpress System Pack Installer.

About this task

When updating the firmware on systems that are part of a multi-node complex with multiple partitions, you must keep identical firmware levels on all partitions in the complex. Failure to do so will result in loss of data and loss of connectivity, causing the system to become unusable.

Because of the configuration of multi-node systems, UpdateXpress System Pack Installer is not able to determine the firmware level on multiple partitions at once.

Therefore there are no automated checks to ensure that you are maintaining identical firmware levels on all partitions in a complex. The UpdateXpress System Pack Installer does recognize which systems are multi-node-capable, and will issue a warning when you are updating one of these systems, reminding you that you must maintain identical firmware levels.

The following procedure allows you to safely update the firmware of a scalable complex with multiple partitions. It includes an example of updating a two-partition system using SLES 10.

Procedure

1. Update each partition individually. Update partition one:

```
#./uxspi430.sles10 up -u
```

then update partition two:

```
#./uxspi430.sles10 up -u
```

2. Check each partition to ensure that the update was successful.
3. If all partitions were updated successfully, reboot each partition using the `--reboot-imm` argument to ensure that the Integrated Management Module (IMM) is rebooted properly. Reboot the IMM for partition one:

```
#./uxspi430.sles10 --reboot-imm
```

then reboot partition two:

```
#./uxspi430.sles10 --reboot-imm
```

What to do next

For more information on updating multi-node systems, see IBM System x Firmware Update Best Practices.

Update BladeCenter

The **bladecenter** command provides the capability to update the BladeCenter Management Module, the I/O Modules, and the RSSM infrastructure.

Prerequisites for updating RSSM:

- RSSM must be manually set to servicemode. Failure to have RSSM in servicemode causes the OBCL to return an error.
- When updating the RSSM infrastructure, installation of Python (with pexpect package) is a prerequisite.
- On Windows OS, cygwin is also a prerequisite. UXSP Installer must be run from a cygwin shell.

Acquiring MM and I/O modules

The following table provides information about each switch:

- **Switch name:** Specifies the name of the switch.
- **VPDID:** Specifies the Vital Product Data identity. You can use the **bladecenter --scan** command to query the MM or AMM for the VPDID of the I/O modules present in the BladeCenter product.
- **POSID:** Specifies the POS identity. You can use the **bladecenter --scan** command to query the MM or AMM for the POSID of the I/O modules present in the BladeCenter product.

- **Updates acquired using UXSPI:** Specifies whether UXSP Installer can acquire updates.
- **Package availability:** Specifies whether packages are available from the IBM or vendor website.

Note: UXSPI uses only metadata during acquisition for BladeCenter updates. UXSPI does not require the metadata when deploying the updates on I/O modules.

- **Deployment location:** Specifies whether the update must be installed on an FTP or a TFTP server. If FTP or TFTP is listed in this column, you must have a FTP or TFTP server installed with which the switch can communicate.

Table 8. BladeCenter command switch names

Switch name	VPDID	POSID	Updates acquirable using UXSPI	Package availability	Deployment location
Brocade Entry SAN Switch Module	0x0135	0x0004	No ¹	Vendor website	FTP server
Brocade Enterprise SAN Switch Module	0x0135	0x0004	No ¹	Vendor website	FTP server
Brocade 4Gb 10-port SAN Switch Module	0x0135	0x0009	No ¹	Vendor website	FTP server
Brocade 4Gb 20-port SAN Switch Module	0x0135	0x0009	No ¹	Vendor website	FTP server
Brocade SAN Switch Modules	0x135	0x000F	No	Vendor website	FTP server
Cisco Systems Intelligent GbE Switch Module	0x0130	0x0003	Yes	IBM website	TFTP server or FTP server
Cisco SystemsFiber Intelligent GbE Switch Module	0x0130	0x0007	Yes	IBM website	TFTP server or FTP server
IBM Gb Ethernet Switch Module	0x0130	0x0000	Yes	IBM website	TFTP server
IBM 2-port Fiber Channel Switch Module	0x0135	0x0000	Yes	Vendor website ²	FTP server
McData 6-port (2Gb) Fiber Channel Switch Module	0x0135	0x0007	Yes	Vendor website ²	FTP server
McData 10-port (4Gb) Fiber Channel Switch Module	0x0135	0x0008	Yes	Vendor website ²	FTP server
McData 20-port (4Gb) Fiber Channel Switch Module	0x0135	0x0008	Yes	Vendor website ²	FTP server
Nortel Layer 2-7 Gb Ethernet Switch Module	0x0130	0x0001	No ¹	Vendor website	TFTP server
Nortel Layer 2/3 Copper Gb Ethernet Switch Module	0x0130	0x0005	Yes	Vendor website ²	TFTP server or FTP server

Table 8. BladeCenter command switch names (continued)

Switch name	VPDID	POSID	Updates acquirable using UXSPI	Package availability	Deployment location
Nortel Layer 2/3 Fiber Gb Ethernet Switch Module	0x0130	0x0006	Yes	Vendor website ²	TFTP server or FTP server
QLogic 2 Gb 6-port Fiber Channel Switch Module	0x0135	0x0005	Yes	Vendor website ²	FTP server
QLogic 10-port 4Gb Fiber Channel Switch Module	0x0135	0x0006	Yes	Vendor website ²	FTP server
QLogic 20-port 4Gb Fiber Channel Switch Module	0x0135	0x0006	Yes	Vendor website ²	FTP server
IBM Server Connectivity Module	0x0130	0x000A	Yes	IBM website	TFTP server or FTP server
Cisco 4X Infiniband Switch Module	0x0138	0x0002	Yes	Vendor website ²	TFTP server or FTP server
4x Infiniband Pass-thru Module	0x0138	0x0003	Yes	IBM website	TFTP server
Nortel 10Gb High Speed Switch Module	0x0130	0x000D	Yes	Vendor website ²	TFTP server or FTP server
QLogic Infiniband Ethernet Bridge Module	0x0138	0x0004	Yes	Vendor website ²	FTP server
QLogic Infiniband Fiber Channel Bridge Module	0x0138	0x0005	Yes	Vendor website ²	FTP server
Disk Storage Module (DSM) for BC-S Chassis	0x0183	0x0005	Yes	IBM website	TFTP server
SAS Connectivity Module	0x0133	0x0001	Yes	IBM website	TFTP server
RAIDed SAS Switch Module	0x0133	0x0002	Yes	IBM website	Local system
Nortel 1/10Gb Uplink Ethernet Switch Module	0x0130	0x000E	No ¹	Vendor website	TFTP server or FTP server
Cisco Catalyst Switch 3110x	0x0130	0x000B	Yes	IBM website	TFTP server or FTP server
Cisco Catalyst Switch 3110G	0x0130	0x000C	Yes	IBM website	TFTP server or FTP server
Cisco Catalyst Switch 3012	0x0130	0x0010	Yes	IBM website	TFTP server or FTP server
Cisco Nexus 4001I Switch Module	0x0130	0x0015	Yes	IBM website	TFTP server or FTP server
QLogic 8Gb Fibre Channel Switch Module	0x0135	0x000C	Yes	Vendor website ²	TFTP server or FTP server

Table 8. BladeCenter command switch names (continued)

Switch name	VPDID	POSID	Updates acquirable using UXSPI	Package availability	Deployment location
Copper pass-through module	0x135	0x03	Yes	IBM website	TFTP server
Optical pass-through module	0x135	0x01	Yes	IBM website	TFTP server
Intelligent copper pass-through module	0x130	0x0f	No ¹	IBM website	TFTP server
Topspin InfiniBand Switch Module	0x0138	0x0001	Yes	IBM website	TFTP server or FTP server

Notes:

1. UXSP Installer does not acquire these files. You must acquire updates from the appropriate vendor or IBM website.
2. For updates that are hosted on a vendor website, UXSP Installer acquires only the readme and metadata. You must acquire updates from the appropriate vendor website. In this case, a message similar to the following is displayed that identifies the vendor URL where the update is hosted.

Some of the update packages are hosted on non-IBM websites. Such websites are independent of IBM and IBM has no control over the operation of these non-IBM websites.

The following update packages are not hosted on the following websites:
 nt_fw_bcs_w_123-1.5.4.0_anyos_noarch hosted on
<http://www.bladenetwork.net/request?file=549yub>

Table 9. IBM Flex System switch names

Switch name	Part Number	Updates acquirable using UXSPI	Package availability	Deployment location
IBM Flex System Fabric EN4093 10Gb Scalable Switch	49Y4270	No	Yes	ftp/tftp
IBM Flex System EN4091 10Gb Ethernet Pass-thru	88Y6043	No	Yes	ftp/sftp
IBM Flex System EN2092 1Gb Ethernet Scalable Switch	49Y4294	No	Yes	ftp/tftp
IBM Flex System FC5022 16Gb SAN Scalable Switch	88Y6374	No	Yes	ftp/sftp
IBM Flex System FC5022 24-port 16Gb ESB SAN Scalable Switch	90Y9356	No	Yes	ftp/sftp
IBM Flex System FC3171 8Gb SAN Switch	69Y1930	No	Yes	ftp/tftp/sftp
IBM Flex System IB6131 Infiniband Switch	90Y3450	No	Yes	ftp/tftp/sftp

Using the CLI

Use the following information to run the **bladecenter** command using the CLI.

Note: The **bladecenter** command is not supported by the GUI.

bladecenter (bc) - bladecenter

Format

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe bladecenter [options]
```

Description

The **bladecenter** provides the capability to update the BladeCenter Management Module, the I/O Modules, and the RSSM infrastructure.

Options

-s, --scan

Scans the management modules and I/O modules.

-m --mm

Updates the firmware for the management module.

-i, --io Updates the firmware for the I/O modules.

-c --convert

Converts a response generated by the BladeCenter/UXBC function on the UpdateXpress CD into a batch or sh file.

-h, --help

Displays this (help) message.

Scan-specific options

--mm-address=*address*

Sets the IP address of the management module to the specified address (for example, **--mm-address=10.0.0.1**). This parameter is mandatory. If it is missed, a syntax error is presented.

Note: When using an IPv6 address, you must enclose the address in brackets as shown here: [*IPv6_address*].

--mm-user=*user*

Sets the user to the user ID of the management module for authentication (for example, **--mm-user=admin**). This parameter is mandatory. If it is missed, a syntax error is presented.

--mm-password=*password*

Sets the password of the management module to the specified password when authenticating with the management module (for example, **--mm-password=UXSPI0**). If **-s** or **--scan** is specified but **--mm-password** is not specified, you are prompted to enter a password, which is not echoed to the console.

MM-update-specific options

--mm-address=*address*

Sets the IP address of the management module to *address* (for example, **--mm-address=10.0.0.1**). This parameter is mandatory. If it is missed, a syntax error is presented.

Note: When using an IPv6 address, you must enclose the address in brackets as shown here: `[IPv6_address]`.

--mm-user=*user*

Sets the user ID of the management module to *user* when authenticating with the management module. This parameter is mandatory. If it is missed, a syntax error is presented. Example: `--mm-user=admin`

--mm-password=*password*

Sets the password of the management module to *password* when authenticating with the management module. If `-s` or `--scan` is specified but `--mm-password` is not specified, the user is prompted to enter a password, which is not echoed to the console. Example: `--mm-password=UXSPI0`

-a --all A flag that indicates if the redundant MM is updated. If `-a` is specified, both the primary and redundant MM is updated. If `-a` is not specified, the results depend on the MM. For most MM/AMMs (except very old MM1s), the primary MM will automatically updates the redundant MM.

--mm-file=*file1*

Sets the first path and name of the firmware file of the management module. This parameter is mandatory. If it is missed, a syntax error is presented. Example: `--mm-file cnetmnus.pkt`

--mm-file2=*file2*

Sets the second path and name of the firmware file of the management module. This parameter is used by MM1, but not necessary for AMM. If it is MM1 and this parameter is missed, a syntax error is presented. Example: `--mm-file2 cnetrgus.pkt`

I/O-module-update-specific options

--mm-address=*address*

Sets the IP address of the management module to *address* (for example, `--mm-address=10.0.0.1`). This parameter is mandatory. If it is missed, a syntax error is presented.

Note: When using an IPv6 address, you must enclose the address in brackets as shown here: `[IPv6_address]`.

--mm-user=*user*

Sets the user ID of the management module to *user* when authenticating with the management module. This parameter is mandatory. If it is missed, a syntax error is presented. Example: `--mm-user=admin`

--mm-password=*password*

Sets the password of the management module to *password* when authenticating with the management module. If `-s` or `--scan` is specified but `--mm-password` or `--mm-password-secure` is not specified, the user is prompted to enter a password, which is not echoed to the console. Example: `--mm-password=UXSPI0`

--mm-password-secure=*secure-password*

Sets the secure password of the management module to *secure-password* when authenticating with the management module. If `-s` or `--scan` is specified but `--mm-password` or `--mm-password-secure` is not specified, the user is prompted to enter a password, which is not echoed to the console. Example: `--mm-password-secure=UXSPI0`

--io-bay=*bayID*

Sets the bay ID of target RSSM or switch to *bayID*. This parameter is mandatory. If it is missed, a syntax error is presented. Example: **--io-bay**=1

-a --all Updates all I/O modules of the same POSID/VPDID. If this option is not specified, only the module specified by the **io-bay** is updated.

--io-user=*user*

Sets the password of the switch to the specified user when authenticating with the switch (for example, **--io-user**=admin). If **-i** or **--io** is specified but **--io-user** is not specified, you are prompted to enter a user name.

--io-password-secure=*secure-password*

Sets the secure password of the switch to the specified password when authenticating with the switch (for example, **--io-password**=UXSPI0). If **-i** or **--io** is specified but **--io-password** or **--io-password-secure** are not specified, you are prompted to enter a password, which is not echoed to the console.

--io-password=*password*

Sets the password of the switch to the specified password when authenticating with the switch (for example, **--io-password**=UXSPI0). If **-i** or **--io** is specified but **--io-password** or **--io-password-secure** is not specified, you are prompted to enter a password, which is not echoed to the console.

--io-file=*file1*

Sets the first path and name of the firmware file of the switch (for example, **--io-file**=tftp://10.10.10.10/GbESM-10G-AOS-1.0.1.1_OS.img **--io-file**=ftp://user:pass@10.10.10.10/GbESM-10G-AOS-1.0.1.1_OS.img). Some switches only support FTP downloading, while others support TFTP downloading, however the path takes a similar syntax: - scheme://username:password@server/path. TFTP does not need a user name and password. If you specify the values, they are ignored.

Notes:

- For the **Accipiter Pass-Through** module, put the update package into its own SFTP server manually before performing update.
- You also need to specify the package path and credential when calling UXSPI update command **--io-file** =sftp://username:password@10.0.0.2/passthruupdatename.file.

--io-file2=*file2*

Sets the second path and name of the firmware file of the switch (for example, **--io-file2**=tftp://10.10.10.10/GbESM-10G-AOS-1.0.1.1_OS.img **--io-file2**=ftp://user:pass@10.10.10.10/GbESM-10G-AOS-1.0.1.1_OS.img). Some switches only support FTP downloading while others support TFTP downloading, however, the path takes a similar syntax: - scheme://username:password@server/path. TFTP does not need a user name and password. If you specify values, they are ignored.

Convert-specific options

--response=*response_file*

Sets the path and name of the response file to the specified file name (for example, **--response** =d:\chassis.rsp).

--script=*script_file*

Sets the path and name of the generated script file to the specified file

name (for example, --script = d:\chassis.bat). Currently passwords are scrambled in the response file. The software unscrambles these passwords when creating the batch/sh files. The passwords appear in clear text in the batch/sh file.

Examples

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe bc -h
```

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe bc -s  
--mm-address=10.0.0.1 --mm-user=USERID --mm-password=PASSWORD
```

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe bc -m  
--mm-address=10.0.0.1 --mm-user=USERID --mm-password=PASSWORD  
--mm-file=c:\CNETBRUS.pkt --mm-file2=c:\CNETMNUS.pkt
```

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe bc -i  
--mm-address=10.0.0.1 --mm-user=USERID --mm-password=PASSWORD  
--io-bay=1 --io-user=USERID --io-password=PASSWORD --io-file=  
tftp://10.10.10.10/GbESM-10G-AOS-1.0.1.1_OS.img
```

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe bc -c  
--response=d:\chassis.rsp --script=d:\chassis.bat
```

Chapter 6. UpdateXpress System Pack Installer scenarios

You can use UpdateXpress System Pack Installer to interactively or non-interactively deploy updates.

Updating a local machine from the IBM website

UpdateXpress System Pack Installer can update a local machine with either UXSP(s) or individual updates acquired from an IBM website.

Before you begin

The following prerequisites are required to complete this task:

- You are running the UpdateXpress System Pack Installer on the local system to be updated.
- The system is running a supported operating system.

Procedure

1. Double-click **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** to launch the UpdateXpress System Pack Installer GUI. The initial panel describes the UpdateXpress System Pack Installer.
2. Click **Next**. The machine type and operating system for the system running the UpdateXpress System Pack Installer is displayed near the top of the panel. The UpdateXpress System Pack Installer version is also displayed.
3. On the Update Task panel, select **Update the local machine** and click **Next**.
4. On the Update Type panel, select the type of updates you want to acquire.
 - UpdateXpress System Packs (UXSPs)
 - Individual updates
5. Click **Next**. The Updates Location panel is displayed.
6. Select **IBM website** and click **Next**. The Target Directory panel is displayed.
7. Specify the directory to where you want to download the updates or accept the default location and click **Next**. The HTTP Proxy Setting panel is displayed.
8. If required, specify the proxy information and click **Next**. If you selected to acquire individual updates, the Update Selection panel is displayed.
9. Select the updates you want and click **Next**. The installer begins acquiring updates.

Note: The progress bar indicates that the installer is processing but does not show the percentage of progress completed.

10. On the Update Recommendation panel, make any desired changes and then click **Next**.
 - If operating system independent ESW updates are detected, the Update Options panel opens. Specify any necessary options and click **Next**.
 - If no options are specified, the operating system independent ESW updates will be applied using the default settings. The Update Execution panel displays while the updates are installed on your local system.

When the update has successfully completed, the Update Selection panel is displayed.

11. Click **Finish**.

Updating a local machine from a local directory

UpdateXpress System Pack Installer can update a local machine with either UXSPs or individual updates acquired from a local directory.

Before you begin

The following prerequisites are required to complete this task:

- You are running the UpdateXpress System Pack Installer on the local system being updated.
- The system is running a supported operating system.

Procedure

1. Double-click **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** to launch the UpdateXpress System Pack Installer GUI. The initial panel describes the UpdateXpress System Pack Installer.
2. Click **Next**. The machine type and operating system for the system running the UpdateXpress System Pack Installer is displayed near the top of the panel. The UpdateXpress System Pack Installer version is also displayed.
3. On the Update Task panel, select **Update the local machine** and click **Next**.
4. On the Update Type panel, select the type of updates you want to acquire.
 - UpdateXpress System Packs (UXSPs)
 - Individual updates
5. Click **Next**. The Updates Location panel is displayed.
6. Select **Check in a local directory**.
7. Browse to specify a different directory to where you want to download the updates or accept the default location and click **Next**. The HTTP Proxy Setting panel is displayed.
8. Select the updates you want and click **Next**. The installer begins acquiring updates.

Note: The progress bar indicates that the installer is processing but does not show the percentage of progress completed.

9. On the Update Recommendation panel, make any desired changes and then click **Next**.
 - If operating system independent ESW updates are detected, the Update Options panel opens. Specify any necessary options and click **Next**.
 - If no options are specified, the operating system independent ESW updates will be applied using the default settings. The Update Execution panel displays while the updates are installed on your local system.

When the update has successfully completed, the Update Selection panel is displayed.

10. Click **Finish**.

Creating a repository of updates

UpdateXpress System Pack Installer can create a repository of either UXSP(s) or individual updates acquired from the IBM website.

Before you begin

Prerequisites:

- The user is running the UpdateXpress System Pack Installer on the system where the repository is to be created.
- The system must be running a supported operating system.

About this task

Perform these steps to create an update repository:

Procedure

1. Double-click **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** to launch the UpdateXpress System Pack Installer GUI.
2. The initial panel describes the UpdateXpress System Pack Installer. Click **Next**.

Tip: The machine type and operating system for the system running the UpdateXpress System Pack Installer is displayed near the top of the panel. The UpdateXpress System Pack Installer version is also displayed.

3. On the Update Task panel, select **Create a repository of updates**, and then click **Next**.
4. On the Update Type panel, select the type of updates you want to acquire, and then click **Next**. Possible updates are:
 - UpdateXpress System Packs (UXSPs)
 - Individual updates
5. On the Machine Types panel, check the machine types for which you want to acquire updates, and then click **Next**.

Tips:

- You can select all the listed machine types by checking the top checkbox in the header.
 - You can add and remove machine types from the list using the **Add** and **Remove** buttons. To add a machine type, click **Add** and then specify the machine type. To remove a machine type, first check the machine type in the list and then click **Remove**.
6. On the Operating Systems panel, select the operating systems for which you would like to acquire updates.

Tips:

- If you selected to acquire individual updates, you can choose **OS independent update**.
 - Select **OS independent update** for updates that do not run from a particular operating system such as a Management Module update for a BladeCenter. When acquiring Management Module updates, the machine type of the relevant BladeCenter chassis must be selected as well. In the CLI, use **none** to qualify the **-o** | **--os** option. In the interactive CLI or the GUI, specify **OS independent update** as the OS type.
7. On the Target Directory panel, specify the directory to which you want to download the updates or accept the default location. Click **Next**.
 8. On the HTTP Proxy Setting panel, specify the proxy information if required, and then click **Next**.

9. If you selected to acquire individual updates, the Update Selection panel displays. Select the updates you want, and then click **Next**.

Note: The progress bar indicates that the installer is acquiring updates, but does not depict a percentage of progress completed. The Complete panel is displayed when the repository has been created successfully.

10. Click **Finish**.

Non-interactive local deployment using CLI

UpdateXpress System Pack Installer can non-interactively deploy updates to a system.

If you need to non-interactively deploy a package or packages to the local system. You can accomplish this by using a command-line based on properties defined in the package XML or XMLs that are specified in a directory on the local file system.

Assumptions and prerequisites

- You have obtained an UpdateXpress System Pack for machine type and operating system.
- The system must be running a supported operating system.

Scenario tasks

1. You run UpdateXpress System Pack Installer from the **update** command from the CLI with options specifying the location on the file system to search for the update packages. An option is specified to non-interactively apply the necessary updates to the local system.

An example command for this step would be:

```
C:\uxsp> ibm_utl_uxspi_9.20_winsrvr_32-64.exe update --local=C:\updates -u
```

2. You see status on standard output (stdout) as the application proceeds to read all of the UpdateXpress System Pack XML files in the specified directory to determine which UpdateXpress System Pack is applicable to the system. The UpdateXpress System Pack Installer builds an internal catalog of the available updates as specified by the XML file.
3. UpdateXpress System Pack Installer gathers the system inventory, and again you see status.
4. UpdateXpress System Pack Installer compares the inventory with the update catalog and determines a recommendation of updates to apply.
5. UpdateXpress System Pack Installer gives status while it proceeds to sequentially run each applicable update on the local system.
6. UpdateXpress System Pack Installer exits with a return code designating whether the updates were successful or not.
7. UpdateXpress System Pack Installer logs status to the system logs during operation.

Error conditions

1. If the operating system is not supported, you will see a message explaining this at the start of the UpdateXpress System Pack Installer program, and you are not allowed to deploy updates. UpdateXpress System Pack Installer exits with an unsuccessful return code.

2. If no UpdateXpress System Pack XML file can be found in the specified directory that is supported on the local system machine type and operating system, a message similar to the following is displayed:

Cannot find UpdateXpress System Pack XML file for this machine type and operating system.

Note: If the machine type or operating system is not supported by a UXSP, it may still be possible to run updates by specifying Individual Updates. To specify Individual Update, specify the **--latest** or **-L** argument.

3. If an individual package has an error during deployment, UpdateXpress System Pack Installer continues with the next update, and sets the return code appropriately for the time when UpdateXpress System Pack Installer eventually exits.

Interactive local deployment using CLI

UpdateXpress System Pack Installer can interactively deploy updates to a system.

You can interactively deploy a package or packages to the local system. You do this by using a command-line based on properties defined in the package XML or XMLs that are in a specified directory on the local file system.

Assumptions and prerequisites

- You have obtained an UpdateXpress System Pack for this machine type and operating system.
- The system must be running a supported operating system.

Scenario tasks

1. You run UpdateXpress System Pack Installer from the command line with options specifying the location on the file system to search for the update packages.

An example command for this step would be:

```
C:\uxsp> ibm_utl_uxspi_9.20_winsrvr_32-64.exe update --local=C:\updates
```

2. You see status on stdout as the application proceeds to read all of the UpdateXpress System Pack XML files in the specified directory to determine which UpdateXpress System Pack is applicable to the system. The UpdateXpress System Pack Installer builds an internal catalog of the available updates as specified by the XML file. This catalog gets regenerated on every run of UpdateXpress System Pack Installer.
3. UpdateXpress System Pack Installer then gathers the system inventory, and again you see status.
4. UpdateXpress System Pack Installer compares the inventory with the catalog of available updates and determines a recommendation of updates to apply.
5. UpdateXpress System Pack Installer displays the list of all available updates, including description, filename, current version, and new version, severity, an enable or disable field, and a number associated with each update. The recommended updates are already enabled.
6. You can type the number of the update for which you would like to toggle the enable/disable field.
7. You then type **a** to apply the updates. Instructions are on the screen to tell you how to perform this step.
8. UpdateXpress System Pack Installer gives status while it proceeds to sequentially run each applicable enabled update on the local system.

9. UpdateXpress System Pack Installer displays a screen detailing the final status of all the updates that were applied.
10. UpdateXpress System Pack Installer exits with a return code designating whether the updates were successful or not.
11. UpdateXpress System Pack Installer logs status to the system logs during operation.

Error conditions

- If the operating system is not supported, you see a message explaining this at the start of the UpdateXpress System Pack Installer program, and you can not deploy updates. UpdateXpress System Pack Installer exits with an unsuccessful return code.
- If no UpdateXpress System Pack XML file can be found in the specified directory that is supported on the local system machine type and operating system, a message similar to the following is displayed: .
Cannot find UpdateXpress System Pack XML file for this machine type and operating system.
- If an individual package has an error during deployment, UpdateXpress System Pack Installer continues with the next update and sets the return code appropriately for the time when UpdateXpress System Pack Installer eventually exits.

Customizing UpdateXpress System Pack using CLI

UpdateXpress System Pack Installer can customize an UpdateXpress System Pack by specifying command line arguments.

Before you begin

The following prerequisites are required to complete this task:

- You are running the UpdateXpress System Pack Installer on the local system being updated.
- The system is running a supported operating system.

Procedure

1. Download the update that needs to be replaced in the UpdateXpress System Pack. In this case it is a BIOS update. The update can be downloaded directly from the IBM website or the installer can be used to acquire the update. Either way the update must be placed in the same directory as the UpdateXpress System Pack.
2. Run UpdateXpress System Pack Installer from the command line with options specifying the location on the file system to search for the update packages. An example command for this step would be:

```
C:\uxsp> ibm_utl_uxspi_9.20_winsrvr_32-64.exe update --local=C:\updates  
--include=ibm_fw_bios_bwe126a_windows_i386
```

The following list describes what takes place as the application proceeds:

- The status is displayed on stdout as the application proceeds to read all of the UpdateXpress System Pack XML files in the specified directory to determine which UpdateXpress System Pack is applicable to the system.
- The UpdateXpress System Pack Installer builds an internal catalog of the available updates as specified by the XML file. This catalog gets regenerated on every run of UpdateXpress System Pack Installer.

- UpdateXpress System Pack Installer then gathers the system inventory, and the status is displayed.
- UpdateXpress System Pack Installer compares the inventory with the catalog of available updates and determines a recommendation of updates to apply.
- UpdateXpress System Pack Installer displays the list of all available updates, including description, filename, current version, and new version, severity, an enable or disable field, and a number associated with each update.

Note: The recommended updates are already enabled.

3. You can type the number of the update for which they would like to toggle the enable/disable field.
4. You then type **a** to apply the updates. Instructions are on the screen to tell you to perform this step.

What to do next

This sections describes possible error conditions.

- If the operating system is not supported, a message is displayed explaining this at the start of the UpdateXpress System Pack Installer program, and you are not allowed to deploy updates. UpdateXpress System Pack Installer exits with an unsuccessful return code.
- If no UpdateXpress System Pack XML file can be found in the specified directory that is supported on the local system machine type and operating system, a message similar to the following is displayed:
Cannot find UpdateXpress System Pack XML file for this machine type and operating system.
- If an individual package has an error during deployment, UpdateXpress System Pack Installer continues with the next update and sets the return code appropriately for the time when UpdateXpress System Pack Installer eventually exits.

Updating from removable media (non-bootable)

In UpdateXpress System Pack Installer, you can copy a set of UpdateXpress System Packs to media, such as USB key media or CD, including the version of UpdateXpress System Pack Installer included in each of the UpdateXpress System Packs.

Before you begin

When mounting the media on a Linux operating system make sure that the `exec` flag is set on the mounted device. This is especially true for RHEL5 since its default is to mount USB keys with `noexec`. Otherwise, you get a permission denied message when you try to execute a program from the mounted device.

Note: To work around this on RHEL5, unmount the USB key and mount it with an explicit `exec` option. For example:

```
umount /dev/sdc1
mkdir /media/disk
mount -o exec /dev/sdc1 /media/disk
```

Updating firmware for an IBM BladeCenter RAID SAS switch module

Use this information to update firmware for an IBM BladeCenter RAID SAS switch module.

Before you begin

Prerequisites:

- All persistent alerts must be resolved before updating firmware. View the Active Alert List to verify if there are any persistent alerts that require resolution. In some instances, a persistent alert might be resolved by updating the firmware. Check the Release Notes to determine if there are persistent alerts that are fixed in this level of code.
- These following utilities must be installed to your system:
 - (Windows only) Microsoft Visual Studio Dynamic Link Libraries
 - (Windows only) Cygwin
 - Python version 2.5 or higher
 - Pexpect

About this task

Perform these steps to update firmware for an IBM BladeCenter RAID SAS switch modules:

Procedure

1. (Windows only) Install Microsoft Visual Studio Dynamic Link Libraries.
 - a. Download the libraries to a temporary directory from the web by going to www.microsoft.com/downloads/details.aspx?FamilyId=32BC1BEE-A3F9-4C13-9C99-220B62A191EE&displaylang=en and clicking **Download**.
 - b. Run **vcredist_x86.exe** in the temporary directory and following instructions in the installation wizard.
2. (Windows only) Install Cygwin.

Tip: Cygwin is a Linux-like environment for Windows. The command line firmware upgrade tool runs from a Cygwin bash shell.

- a. Download Cygwin to the C:\cyg_dnl\ directory from the web at www.cygwin.com/setup.exe.
- b. Run **setup.exe** in the C:\cyg_dnl\ directory. The Cygwin Setup installation wizard is displayed.
- c. Click **Next**. The Choose Installation Type page is displayed.
- d. Click **Install from Internet**, and then click **Next**. The Choose Installation Directory page is displayed.
- e. Accept the default settings, and click **Next**. The Select Local Package Directory page is displayed.
- f. Accept the default settings, and click **Next**. The Select Connection Type page is displayed.
- g. Click **Direct Connection**, and click **Next**. The Choose Download Sites page is displayed.
- h. Select any of the URLs listed in the **Available Download Sites** list, and click **Next**. The Select Packages page is displayed.
- i. Select the following installation packages and then click **Next**.

Table 10. Installation packages for firmware updates

Category	Package	Minimum version	Description
Devel	gcc-core	3.4.4-3	C compiler
Devel	make	3.81-2	The GNU version of the make utility
Libs	ncurses	5.5-3	Libraries for terminal handling
Net	openssh	5.0p1-1	The openSSH server and client programs
Net	ping	1.0-1	A basic networking tool to test IP network connectivity
Net	inetutils	1.5-4	A common networking client and server
Python	Python	2.5.1-2	An interactive object-oriented scripting language
web	wget	1.10.2-2	Utility used to retrieve files from the internet using HTTP and FTP

When the installation completes, the Cygwin Setup - Installation Status and Create Icons window is displayed.

j. Click **Finish**.

3. (Linux only) Install Python 2.5 or greater.

Tip: You can download Python from the web at www.python.org/download/.

4. Install pexpect for Python:

a. Download pexpect from the web at pexpect.sourceforge.net/pexpect-2.3.tar.gz.

b. Open a bash shell. In Windows, run the Cygwin bash shell icon on your desktop. In Linux, open a terminal session.

c. From the bash shell, enter the following commands:

```
tar -xzf pexpect-2.3.tar.gz
cd pexpect-2.3
python ./setup.py install
```

5. Download the SAS RAID Controller firmware update package.

6. Ensure that the update package `ibm_fw_bcs_w_s0cl-n.n.n.nnn_anyos_noarch.sh` is an executable file. If it is not, enter the following command:

```
chmod +x ibm_fw_bcs_w_s0cl-n.n.n.nnn_anyos_noarch.sh
```

7. Place both RAID Controller Modules in service mode:

a. Login to either RAID Controller CLI.

b. Enter the following command from *one* of the RAID controller modules to place the both RAID controller modules in service mode:

```
shutdown -system -state servicemode
```

c. Wait for the controllers to reboot.

d. Log in to one of the RAID Controller CLIs.

e. Verify that both RAID controllers are in service mode by entering the following command:

```
list controller
```

8. Enter one of the following commands from a Cygwin bash shell to update firmware:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.distro bc -i --mm-user=user_id  
--mm-password=password --mm-address=ip_address --io-bay=io_bay  
--io-file=/var/ibm_fw_bcs_w_s0cl-n.n.n.nnn_anyos_noarch.sh
```

where:

distro Specifies the distribution. For example, use
ibm_utl_uxspi_9.20_winsrvr_32-64.exe for Windows,
ibm_utl_uxspi_9.20_winsrvr_32-64.rhel5 for RedHat 5, or
ibm_utl_uxspi_9.20_winsrvr_32-64.sles10 for SLES10.

user_id Specifies the user ID of the management module.

password
Specifies the password of the management module.

address Specifies the IP address of the management module.

Note: When using an IPv6 address, you must enclose the address in brackets as shown here: *[IPv6_address]*.

io_bay Specifies the bay number of either SAS RAID controller.

n.n.n.nnn
Specifies the build number of the update package.

Tip: Updating firmware for IBM BladeCenter RAID SAS switch modules takes approximately 30 minutes.

Acquiring the latest updates for a particular type of update

UXSP Installer can be used to acquire the latest UXSPs or all the latest updates for a particular machine type and operating system.

Before you begin

It can also be used to acquire the latest update for a particular type of update, as long as you know the update-id (filename) of one of the earlier updates. For example, suppose you want to acquire the latest BIOS update for machine type 7979, and you already know the filename for an earlier version of the BIOS is *ibm_fw_bios_gge134e_windows_i386*. By specifying an update-id together with the latest option (-L) you can acquire the latest BIOS update for that system.

```
ibm_utl_uxspi_9.20_winsrvr_32-64 ac -i ibm_fw_bios_gge134e_windows_i386 -L
```

Or if you just want to see if a new update is available but not actually download the update, specify:

```
ibm_utl_uxspi_9.20_winsrvr_32-64 ac -i ibm_fw_bios_gge134e_windows_i386 -L --report
```

Acquiring updates for an ESXi system

UpdateXpress System Pack Installer can update an ESXi system with either UXSP(s) or individual updates acquired from an IBM website. It can also acquire and deploy the ESXi self-update package that enables you to update ESXi on the target system as well.

Assumptions and prerequisites

- You are running the UpdateXpress System Pack Installer on the local system to be updated.
- The system must be running a supported operating system.

Scenario tasks

1. From the command line, use the UXSPI command to acquire either the latest individual firmware updates or available UpdateXpress System Packs. For example, to acquire the latest individual firmware updates for machine type 7946:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe acquire -latest -m 7946 -o vmware -l C:\updates\7946\esxi
```

To acquire available UpdateXpress System Packs for the same system:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe acquire -u -l C:\uxsp\7946\esxi -m 7946 -o vmware
```

Additionally, you can choose to acquire the ESXi self-update package, which allows you to update ESXi on the target system, by specifying the **-vmware-esxi-update** argument, as shown below:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe acquire -u -l C:\uxsp\7946\esxi -m 7946 --vmware-esxi-update=4.1 -o vmware
```

2. The UpdateXpress System Pack Installer connects to the repository and downloads the requested files.

Comparing firmware on an ESXi system

This topic describes the process for comparing the firmware inventory on an ESXi system with the updates currently in the update repository.

Assumptions and prerequisites

- You are running the UpdateXpress System Pack Installer on the local system to be updated.
- The system must be running a supported operating system.

Scenario tasks

1. From the command line, use the UXSPI command to compare the firmware inventory of the target system with the updates available in the repository using the compare option:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe compare -l local_folder_path -L --vmware-esxi=https://userID:password@VMware_ESXi_host_IPaddress:port
```

For more information on these options, see “Command-line interface” on page 18.

2. The UpdateXpress System Pack Installer compares the firmware inventory of the target system to the updates available in the repository and returns a recommendation of updates to apply.

Updating firmware on an ESXi system

This topic describes the process for updating the firmware inventory on an ESXi system from a local update repository or an FTP server.

Assumptions and prerequisites

1. You are running the UpdateXpress System Pack Installer on the local system to be updated.
2. The system must be running a supported operating system.
3. The target system must be reachable on port 5989 through CIM-HTTP.

4. For updates from an FTP server, the server must be properly configured.
5. Before running UXSPI to update VMWare ESXi 4.1u2 and ESXi 5.0, the following conditions must be met:
 - After the initial power-on or subsequent reboot of VMware ESXi 4.1u2, you must allow IBM CIM providers to complete the initialization and loading process before continuing. This process can take up to 15 minutes.
 - SSH into the ESXi system.
 - Issue this command: `esxcli network firewall set -d true`

Scenario tasks

1. From the command line, use the UXSPI command to update the firmware on the target system using the update option. To update from a local repository:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe update -l local_repository_path -L  
--vmware-esxi=https://userID:password@vmware_esxi_system_IPaddress:port
```

To update from an FTP server:

```
ibm_utl_uxspi_9.20_winsrvr_32-64.exe update  
--vmware-esxi=https://userID:password@vmware_esxi_system_IPaddress:port  
--esxi_updatefile=ftp://userid:password@ftp_server_IPaddress/path
```

For more information on these options, see “Command-line interface” on page 18.

2. The UpdateXpress System Pack Installer compares the firmware inventory of the target system to the updates available in the repository or on the FTP server, and applies the recommended updates.

Chapter 7. Troubleshooting

Use this section to troubleshoot and resolve problems with UpdateXpress System Pack Installer.

Limitations and problems

The following limitations are applicable to IBM UpdateXpress System Pack Installer.

AMD Driver Pack current version is always undetectable

UpdateXpress System Pack Installer does not detect the current version of the AMD Driver Pack. The resulting behavior is that the AMD Driver Pack update package is recommended for deployment on every execution of the UpdateXpress System Pack Installer, regardless of the current version.

Intel Driver Pack current version is always undetectable

UpdateXpress System Pack Installer does not detect the current version of the Intel Driver Pack. The resulting behavior is that the Intel Driver Pack update package is recommended for deployment on every execution of the UpdateXpress System Pack Installer, regardless of the current version.

UpdateXpress System Pack Installer does not support onboard Intel NIC adapter firmware updates

This limitation applies to some models of the System x3250 M3 and iDataPlex dx360 M3, Intel PCIe adapters 49Y4230 and 49Y4240, and the Intel 10Gb, dual port Ethernet Expansion Card CFFh for IBM BladeCenter, model 42C1810.

UpdateXpress System Pack Installer always installs the LSI driver

If the hardware for a driver component is not present in the system or is disabled, the installer will not install the driver. The one exception is for the Windows LSI driver. This driver is always installed. You cannot physically remove the LSI chip because it is a standard component on the planar of the system. However, you can disable it. Thus, even in instances when it is disabled, the UpdateXpress System Pack Installer installs the LSI driver.

Broadcom NetXtreme firmware update requires version 3.58b or greater of the tg3 driver

The Broadcom NetXtreme firmware update requires version 3.58b or greater of the tg3 driver to support the firmware update process. Version 3.58b or greater of the driver must be loaded and currently running before the firmware update will apply successfully.

Linux device driver updates require specific packages

The Linux device driver update packs require the following packages to be installed:

- rpm-build, perl, and bash for Redhat Enterprise Linux.
- perl and bash for SuSE Enterprise Linux.

ServeRAID 8i, 8k/8k-l, 8s, 8e and 7t Firmware is only detected on Windows when the Filter driver is active

Detection of ServeRAID 8i, 8k/8k-l, 8s, 8e and 7t Firmware versions requires a filter driver. This filter driver is installed as part of the ServeRAID Manager. It is also installed whenever the ServeRAID firmware

update packages from the UpdateXpress System Packs are installed. The ServeRAID firmware update packages return an error code when executed without the filter driver installed. The Windows system requires a reboot before this driver becomes active. Re run the ServeRAID firmware update to complete the update.

7e SATA/SCSI HostRAID and 8e SAS/SATA HostRAID controllers are not supported on Windows 2008

7e SATA/SCSI and 8e SAS/SATA HostRAID controllers are not supported on Windows Server 2008 (32bit / 64 bit). In addition, when running UXSPI on Server 2008 R2 to compare or update displays a dialog box stating "Integrated RAID On Chip (IROC) Library has stopped working". You must press "Close the Program" twice for the UXSPI to continue.

Firmware `ibm_fw_hdd_sas-1.10.01_linux_32-64` displays different versions

The SAS/SATA Hard Disk Drive (HDD) Update Program incorrectly reports different versions of the installed version and update version of the firmware. The following results are displayed in the comparison:

- Update: SG9XCS2D200GEIBM (/dev/sg1)
- New Version: SA03SE6A
- Installed Version : SE6C

Baseboard Management Controller (BMC) and CPLD firmware updates require IPMI drivers

BMC and CPLD firmware updates require installed and running IPMI drivers. If the IPMI drivers are not running, the BMC and CPLD firmware version cannot be detected and the online updates will not install.

Detection of Integrated Management Module (IMM) firmware version requires IPMI drivers

IPMI drivers are required to detect the installed version of the IMM firmware. If the IPMI drivers are not running, the IMM firmware version cannot be detected. Installation of the IMM firmware update, however, is not dependent on the IPMI driver.

Gathering inventory may take 15 to 20 minutes when Linux Remote Supervisor Adapter II (RSA II) daemon is installed without Linux RSA II card installed

On Linux systems, the gathering inventory phase of the install can take as long as 18-20 minutes when the system has the RSA II daemon installed without having the RSA II card installed. The updates you select are still applied after the delay in the gathering inventory phase.

On Windows, only active and loaded drivers associated with a device are detected

For Windows systems, the UXSP Installer only detects the presence and version information for drivers that are active and loaded. A driver for a device may have been installed, but it will not be detected until the operating system associates the driver with its matching device. Drivers that are not associated with a matching device are not detected.

Different 'New Version' displayed before and after update

The 'New Version' displayed before and after update may differ if the update is undetectable before updating. If the update is currently uninstalled or undetected, this field displays the version of the overall update package. If the update is detected, this field displays the individual update contained within the update package. The version of the overall update package may be different than the version of the individual update file.

Offline updates are not deployed

Offline updates are not compared or deployed by UpdateXpress System Pack Installer. Offline updates are legacy firmware updates that cannot be directly applied from the OS.

x460 / MXE-460 / x3950 is only supported in single node

Multi node support is not available for the x460 / MXE-460 / x3950. If you want to update an x460 / MXE-460 / x3950 multi node, you must break apart the nodes and update as single nodes.

Only BIOS versions of QLogic FC firmware are detected

The QLogic Fibre Channel firmware update updates both QLogic FC BIOS and firmware. However, the firmware versions of QLogic Fibre Channel firmware updates are not reported. Only the BIOS versions of the QLogic FC firmware are detected. Comparing the update BIOS version to the installed BIOS version is sufficient to determine if the QLogic firmware is backlevel.

Only Firmware versions of LSI 1064, 1068 and 1078 firmware updates are detected

The LSI 1064, 1068 and 1078 firmware update updates both LSI BIOS and firmware. However, the BIOS versions of LSI firmware updates are not reported. Only the firmware versions of the LSI firmware are detected.

For example, instead of displaying:

```
Update           : SAS1064 Firmware
New Version      : 1.23.81.00
Installed Version : 1.23.81.00
```

```
Update           : SAS1064 Bios
New Version      : 6.18.01.00
Installed Version : 6.18.01.00
```

Only the firmware version is displayed:

```
Update           : SAS1064 Firmware
New Version      : 1.23.81.00
Installed Version : 1.23.81.00
```

UpdateXpress System Pack Installer does not support AMM firmware update in some cases

UpdateXpress System Pack Installer does not support the update of AMM firmware if the AMM firmware package build id is later than BPET54V and the installed AMM firmware build id is earlier than BPET62G.

Unable to read inserted CD-ROM while updates are being applied on Windows

When applying updates on a Windows system using the UXSP Installer, a CD-ROM that is inserted into the CD-ROM drive cannot be read until all updates have completed. An existing CD-ROM that is in the drive can be read provided it is inserted before the updates start.

Emulex firmware update requires either the Corekit or the HBA Anywhere application

Detection of Emulex firmware update and deployment of Emulex firmware update require either the Emulex CoreKit or the HBA Anywhere application to be already installed.

Emulex firmware version not detected on Windows when using Emulex Corekit

UpdateXpress System Pack Installer cannot detect the Emulex firmware version installed on Windows when the Emulex Corekit is used to install the device driver and utility. For firmware detection to work correctly, you have to install Emulex HBAware application utility.

On LS21/LS41, the LSI 1064 onboard cannot be distinguished from expansion card

On the LS21/LS41, the LSI 1064 onboard cannot be distinguished from the LSI 1064 expansion adapter. This means that when running in compare or update mode each installed LSI 1064 adapter is displayed under each LSI 1064 update that is present. The version comparison is performed and depending on the versioning, the update may be incorrectly determined to be backlevel and may be selected. The updates themselves can distinguish between the adapters and will flash the correct firmware on each adapter.

Acquisition of Windows updates does not distinguish between the different versions of Windows

Windows 2000, Windows 2003 and Windows 2008 updates are organized in a single Windows UXSP. Similarly the tool acquires all Windows updates (either UXSP or latest individual) for a given system by selecting the OS of Windows. This means that although Windows updates for a given system can be acquired, there may not be updates for the Windows version of interest. For example the acquired UXSP may support Windows 2000 and Windows 2003, but not support Windows 2008. You may wish to use this UXSP to update on Windows 2008. In that case you will get an error code of 33, "Cannot find UpdateXpress System Pack XML file for this Machine Type and Operating System."

There is no built-in timeout for completion of updates

UpdateXpress System Pack Installer does not require that updates complete within a certain time period. If an update does not end UpdateXpress System Pack Installer will run indefinitely.

The LSI HBA expansion card is undetectable on HS20 (8843) and LS20 blade servers

The LSI HBA expansion card (LSI 1064) is undetectable on HS20 (8843) and LS20 blade servers. The LSI HBA expansion card update can still be applied even if the installed version is not detected.

The version number is not reported for the RSA 2 firmware

Only the build ID of RSA 2 firmware is reported. The version number is not reported. For example:

```
[ ] IBM System x3350 Remote Supervisor Adapter II Update
Severity           : Initial Release
Reboot             : Reboot Required to take effect
Update ID          : ibm_fw_rsa2_k3ep05a_linux_i386
New Version        : 1.00 (K3EP05A)
Installed Version  : (K3EP05A)
```

The version number is not always reported for Diagnostics

The build number of the Diagnostics is always reported; the version number is not always reported.

The build number of the BMC and IMM are not always reported

The version number of the Baseboard Management Controller (BMC) or Integrated Management Module (IMM) is always reported; the build number is not always reported.

8e SATA Controller will not be detected in Windows 2008 environment.

Don't try to run the update for this adapter because it will fail. This is a limitation with the Adaptec HRCCONF tool.

Second OS image not always updated when using an ICPM card.

If the tftp server is set up on the AMM that the ICPM card is plugged into, UpdateXpress System Pack Installer updates the boot image and only one OS image. You see the error, "Could not find update file" when the product

tries to update the second OS image. The AMM version must be at least BPET42D to properly configure the ICPM card.

UXSPI only supports updating two files for legacy Management Modules.

Cobia card on Windows 64-bit will require a 64-bit native build Broadcom CIM provider.

Device driver update returns code 1603

This indicates a general device driver update problem, such as the current device driver is a higher level than the one available in the update, or the hardware is not present. No further action is required.

Firmware update from bootable media is not supported for System x3450

For the System x3450, firmware must be updated from within an installed operating system.

Using Windows Server 2003 with IPv6 requires site-local addresses to provide the file-sharing capabilities required by UXSPI

Therefore link-local and global IPv6 addresses are not supported as remote targets.

Additional considerations when using VMWare ESX remote functions

To use the remote functions of VMWare ESX, you must make the following changes:

Enable SSH access for the root user

By default, SSH access is blocked for the root user. To enable it, edit the file `/etc/ssh/sshd_config` to change the value of `PermitRootLogin` to **Yes**.

Open firewall ports on the ESX host to allow access for a service or management agent

By default, the ESX host blocks firewall ports used by the service and management agents. You must open these ports to allow the agent to access the server. To allow access:

1. Log on to the VI client and select the server from the inventory panel.
2. Click the **Configuration** tab and select **Security Profile**.
3. Select the SSH Client and SSH Server check box and click **OK**.

Libusb_support must be enabled to allow update of the RSA2 driver on VMWare 4.0

You must enable this support manually prior to running the update. To enable support, run the command `esxcfg-module -s libusb_support=1 usb.0` and then restart the machine for the change to take effect.

Configure the firewall to allow uEFI/DSA/IMM updates on uEFI/IMM systems

To perform these updates, you must configure the firewall to ensure that the flash utilities can connect to the IMM.

On VMware 3.5 systems:

1. `esxcfg-firewall --allowIncoming`
2. `esxcfg-firewall --allowOutgoing`
3. `ifconfig cdceth0 169.254.x.x`
4. `route del -net 169.254.0.0 netmask 255.255.0.0 10`
5. Then ping 169.254.95.118 to ensure that you can connect to the IMM using the Ethernet over USB interface.

For VMware 4.0 systems:

1. esxcfg-firewall --allowIncoming
2. esxcfg-firewall --allowOutgoing
3. esxcfg-vswitch -l
4. esxcfg-vswitch -L vusb0 vSwitch0
5. ifconfig vswif0 169.254.xxx.xxx netmask 255.255.0.0
6. Then ping 169.254.95.118 to ensure that you can connect to the IMM using the Ethernet over USB interface.

LSI BUS messages appear during inventory gathering

An LSI provider used by the UpdateXpress System Pack Installer to gather LSI adapter data during inventory collection prints many lines of LSI BUS messages to the screen. These messages can be ignored.

The Intel-based Gigabit Ethernet Drivers for Windows v14.0 does not support Windows Server 2008 R2

The Intel-based Gigabit Ethernet Drivers for Windows (intc_dd_nic_14.0_windows_32-64.exe) does not support Windows Server 2008 R2. If you attempt to run this driver, you get an error stating that the install did not succeed. The driver updates that are in v14.0 are already bundled with Windows Server 2008 R2 so it is not necessary to run this update.

Attempting to backlevel Broadcom from 2.1.1a shows undetected

Broadcom packages 2.1.0c and earlier cannot determine version data if 2.1.1a has already been applied. However the 2.1.0c packages can still be applied and version detection is corrected.

UXSPI Acquisition function requires access through firewall

To acquire support files from the IBM website, UXSPI requires access through the local firewall. You must open HTTP port 80 and HTTPS port 443 in order to use the acquisition function.

ServeRAID B5015 controller not detected on System x3850 X5 with SLES 11 SP1

The UpdateXpress System Pack Installer cannot detect the ServeRAID B5015 controller on System x3850 X5 servers running SLES 11 Service Pack 1.

ServeRAID B5015 firmware version not detected on RHEL 5 U5, RHEL 6

The UpdateXpress System Pack Installer cannot detect the firmware version of the ServeRAID B5015 when running on RHEL 5 U5 or RHEL 6.

Broadcom adapters are not supported with VMware ESX 4.0, 4.1

The UpdateXpress System Pack Installer cannot detect the firmware of Broadcom adapters in VMware ESX 4.0 or 4.1 environments.

Brocade firmware version cannot be detected on RHEL 6.2, RHEL 5.8, SLES 11.2, and ESX 4.1

The Brocade firmware version displays as undetectable from the UpdateXpress System Pack Installer in RHEL 6.2, RHEL 5.8, SLES 11.2, and ESX 4.1. This is a limitation of the Brocade CIM provider version 3.0.1.0. There is no known workaround.

UXSPI requires up to 2 GB of free memory to guarantee firmware update

If the operating system is booted from USB or CD/DVD, UXSPI requires up to 2 GB of free memory to guarantee an update of the firmware. The operating system itself uses memory space, requiring that the memory size should be 4 GB or more.

USB key can be lost during update of IMM firmware via USB key

When updating the Integrated Management Module (IMM) firmware using

a USB key, updating the firmware causes the IMM to unmount the USB key, making it unavailable for any remaining updates.

To avoid this problem when updating IMM firmware from a USB key, perform the firmware update as a separate update, or perform any other updates prior to updating the IMM firmware.

UXSPI hangs when attempting to perform updates on System x3950 X5 type

7146 The System x3950 X5 might hang after you select **Updates** from the TUI or GUI menus, returning an unrecognizable error. This can be caused by the failure of one or more of the solid-state drives installed in the device.

If you encounter this error, perform diagnostics on the solid-state drives and replace any failed ones.

Emulex 10Gb Fibre Channel adapter is not supported.

The Emulex 10Gb Fibre Channel adapter is not supported by UXSPI.

libstdc++.so.6 is required for UXSPI updates

The module libstdc++.so.6, which is installed by default by VMware 3.5 and other operating systems, is required by UXSPI. If this module was not installed when the operating system was installed, or was subsequently uninstalled, you receive the following error: Error while loading shared libraries: libstdc++.so.6: cannot open shared object file: No such file or directory, and updates will fail.

If you encounter this error, ensure that libstdc++.so.6 is installed on the target system and try running updates again.

Some systems cannot recognize some USB keys

Some IBM systems do not recognize SanDisk SDCZ36 4 and 8 Gb USB keys. If you experience difficulty using one of these keys, try a different type of USB key or create your bootable media using a CD or DVD.

Firefox displays warning for unresponsive script when performing remote updates

When using remote access through the Advanced Management Module (AMM) to perform updates remotely using the UXSPI GUI, Firefox may display a warning indicating that a script on the page is busy or may have stopped responding, and give you the option to stop the script or to continue. This behavior is caused by network latency through the AMM. Select **Continue** and allow the script to continue running. The update will complete normally.

Updates fail to complete when "New Hardware Found" pop-ups displayed

Before deploying updates, you should close any pop-up or dialog boxes opened by the operating system. In particular, you must close any "New Hardware Found" pop-ups displayed by Windows. Until these are closed, Windows will not allow the new hardware to be updated, causing UXSPI to hang.

Brocade 10Gb Dual port combined network adapter driver mismatch

When using UXSPI to update systems with the Brocade installed, you might receive a message warning that the BCU and driver versions do not match. This is a known issue and can be safely ignored. UpdateXpress Service Pack Installer (UXSPi) cannot detect the Brocade firmware version if the Brocade driver version is not equal to the provider version used by UXSPi. If you are using UXSPi 4.40, install Brocade driver 2.3.0.0. If you are using UXSPi 5.00, install Brocade driver 3.0.0.0.

Unnecessary SEPs included in download for System x3850 X5 machine type 7145

When downloading System Enablement Packs (SEPs) for the System x3850 X5, type 7145, UXSPI does not filter versions of the SEP designed to work with previous versions of UXSPI, which causes them to be downloaded along with the current version. These SEPs will not be used and can be safely ignored.

64-bit Linux requires compat-libstdc++

To run 32-bit binaries and utilities, including UXSPI, 64-bit Linux operating systems require the compatibility library `compat-libstdc++`. You can use the following command to determine whether this library is installed:

```
rpm -qa | grep compat-libstdc++-296
```

Updating Mellanox may require you to manually uninstall rpm

If a Mellanox update fails, manually remove the rpm files from the Mellanox update log. The `mellanox` log path and file name can be found in the `uxspi` log.

Log files cannot be saved to a USB key in a remote console

When performing updates to a target system from a remote console, UXSPI is unable to save the resulting log files to a USB key connected to the remote console.

MPT2SAS firmware update causes UXSPI exit on Linux

When using the UpdateXpress System Pack Installer (UXSPi) command-line interface (CLI) to update the IBM HBA/LSI on-board 6Gb firmware in Linux operating systems, UXSPi will exit without an "Installation Successful" message after performing this update. The SAS firmware is installed correctly but the updates (firmware and drivers for other devices in the system) after it are not executed. This issue does not affect the UXSPi Graphical User Interface (GUI) or the individual update for the IBM HBA/LSI on-board 6 Gb adapter.

UXSPI cannot inventory the backup firmware versions for IMM and uEFI

UXSPI is unable to detect the firmware versions in the backup banks for IMM and uEFI. UXSPI always reports the firmware version for the primary banks of these devices.

UXSPI cannot determine the machine type when multiple Samba shares are mounted on SLES 11.1 x86

When a system running SLES 11.1 x86 has multiple Samba shares mounted, UXSPI is unable to determine the machine type of the system.

Windows 2003 File and print sharing not supported over IPv6

UXSPI does not support the use of Windows 2003 File and print sharing when using IPv6 addressing.

RSA II version is not detected when running UXSPI from bootable media

When running from media created by the Bootable Media Creator, UXSPI is unable to detect the RSA II version on the target system.

UXSPI cannot detect the firmware version of LSI2004 on VMWare ESXi

UXSPI cannot detect IBM Flex System x240 Compute Node on-board LSI2004 on VMWare ESXi 5.0 Update 1 and VMWare ESXi 4.1 Update 2.

IBM CIM providers must complete initialization on initial boot of VMware ESXi

Before running UXSPI to update VMWare ESXi 4.1u2 and ESXi 5.0, the following conditions must be met:

- After the initial power-on or subsequent reboot of VMware ESXi 4.1u2, you must allow IBM CIM providers to complete the initialization and loading process before continuing. This process can take up to 15 minutes.
- Verify the `/etc/cim/ibm/imm_fw_schema` file is present:
 1. SSH into the ESXi system.
 2. Verify the `/etc/cim/ibm/imm_fw_schema` file is present.
 3. Open the file and check the following lines are contained in the file:
 - `SCHEMA_STATE=check`
 - `FW_VERSION=<IMM_Version>`

UXSPI sometimes hangs when flashing UEFI, IMM, and DSA on VMWare ESXi

UXSPI hangs when updating uEFI/IMM/DSA/FPGA on VMWare ESXi. This may happen two or three times out of 100.

Brocade driver 3.0 or higher required to detect Brocade firmware version

In order to detect the firmware version of installed Brocade cards, you must upgrade your Brocade driver to 3.0 or higher.

UXSPI continues to run remotely when interrupted locally

When UXSPI is run on a remote system, it is launched in a separate process from the one on the local machine. When CTRL+C is used to interrupt the local process, the remote process continues to run. This can result in incomplete updates and instability on the remote system. If you must interrupt the local process, log on to the remote system and manually stop the UXSPI process there as well.

Power saving function not supported for ESXi updates

The Power Saving function is not supported for VMware ESXi updates.

UXSPI runs slowly on multi-node Windows systems

When initially running UXSPI on a multi-node system running Windows 2011, it can take up to 15 minutes for UXSPI to start. This does not impact the update function.

Broadcom 10Gb Base T dual port NIC not supported with RHEL 5

The Broadcom 10Gb Base T dual port NIC is not supported when using UXSPI with RHEL 5.

Abnormal GUI when saving logs in a bootable environment

When saving log files in a bootable environment, the layout of buttons in the GUI might not be consistent. The layout of buttons can change from instance to instance, even when using the same environment.

Format mismatch for some LSI and ServeRAID adapters

When comparing the installed version of firmware for some LSI and ServeRAID adapters using UXSPI, the installed version of firmware might be displayed in a different format than the version displayed by the System Update Package XML file. For example, the installed version might be displayed as:

```
07.19.00.00_07.18.01.05
```

while the version in the System Update Package is displayed as:

```
07.19.00.00
```

This is a difference in display only and does not affect the compare function.

Duplicate IP addresses when updating IMM, uEFI, and DSA

When using UXPSI to update IMM, uEFI, and DSA, you might encounter IP address duplication. This is because some NICs use IP addresses 169.254.95.118 or 169.254.95.120. These IP addresses are reserved for IMM LAN-over-USB.

UXSPI fails to update Emulex 8Gb FC Single-port HBA on vSphere 5.0 U1

UXSPI fails to update Emulex 8Gb FC Single-port HBA on vSphere 5.0 Update 1 when it's with Emulex 4Gb FC Dual-port PCI-e HBA in the same system.

UXSPI fails to update IBM Flex System CN4054 10Gb Virtual Fabric Adapter on vSphere 5.0 U1 in vNIC mode

UXSPI fails to update IBM Flex System CN4054 10Gb Virtual Fabric Adapter on vSphere 5.0 u1 when one or both of ASICs is set to vNIC mode. You can set both of them in pNIC mode if you need to update the firmware on vSphere 5.0 u1.

Broadcom firmware update on ESXi is only supported on vSphere 5.0 u1 with patch

UXSPI doesn't support Broadcom firmware update on vSphere 5.0 u1. It works only when the customized patch is installed. However UXSPI fails to update firmware for Broadcom 10 Gb Gen2 2-port Ethernet Expansion Card (CFFh) and Broadcom 10 Gb Gen2 4-port Ethernet Expansion Card (CFFh) on vSphere 5.0 u1 with patch.

UXSPI fails to update LSI2004 and LSI IR Controller on vSphere 5.0 u1

UXSPI fails to update the firmware of LSI2004 RAID Integrated Controller and LSI IR controller on vSphere 5.0 u1 with patch.

RETAIN tips

The following tips in IBM's Remote Technical Assistance Information Network (RETAIN) apply to this release of UXSPI. Please visit the IBM support pages to view these tips:

- H202233 MPT2SAS FW UPDATE CAUSES UXSPI EXIT ON LINUX OSES
- H202234 7164: UXSPI LIST MULTIPLE UEFI UPDATES
- H202235 VMWARE ESXI 4.1: NO BROADCOM/LSI/EMULEX UPDATE SUPPORT
- H202237 SERVERAID B5015 SSD CONTROLLER FIRMWARE VERSION UNDETECTED
- H202238 7164: NO ESW UPDATE SUPPORT ON VMWARE ESXI4.1U1
- H202239 BROCADE OPTION DEVICE DRIVER UPDATE FAILS EVERY OTHER TIME
- H202240 MULTI UPDATE INSTANCE WILL CAUSE VMWARE ESXI UPDATE FAIL
- H202241 IMM UPDATE OPTION MISSED WHEN INSTALL UXSP
- H202242 ONLY DETECTED ONE INSTALLED LSI 1068E RAID CARD OF THE TWO
- H202243 GUI DOESN'T MATCH WITH CLI
- H203984 2583: UXSPI UNABLE TO DETECT HDD FW VERSION ON WIN 2008 & R2
- H204993: PYTHON SCRIPT HANGS CALLING UXSPI TO UPDATE UEFI TO 173V
- H205607: BROCADE ADAPTER SHOWS UNDETECTED IN THE VMWARE INVENTORY

Workarounds

The following known problems and workarounds are applicable to UpdateXpress System Pack Installer, v9.20.

The error message: Exiting from the current instance is displayed when only one instance of UXSPI is running.

UXSPI uses semaphores to prevent UXSP Installer from running multiple instances at the same time. When UXSP Installer exits ungracefully, the semaphore might not get released, preventing another instance of UXSP Installer from starting.

Workaround: Run UXSP Installer from command line with **-semdestroy** option. Then, run UXSP Installer as usual.

UXSPI does not support running multiple copies of itself

Because only one UXSPI tool should apply updates to a system at a time, UXSPI does not support running multiple UXSPI tools on a local system at once. You can, however, run the tools against multiple remote systems at once by using the **--remote** argument.

Workaround: To use the **--remote** argument, you must set the environment variable **UXSPI_MULTIPLE_INSTANCE** to **1** on the system running the tool. The following example demonstrates this argument for Windows for simultaneously running remote updates on servers 10.6.9.58 and 10.0 8.137:

```
SET UXSPI_MULTIPLE_INSTANCE=1
start cmd.exe /K uxspi500.exe up --remote=10.6.9.58
--remote-user=administrator --remote-password=passw0rd
start cmd.exe /K uxspi500.exe up --remote=10.0 8.137
--remote-user=administrator --remote-password=passw0rd
```

The following example demonstrates this argument for Linux for simultaneously running remote updates on servers 10.6.9.58 and 10.0 8.137:

```
export UXSPI_MULTIPLE_INSTANCE=1
uxspi500.rhel5 up --remote=10.6.9.58 --remote-user=root
--remote-password=passw0rd > log1.txt 2>err1.txt &
uxspi500.rhel5 up --remote=10.0 8.137 --remote-user=root
--remote-password=passw0rd > log2.txt 2>err2.txt &
```

Cancelling remote Update System Pack Installer instance might cancel other running Update System Pack Installers

A remote Update System Pack Installer, started using the **--remote** option or from a third party connection package such as Windows Remote Desktop Connection, cannot detect another Update System Pack Installer instance running on the same remote system. Running multiple instances on the same system is supported; however, clicking **Cancel** from the graphical user interface terminates all Update System Pack Installers instances running on the remote system.

Workaround: It is preferred that you do not run multiple instances of Update System Pack Installer on the same remote system. If you do, manually check if any other administrators are running Update System Pack Installer before clicking **Cancel**.

Acquisition of latest updates for a new machine type does not update UXSPI supported machine types list

The list of supported machine types in the UpdateXpress System Pack Installer GUI includes all machine types supported at the time UXSPI was

released. New machine types are added to the list when an UpdateXpress System Pack is released for the new machine type, or when the installer is updated. Acquiring updates for a new machine type does not update the supported machine types list in the GUI.

Workaround: Acquire the UpdateXpress System Pack for the new machine type, restart the GUI to update the supported machine types list, and then acquire the latest updates for the new machine type.

Unable to execute UpdateXpress System Pack Installer from USB key

Some Linux operating systems (for example, SLES 10) automatically mount USB devices with the **noexec** parameter. This parameter disallows any user to run a program directory from the mounted device.

Workaround: To run a file from a USB device in this configuration, either copy the entire UXSP to your hard disk drive, and execute from that location, or remount the USB device with the **exec** parameter. You can accomplish the second option by first unmounting the USB device by issuing: `umount /mnt/usbkey` as root (assuming /mnt/usbkey is the mount point of your USB device). You can then remount the device by specifying the **mount** command with the **exec** parameter. For example: `mount /dev/sdb1 /mnt/usbkey -o exec`.

Linux drivers are not active immediately

The Linux device drivers require activation. The UpdateXpress System Pack Installer loads the new driver into the file system, but the operating system does not use the new driver until it is loaded.

Workaround: To modify this behavior, remove the existing driver with the **rmmod** command and load the new driver with the **modprobe** command. Alternatively, the new driver can become active upon reboot of the system.

Linux LSI Logic SCSI 1020/1030/1064/1068 Controllers are not detected after install

The Linux device drivers require activation. The UpdateXpress System Pack Installer loads the new driver into the file system, but the operating system does not use the new driver until it is loaded.

Workaround: The **mptctl** driver must be loaded. Run the **lsmod** command to verify that **mptctl** is loaded. If it is not loaded, run the following command to load the driver: **modprobe mptctl**.

Linux version of UpdateXpress System Pack Installer requires compatibility libraries

The 64-bit UXSP Installer requires the compatibility libraries. However, the compatibility libraries are not installed by default in RHEL4. Thus, when you execute the installer, it returns an error that says there is a missing library file.

Workaround: Ensure you install the legacy software development packages.

The path passed to the local path argument (-l or --local) must not exceed 234 characters

The local path argument cannot exceed 234 characters

Workaround: Copy the UpdateXpress System Pack to a directory that is less than 234 characters.

Firmware updates for Broadcom network card on Linux or CD/DVD and USB-Key bootable-media are not applied when the network card is not up and active On Linux, a Broadcom network interface controller must be up and active for firmware updates to be applied. Also, on Linux and when updating from the bootable-media each network Port must be connected to a switch or router.

Workaround: Ensure the network interface controller that you are updating is up and active for each port and connected to a switch or router.

UXSP Installer does not always start on Linux systems

In rare cases the UXSP installer may fail to successfully start on Linux. In those cases the following error message is sent to stderr:

```
-----  
WARNING! This package doesn't appear to match your system.  
It is likely that it will not properly execute.  
The following information was determined for your system:
```

```
distribution = Red Hat  
release = 4  
processor architecture = Intel 64-bit"  
-----
```

Distribution, release and processor architecture will vary to match the Linux system. The installer will return an error code of 1.

Workaround: Restart the Installer. It will succeed the next time.

USB key fails on RHEL5

When a USB key is inserted on RHEL5, by default it is mounted as **noexec**. This means no application can run, including the UpdateXpress System Pack Installer.

Workaround: Override the default **noexec** mount option. For example, mount a USB key device of /dev/sdc1 as /media/disk. To do so, perform the following steps:

```
umount /dev/sdc1  
mkdir /media/disk  
mount -o exec /dev/sdc1 /media/disk
```

User Account Control (UAC) on Windows Vista and Windows Server 2008 prevents the installer from running without popup

The UAC is a security control that normally prompts you before running application at a privileged level on Windows Vista and Windows Server 2008.

Workaround: To disable this feature for the UpdateXpress System Pack Installer, launch the **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** command prompt with elevated privileges.

1. Right-click **ibm_utl_uxspi_9.20_winsrvr_32-64.exe** and select **Run as Administrator**.
2. Click **Yes** at the UAC prompt command window.

UpdateXpress System Pack Installer is launched with a full administrator security token.

Broadcom firmware is not detected or updated from CD/DVD bootable-media on x3550 system

On x3550 system, the CD/DVD bootable-media may not detect the Broadcom firmware version or successfully apply the firmware update.

Workaround: Use USB key instead of CD/DVD bootable-media or ensure the Baseboard Management Controller (BMC) is updated to version 1.27 build level GFBT43A or later and reboot the system.

Unable to boot from USB Key bootable-media on systems with onboard SATA drives Systems that only support onboard SATA drives, systems such as x336 and x306m systems, fail to boot the USB Key bootable-media. Systems using ServeRAID adapters, or with LSI onboard 1064 or higher, do not experience this problem.

Workaround: Create a CD bootable-media and apply the firmware updates from CD-ROM instead of the USB key.

Bootling from USB Key bootable-media on a x3755 may display video error messages

When booting from USB Key bootable-media on a x3755, you may see video error messages about the video resolution. The error is displayed for 30 seconds unless you press the Enter key.

Workaround: Ignore this error message.

Bootable media might not display all updates in the list view

The Bootable media Text User Interface (TUI) might not display all the updates in the list view when the total number of updates in the list view exceeds the size of the display screen. This is particularly true for the System x3755, which displays a small screen size in the Bootable media text user interface mode.

Workaround: Toggle to see the full update detail list using the **Full View** selection.

Additional requirements for Windows 2003 remote server updates in IPv6 networks

To perform remote server updates of a Windows 2003 server in an IPv6 network, you must perform the following steps:

1. Set up the IPv6 network on the target server. Refer to Microsoft Step-by-Step guide at: <http://www.microsoft.com/downloads/details.aspx?FamilyID=fd7e1354-3a3b-43fd-955f-11edd39551d7&displaylang=en>
2. Enable file sharing connections over the IPv6 on the target server. To do this, add a key named `DisableStrictNameChecking` to the registry: `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\LanmanServer\Parameters`, with type `REG_DWORD` and value=1.

DSA (diags) firmware is not always installed if the IMM is downlevel

Because the DSA firmware update is run before the IMM firmware update, if the IMM firmware is too downlevel, the DSA firmware update fails.

Workaround: Run the update twice. The first update will bring the IMM firmware to the current level, which allows the second update to update the DSA firmware. A reboot is not required between the updates.

Brocade Converged Network Adapter firmware/BIOS version detection requires device driver 3.0.0.0 or higher

UXSPI cannot detect the Brocade Converged Network Adapter firmware version if the device is using a driver prior to 3.0.0.0.

Workaround: Upgrade the Brocade Converged Network Adapter device driver to version 3.0.0.0 or higher.

Update of IBM HBA/LSI Onboard 6Gb firmware exits CLI

When using the UpdateXpress Service Pack Installer (UXSPI) Command Line Interface (CLI) to update the IBM HBA/LSI on-board 6Gb firmware in Linux distributions (e.g., RHEL5 and RHEL4), UXSPI will exit without an "Installation Successful" message after performing this update. The SAS firmware is installed correctly but the updates (firmware and drivers for other devices in the system) after it are not executed. This issue does not affect the UXSPI Graphical User Interface (GUI) or the individual update for the IBM HBA/LSI on-board 6 Gb adapter.

Full corequisite checking is not performed when using CLI

When specifying update packages from the command line, UXSPI does not perform full checking of corequisite packages. Specifically, while both pre- and co-requisites are checked for the current package, if a package that is a prerequisite of the current package also has a corequisite, this is not checked. In rare instances, this can cause the update to fail. This issue does not affect the UXSPI GUI.

Workaround: To avoid this issue, you must manually select any corequisite packages required by packages that are prerequisites of the one you are installing. Alternately, you can use the GUI.

RHEL 6 requires installation of SOAPpy

To function properly on RHEL 6, UXSPI requires that the full-featured SOAP library for Python (SOAPpy) be installed manually after operating system installation.

To install this library and all prerequisites manually, follow these steps:

1. Insert the RHEL 6 installation CD.
2. On the target system, select **Add/Remove Software**.
3. In the search box, enter `lib` and click on **Search** to bring up a list of available libraries.
4. Select the Full-Featured SOAP Library for Python (SOAPpy-0.11.6-11.el6) and accept all of the prerequisites.
5. Click **Apply** to install the files.

Running UXSPI remotely from a USB key via AMM can take an extremely long time to boot

When running UXSPI from a USB via an Advanced Management Module (AMM), boot times can be as long as 20-30 minutes. This is a limitation of this scenario.

Workaround: To avoid this problem, create a CD or DVD image of the boot media for use in remote scenarios requiring the AMM. Boot time using CD or DVD media is analogous to boot time when running locally on the target system.

Undetected failure when two clients update the same VMware ESXi target

When separate UXSPI clients attempt to remotely update the same VMware ESXi target system, both updates will fail, but no error is reported.

Workaround: Allow only one UXSPI client to perform a remote update to a VMware ESXi system at a time.

UpdateXpress System Pack Installer fails to update QLogic FC firmware on VMWare ESXi 5.0 U1

The update package of QLogic FC firmware returns an error when trying to flash it.

Workaround: You can choose to update QLogic FC firmware on an online OS, such as Windows or Linux, or by using BoMC.

UXSPI fails to update DSA package

UXSPI fails to update the DSA package when the **Diagnostics** option is set in the Boot Options menu in uEFI.

Workaround: Remove **Diagnostics** from the Boot Options menu and AC-Cycle the system before flashing DSA with UXSPI. Restarting the system does work. You must verify that **Diagnostics** is not in Boot Options before flashing DSA.

UXSPI fails to detect Emulex firmware version on Windows x64

An error message is displayed stating:

Unable to load 'RmApi.dll'. Either it or one of the libraries it needs could not be found. Check your installation. Re-installing the application may fix the problem. This application will exit now.

UXSPI uses the **HbaCmd.exe** command to get the Emulex firmware version if the Emulex OCManager is installed. UXSPI continues running if you click **OK** to close the error window. The firmware version of Emulex options will still be shown as undetected.

Workaround: Install Emulex OCManager and get Emulex firmware version using **hbacmd**:

- **hbacmd.exe listhbas**
- **hbacmd.exe hbaattrib <MAC>**

Return codes

UpdateXpress System Pack Installer has return codes that you can use to determine if any errors are received during the run of the program. The installer returns zero if the operation is successful and non-zero if there is an error. Reviewing the C:\IBM_Support\uxsp.log (Windows) and /var/log/IBM_Support/uxsp.log (Linux) log files to determine exactly what went wrong.

UpdateXpress System Pack Installer logs to the following two locations on every run of the program regardless of the command-line options used:

1. **Linux syslog** or **Microsoft Windows event log**, which contain only high-level, predefined strings. For example:

```
"[timestamp] - [update description] [update version] was
[successfully | unsuccessfully] applied <from UpdateXpress
System Pack [UpdateXpress System Pack name] [UpdateXpress
System Pack version]>"
```

2. The **Program trace log file in the IBM_Support directory**, which contains program information at a much higher level of detail than what goes in the syslog or event log. However, the same strings that get logged to the system log will get replicated here as well. This log file has the same level of detail regardless of the command-line option used. This log file is in text format.

UpdateXpress System Pack Installer return codes

UpdateXpress System Pack Installer issues these return codes to help you troubleshoot problems.

Table 11. UpdateXpress System Pack Installer return codes

Return code	Description
0	Success.
1	Generic Failure.
2	Unsupported Operating System.
10	Invalid Command Line.
20	Generic Inventory Failure.
30	Generic Query Failure.
31	No updates available for this Operating System.
32	No updates available for this Machine.
33	Could not find a UpdateXpress System Pack that matches this machine and operating system.
34	Could not read update package meta-data due to unrecoverable error or invalid UpdateXpress System Pack Installer XML file.
35	The UpdateXpress System Pack required installer version is greater than the current version of the UpdateXpress System Pack Installer.
40	Generic Comparison Failure.
59	Generic Update Failure on GUI or other scenarios where uxlite is required to create summary report xml files. One or more updates did not install during deployment.
60	Generic Update Failure. One or more updates did not install successfully during deployment.
61	Update Timeout. One of the updates timed out during deployment.
62	Unable to unzip the OS agnostic update package.
70	Unable to connect to the IBM update repository.
71	Unrecoverable error downloading one or more updates from IBM update repository.
72	Unable to write file.
73	Specified UpdateXpress System Pack directory does not exist.
74	Invalid machine-type specified, must be a 4 digit number.
75	Invalid OS specified.
76	No applicable update available for specified machine-type/OS.
77	Acquisition failed. Content not found in repository.
78	Cannot create directory.
79	Illegal combination of command line arguments.
80	Attempting to include and deploy an update that is superseded by another update.

Table 11. UpdateXpress System Pack Installer return codes (continued)

Return code	Description
100	Unable to authenticate with remote server.
101	Unable to copy files to remote server.
102	Unable to connect to the remote server.
103	Unable to collect remote information.
104	Unexpected failure executing UpdateXpress System Pack Installer on remote system.
105	Cannot find matching UpdateXpress System Pack Installer for remote system.
109	Bladecenter function: Command line parameters are invalid.
110	Bladecenter function: Unable to connect to Management Module, check Management Module 6090 port is open and network is enabled.
111	Bladecenter function: The login credentials for the Management Module are invalid. Verify username and/or password and/or IP address.
112	Bladecenter function: Management Module dot command error.
113	Bladecenter function: One or more files required to flash the Management Module were not found.
114	Bladecenter function: One or more files required to flash the Management Module were invalid.
115	Bladecenter function: The Management Module firmware update files are older than/or equal to the current firmware.
116	Bladecenter function: Management Module General update failure.
117	Bladecenter function: An invalid I/O module bay was specified.
118	Bladecenter function: Failed to connect to the I/O module.
119	Bladecenter function: The login credentials for the I/O are invalid. Verify username and/or password.
120	Bladecenter function: Unable to find the I/O firmware image.
121	Bladecenter function: The TFTP/FTP server was not found.
122	Bladecenter function: The login credentials for the FTP server are invalid. Verify username and/or password.
123	Bladecenter function: The I/O module firmware image is invalid.
124	Bladecenter function: I/O General update failure.
125	Bladecenter function: Response (.rsp) file was not found.
126	Bladecenter function: Invalid response (.rsp) file specified.
151	Unsupported ESXi host. Only IBM-customized ESXi is supported.

UpdateXpress System Pack Installer deployment return values

UpdateXpress System Pack Installer issues these deployment return values upon update deployment completion.

Table 12. UpdateXpress System Pack Installer deployment return values

Update return code	Displayed text	Description
0	Success	The update completed successfully.
3	Certified Linux driver is not updated	For Linux device drivers a message is also displayed explaining that the update could not be performed, because the system is currently running a certified driver provided by the Linux distribution. Instructions for overriding the certified Linux driver are also displayed. For Linux firmware and Windows, this is reported as "Install did not succeed".
171	Not applicable	This update is not applicable to the current system configuration. This usually is the case when the update package for a device driver determines that the hardware that the driver is applicable to is not present in the system.
172	Prerequisites not met	Update was unable to install because all the prerequisites were not met. The prerequisites may include not having the required software already installed, or the hardware is not configured correctly.
All other codes	Install did not succeed	The update did not install successfully. This could be the result of an error in the update package, or the update failing during installation. This message is sometimes displayed when all the prerequisites were not met.

Note: Update deployment return codes other than "Install did not succeed" are mapped to an UpdateXpress System Pack Installer return code of "0: Success". All other package return codes will cause the Installer to exit with return code of "60: Generic Update Failure. One or more updates did not install during deployment."

Chapter 8. Coexistence and compatibility

UpdateXpress System Pack Installer builds upon Dynamic System Analysis code, but has no interactions with other products on the system. If a version of Dynamic System Analysis is installed, UpdateXpress System Pack Installer coexists without interference.

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Glossary

This glossary includes terms and definitions for UpdateXpress System Pack Installer.

To view glossaries for other IBM products, go to the IBM Terminology website at www.ibm.com/ibm/terminology.

B

Baseboard Management Controller

A controller that monitors system platform management events such as fan failure and temperature or voltage increases, and logs their occurrence.

Basic Input/Output System (BIOS)

The code that controls basic hardware operations, such as interactions with diskette drives, hard disk drives, and the keyboard.

BIOS See **Basic Input/Output System**.

C

CLI See **Command-line interface**.

Command-line interface

A type of computer interface in which the input command is a string of text characters.

D

deployment

Install of update packages.

device driver

A program that provides an interface between a specific device and the application program that uses the device.

Dynamic System Analysis

An IBM systems management software product that collects and analyzes system information to aid in diagnosing system problems.

E

Ethernet

A packet-based networking technology for local area networks (LANs) that allows multiple access and handles contention by using Carrier Sense Multiple Access with Collision Detection (CSMA/CD) as the

access method. Ethernet is standardized in the IEEE 802.3 specification.

Extensible Markup Language (XML)

A standard metalanguage for defining markup languages that is based on Standard Generalized Markup Language (SGML).

F

firmware

Proprietary code that is usually delivered as microcode as part of an operating system. Firmware is more efficient than software loaded from an alterable medium and more adaptable to change than pure hardware circuitry. An example of firmware is the Basic Input/Output System (BIOS) in read-only memory (ROM) on a PC system board.

G

GUI See **Graphical user interface**.

Graphical user interface

A type of computer interface that presents a visual metaphor of a real-world scene, often of a desktop, by combining high-resolution graphics, pointing devices, menu bars and other menus, overlapping windows, icons and the object-action relationship.

I

inventory

To gather information about the system including installed hardware, device driver versions, and firmware levels.

Intelligent Peripheral Management Interface

A standard for controlling intelligent devices that monitor a system. It provides for dynamic discovery of sensors in the system and the ability to monitor the sensors and be informed when the sensor's values change or go outside certain boundaries.

IPMI See **Intelligent Peripheral Management Interface**.

O

online update

An update package that can be applied through the native operating system.

P

prerequisite (pre-req)

A package that must be installed before another package.

U

update

An UpdateXpress System Pack consisting of an executable file and an XML description.

UpdateXpress System Pack

Integration-tested bundle of online firmware and driver updates for each System x and BladeCenter blade server.

UpdateXpress System Pack Installer

A software application that applies UpdateXpress System Pack updates to your system.

X

XML See **Extensible Markup Language**.

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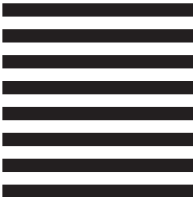
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