



# Lenovo UpdateXpress System Pack Installer User's Guide

*Version 10.1*





# Lenovo UpdateXpress System Pack Installer User's Guide

*Version 10.1*

**Note**

Before using this information and the product it supports, read the information in Notices.

This edition applies to version 10.1 of the Lenovo<sup>®</sup> UpdateXpress System Pack Installer and to all subsequent releases and modifications until otherwise indicated in new editions.

© Copyright Lenovo 2014, 2015.

Portions © Copyright IBM Corporation 2009, 2014.

LIMITED AND RESTRICTED RIGHTS NOTICE: If data or software is delivered pursuant a General Services Administration "GSA" contract, use, reproduction, or disclosure is subject to restrictions set forth in Contract No. GS-35F-05925.

---

# Contents

<b>Figures</b> . . . . .	<b>v</b>
--------------------------	----------

<b>Tables</b> . . . . .	<b>vii</b>
-------------------------	------------

<b>About this guide.</b> . . . . .	<b>ix</b>
------------------------------------	-----------

Who should read this guide . . . . .	ix
Conventions and terminology . . . . .	ix
Web resources. . . . .	ix

<b>New in this release.</b> . . . . .	<b>xi</b>
---------------------------------------	-----------

<b>Chapter 1. Technical overview of Lenovo UpdateXpress System Pack Installer</b> . . .	<b>1</b>
---	----------

<b>Chapter 2. Concepts</b> . . . . .	<b>3</b>
--------------------------------------	----------

UpdateXpress System Pack . . . . .	3
How UpdateXpress System Pack Installer applies updates . . . . .	3
Handling a UpdateXpress System Pack as a bundle . . . . .	4
Handling of update requisites . . . . .	4
OS independent updates . . . . .	6
Identifying update packages that cannot be applied . . . . .	6
Missing or incomplete inventory data . . . . .	6
Installing required drivers . . . . .	6

<b>Chapter 3. Requirements</b> . . . . .	<b>9</b>
--	----------

Supported hardware components . . . . .	9
Supported operating systems . . . . .	11
Windows . . . . .	11
Linux . . . . .	12
VMware . . . . .	13
Operating system privileges . . . . .	14

<b>Chapter 4. Using Lenovo UpdateXpress System Pack Installer</b> . . . . .	<b>15</b>
---	-----------

UpdateXpress System Pack Installer user interfaces . . . . .	15
Command-line interface . . . . .	16
Using the GUI . . . . .	23
Acquire updates. . . . .	23
Compare and update functions. . . . .	26

Using the command line interface . . . . .	26
Using the GUI . . . . .	32
Updating BladeCenter. . . . .	32
Acquiring MM and I/O modules . . . . .	32
Using the command line interface . . . . .	36

<b>Chapter 5. Lenovo UpdateXpress System Pack Installer scenarios.</b> . . . .	<b>41</b>
--	-----------

Updating a local machine from a website . . . . .	41
Updating a local machine from a local directory . . . . .	42
Creating a repository of updates . . . . .	42
Local deployment using CLI noninteractive mode . . . . .	44
Local deployment using CLI interactive mode. . . . .	45
Customizing UpdateXpress System Pack using CLI . . . . .	46
Updating from removable media (non-bootable) . . . . .	47
Updating the firmware for a BladeCenter RAID SAS switch module . . . . .	47
Acquiring the latest updates for a particular type of update . . . . .	50
Acquiring an update for an ESXi system. . . . .	50
Comparing firmware on an ESXi system. . . . .	51
Updating firmware on an ESXi system . . . . .	52
Updating third-party vendor tools. . . . .	53

<b>Chapter 6. Troubleshooting</b> . . . . .	<b>55</b>
---	-----------

Limitations and problems. . . . .	55
Workarounds. . . . .	66
Return codes . . . . .	73
UpdateXpress System Pack Installer return codes . . . . .	73
UpdateXpress System Pack Installer deployment return values . . . . .	75
UpdateXpress System Pack Installer xFW update return values . . . . .	76

<b>Chapter 7. Coexistence and compatibility</b> . . . . .	<b>77</b>
---	-----------

<b>Glossary</b> . . . . .	<b>79</b>
---------------------------	-----------

<b>Index</b> . . . . .	<b>81</b>
------------------------	-----------



---

## Figures

- |    |                               |    |    |                                      |    |
|----|-------------------------------|----|----|--------------------------------------|----|
| 1. | CLI - screen display. . . . . | 18 | 2. | CLI - interactive commands . . . . . | 20 |
|----|-------------------------------|----|----|--------------------------------------|----|





---

## Tables

1. Supported systems . . . . .	9	9. IBM Flex System switch names . . . . .	35
2. Systems not supported by UXSPI . . . . .	11	10. Installation packages for firmware updates	49
3. Supported Windows operating systems	12	11. UpdateXpress System Pack Installer return	
4. Supported Linux operating systems . . . . .	12	codes . . . . .	74
5. VMware support. . . . .	13	12. UpdateXpress System Pack Installer	
6. VMware ESXi Support (Lenovo customized		deployment return values. . . . .	75
image) . . . . .	14	13. UpdateXpress System Pack Installer xFW	
7. Data displayed on screen after CLI input	21	update return values for IMM v1 systems . . . . .	76
8. BladeCenter command switch names . . . . .	33		



---

## About this guide

Lenovo 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 a description of the:

- Physical components that comprise the software
- User interfaces

---

## 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.

---

## Conventions and terminology

Paragraphs that start with a Note, Important, or Attention in bold have specific meanings to highlight key information:

**Note:** These notices provide important tips, guidance, or advice.

**Important:** These notices provide information or advice that might help you avoid inconvenient or difficult situations.

**Attention:** These notices indicate possible damage to programs, devices, or data. An attention notice appears before the instruction or situation in which damage can occur.

In this book, when you are instructed to enter a command, type the command and press Enter.

---

## Web resources

The following websites provide resources for understanding, using, and troubleshooting BladeCenter®, System x® and systems-management tools.

### Websites

- Lenovo ToolsCenter for Lenovo x86 servers  
<http://www-947.ibm.com/support/entry/portal/docdisplay?lnvdocid=LNVO-CENTER>  
Use this website to download tools that support System x and BladeCenter products.
- UpdateXpress for Lenovo x86 servers  
<http://www-947.ibm.com/support/entry/portal/docdisplay?lnvdocid=LNVO-XPRESS>  
Use this website to download UpdateXpress System Pack Installer and the UpdateXpress System Pack libraries and tools.

These websites provide information about product compatibility and support, warranties and licenses, and various technical resources:

- BladeCenter Support and services  
<http://www-03.ibm.com/systems/bladecenter/support/>
- ServerProven®  
<http://www-03.ibm.com/servers/eserver/serverproven/compat/us/indexsp.html>
- System x support and services  
<http://www-03.ibm.com/systems/x/support/>

## Forums

Use these websites to learn about various forums that are available to discuss technology-related and product-related issues pertaining to System x and IBM BladeCenter® hardware and software products. These websites include links for obtaining the forums using Rich Site Summary (RSS) feeds.

- developerWorks Forums  
<https://www.ibm.com/developerworks/community/forums/html/forum?id=11111111-0000-0000-0000-000000002691#topicsPg=0>
- IBM® BladeCenter Forum  
<https://www.ibm.com/developerworks/community/forums/html/forum?id=11111111-0000-0000-0000-000000000819>

---

## New in this release

Lenovo UpdateXpress System Pack Installer, v10.1 provides a number of enhancements since the previous release, v10.0.

### Support for operating systems

The following operating systems are now supported by UpdateXpress System Pack Installer, v10.1

- ESXi 5.1u3
- Red Hat Enterprise Linux, version 7.1
- Red Hat Enterprise Linux, version 6.7
- SUSE Linux Enterprise Server 12 (x86/x64)
- SUSE Linux Enterprise Server 11.4 (x86/x64)
- VMWare vSphere 6.0

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, v10.1:

- IBM Flex System x240, 8956
- Lenovo Flex System x240, 7162, 2588
- Lenovo Flex System x280 X6/x480 X6/x880 X6 Compute Node, 4258, 7196
- Lenovo Flex System x440, 7167, 2590
- Lenovo System x3500 M5, 5464
- Lenovo System x3750 M4, 8753
- Lenovo System x3850 X6/x3690 X6, 6241

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

### Additional functions

None



---

## Chapter 1. Technical overview of Lenovo UpdateXpress System Pack Installer

Lenovo UpdateXpress System Pack Installer acquires and deploys UpdateXpress System Pack update packages and individual updates. UpdateXpress System Packs™ contain Windows and Linux firmware and device driver 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 the IBM support website.

### **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 update bladecenter function updates the BladeCenter Management Module, the I/O Modules, and the RAID Shared Storage Module (RSSM) infrastructure.





---

## Chapter 2. Concepts

This section discusses how to optimize the functionality of Lenovo UpdateXpress System Pack Installer.

---

### UpdateXpress System Pack

An UpdateXpress System Pack (UXSP) is an integration-tested bundle of online firmware and driver updates for System x and BladeCenter servers. UpdateXpress System Packs are generally released semiannually for the first three years and annually for the final three years of support.

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

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 could also be an update for Windows and for each Linux distribution.

#### UXSP format

A UpdateXpress System Pack is delivered as an XML file.

The naming convention for a UXSP has the following format:

`lnvg_y_utl_uxsp_version_operatingsystem_arch.xml`

Example: `lnvg_y_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 (UXSPI) from a command-line interface (CLI) or a graphical user interface (GUI), you need to follow the same step-by-step process:

1. Download UpdateXpress System Pack Installer from UpdateXpress for Lenovo x86 servers at <http://www-947.ibm.com/support/entry/portal/docdisplay?lnodocid=LNVO-XPRESS>.
2. Use the installer to acquire UpdateXpress System Pack for the desired machine type and operating system combination to a local or network-shared directory.
3. Run the installer.

**Note:** You can also download UpdateXpress system packages from the Fix Central for Lenovo Systems - product view page at <http://www-933.ibm.com/support/fixcentral/systemx/groupView?query.productGroup=Lenovo+x86+servers>.

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. Common files that are already present in the directory will not be downloaded again and the overall download time will be reduced.

When you run the installer, it detects the machine type and uses the correct content for that machine type. In some cases, there might be common files between system packs.

There are two methods for using UXSPI:

**The update command performs the following tasks:**

- Inventories the system on which the update will 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.

**The compare command performs the following tasks:**

- Inventories the system on which the update will be performed.
- Queries a specified location for a list of applicable update packages.
- Compares the inventory to the applicable update list.

After completing these tasks, UXSPI deploys the updates to the system. You can use UpdateXpress System Pack Installer to apply UpdateXpress System Pack updates to your system. For more information on compare and update, see “Compare and update functions” on page 26.

---

## Handling a 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 greater flexibility in choosing which updates to use.

---

## Handling of update requisites

To successfully apply updates, all prerequisites and corequisites for an update must also be acquired and applied. UpdateXpress System Pack Installer automatically checks for, acquires, and applies prerequisite 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, UpdateXpress System Pack Installer uses information included in the update file to identify requisite packages for your specified updates. UXSPI then applies these requisite packages to successfully complete your specified updates.

## Prerequisite files

The update packages provided by Lenovo include information about which prerequisite files must be applied before you can successfully apply the update. When you specify an update, UXSPI reads this information and locates the prerequisite packages.

By default, UpdateXpress System Pack Installer acquires these packages and evaluates them to determine whether the prerequisite conditions have been met, and if necessary, applies the prerequisite updates automatically before applying the specified update. You can choose not to acquire or apply these files. However, this could cause the update to not successfully complete, or to have all of the functions included in the update.

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, UpdateXpress System Pack Installer identifies, acquires, evaluates, and applies these packages as part of your update.

If corequisite packages have prerequisites 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, UpdateXpress System Pack Installer takes the following steps:

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

## Missing requisites

Occasionally, UpdateXpress System Pack Installer might be unable to resolve a requisite condition. This can occur when requisite lists conflict and cannot be resolved or this can be due to system firmware that does not support the requisite checking performed by 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_bwyt29a_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, select the update, and then apply it. If the requisite is not met, use UpdateXpress System Pack Installer to acquire and apply the requisite package, then attempt the update again.

---

## OS independent updates

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

---

## Identifying 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 Complex Programmable Logic Device (CPLD) firmware and other legacy Symantec packages. If UpdateXpress System Pack Installer encounters one of these updates, it displays a warning message **Warning: offline update *filename* detected, will not apply.** The 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 and instead displays the version of the update package, selecting the package as a recommended update. If an installed version is not detected, the update is not selected by default.

---

## Installing required drivers

UpdateXpress System Pack Installer installs required device drivers.

### About this task

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

- The current device driver is detected as an earlier version than the available driver in the UpdateXpress System Pack, or
- 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 an installed version is not 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 3. Requirements

Before you begin using Lenovo UpdateXpress System Pack Installer, review the hardware and operating system support and the local operating system privilege requirements. Systems running UpdateXpress System Pack Installer require 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 Installer readme file that is included with each system pack.

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

*Table 1. Supported systems*

Server	Machine type	UXSP support
IBM BladeCenter HS22	1911, 1936, 7870, 7809	Yes
IBM BladeCenter HS22V	1949, 7871	Yes
IBM BladeCenter HS23	1929, 7875	Yes
IBM BladeCenter HS23E	8038, 8039	Yes
IBM BladeCenter HX5	1909, 1910, 7872, 7873	Yes
IBM iDataPlex dx360 M2	6380, 7321, 7323	Yes
IBM iDataPlex dx360 M3	6391	Yes
IBM iDataPlex dx360 M4	7912, 7913	Yes
Lenovo Flex System x240	7162, 2588	Yes
IBM Flex System x220 Compute Node	2585, 7906, 8956	Yes
IBM Flex System x222 Compute Node	7916	Yes
IBM Flex System x240 Compute Node	7863, 8737, 8738	Yes
Lenovo Flex System x240 M5 Compute Node	2591, 9532	Yes
IBM Flex System x280 X6/x480 X6/x880 X6 Compute Node	4259, 7903	Yes
Lenovo Flex System x280 X6/x480 X6/x880 X6 Compute Node	4258, 7196	Yes
IBM Flex System x440 Compute Node	7917	Yes
Lenovo Flex System x440 Compute Node	7167, 2590	Yes
Lenovo NeXtScale <sup>®</sup> nx360 M5	5465	Yes
Lenovo NeXtScale nx360 M5 DWC	5467	Yes
IBM NeXtScale Smart Analytics System	7949	Yes
IBM System x3100 M4	2582	Yes

Table 1. Supported systems (continued)

Server	Machine type	UXSP support
IBM System x3100 M5	5457	Yes
IBM System x3200 M3	7327, 7328	Yes
IBM System x3250 M3	4251, 4252, 4261	Yes
IBM System x3250 M4	2583	Yes
IBM System x3250 M5	5458	Yes
IBM System x3300 M4	7382	Yes
IBM System x3400 M2	7836, 7837	Yes
IBM System x3400 M3	7378, 7379	Yes
IBM System x3500 M2	7839	Yes
IBM System x3500 M3	7380	Yes
IBM System x3500 M4	7383	Yes
Lenovo System x3500 M5	5464	Yes
IBM System x3530 M4	7160	Yes
IBM System x3550 M2	4198, 7946	Yes
IBM System x3550 M3	4254, 7944	Yes
IBM System x3550 M4	7914	Yes
Lenovo System x3550 M5	5463	Yes
IBM System x3620 M3	7376	Yes
IBM System x3630 M3	7377	Yes
IBM System x3630 M4	7158	Yes
IBM System x3650 M2	4199, 7947	Yes
IBM System x3650 M3	4255, 5454, 7945	Yes
IBM System x3650 M4	7915	Yes
IBM System x3650 M4 BD	5466	Yes
IBM System x3650 M4 HD	5460	Yes
Lenovo System x3650 M5	5462	Yes
IBM System x3690 X5	7147, 7148, 7149, 7192	Yes
IBM System x3750 M4	8722, 8733, 8718, 8752	Yes
Lenovo System x3750 M4	8753	Yes
IBM System x3755 M3	7164	Yes
IBM System x3850 X5/x3950 X5	7143, 7145, 7146, 7191	Yes
IBM System x3850 X6/x3960 X6	3837, 3839	Yes
Lenovo System x3850 X6/x3950 X6	6241	Yes
IBM System x iDataPlex Direct Water Cooled dx360 M4	7918, 7919	Yes

**Note:** The following systems support both single node and multi node:

- IBM BladeCenter HX5
- IBM BladeCenter 3850 X5
- IBM BladeCenter 3950 X5



- IBM Flex System x280 X6/x480 X6/x880 X6 Compute Node
- IBM System x3850 X6/x3960 X6
- Lenovo Flex System x3850 X6/x3950 X6, 6241
- Lenovo Flex System x280 X6/x480 X6/x880 X6 Compute Node, 4258, 7196

## Unsupported systems

The following systems are not supported by UpdateXpress System Pack Installer:

*Table 2. Systems not supported by UXSPI*

Server	Machine type
IBM BladeCenter HS20	1883, 7981, 8832, 8843
IBM BladeCenter HS40	8839
IBM eServer™ 326	8848
IBM eServer 326m	7969, 7992
IBM System x100	8486
IBM System x206	8482, 8487
IBM System x236	8841
IBM System x306	1878, 8836, 8489
IBM System x325	8671
IBM System x335	8676
IBM System x345	8670
IBM System x3200	4362, 4363
IBM System x3250	4364, 4365, 4366
IBM System x3350	4192, 4193
IBM System x3450	4197, 7948
IBM System x3950 E	7364, 7367, 8879

For details about how UpdateXpress System Pack Installer applies updates, see “How UpdateXpress System Pack Installer applies updates” on page 3.

## Supported operating systems

UpdateXpress System Pack Installer is supported on Linux and Windows operating systems and on specified versions of VMware ESX Server and ESXi. UpdateXpress System Pack Installer, v10.1 is supported by 32-bit and 64-bit operating systems.

To determine which operating systems your server supports, refer to the IBM Systems website at: <http://www-03.ibm.com/systems/infrastructure/us/en/>.

In v10.1 of the installer, the Windows executable is named:

lnvgv\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe

## Windows

UpdateXpress System Pack Installer is supported on the following Windows operating systems.

Table 3. Supported Windows operating systems

Operating system	Acquire Updates	Compare/Update
Microsoft Windows Server 2012	x	x
Microsoft Windows Server 2012 R2	x	x
Microsoft Windows Small Business Server 2011 <sup>3</sup>	x	x
Microsoft Windows Small Business Server 2011 Essential	x	x
Microsoft Windows HPC 2008 R2	x	x
Microsoft Hyper-V Server 2008		x
Microsoft Windows Server 2008	x	x
Microsoft Windows Server 2008 Core <sup>2</sup>		x
Microsoft Windows Server 2008 Core R2 <sup>1, 2</sup>		x
Microsoft Windows Server 2008 R2	x	x
Microsoft Windows Server 2008 R2 <sup>1</sup> , SP1	x	x
Microsoft Windows 7	x	
Microsoft Windows Vista	x	
Microsoft Windows XP Business Edition	x	

#### Windows OS support notes:

1. x64 support requires Microsoft Windows on Windows (WOW).
2. The GUI can only be used 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. For more information, refer to "Command-line interface" on page 16 for usage and details.
3. After installing and configuring Microsoft Windows Small Business Server 2011 the Administrator account is disabled by default. You must enable the Administrator account to use UpdateXpress System Pack Installer.

## Linux

UpdateXpress System Pack Installer is supported on the following versions of Linux operating systems.

Table 4. Supported Linux operating systems

Operating system	Executable file
Red Hat Enterprise Linux 7.0 AMD64/EM64T without XEN component (U1)	lnvgy_utl_uxspi_10.1_rhel7_32-64.bin
Red Hat Enterprise Linux 6.0 AMD64/EM64T without XEN component (up to U7)	lnvgy_utl_uxspi_10.1_rhel6_32-64.bin
Red Hat Enterprise Linux 6.0 x86 without XEN component (up to U7)	lnvgy_utl_uxspi_10.1_rhel6_32-64.bin
Red Hat Enterprise Linux 5.0 AMD64/EM64T with and without XEN component (up to U10)	lnvgy_utl_uxspi_10.1_rhel5_32-64.bin

Table 4. Supported Linux operating systems (continued)

Operating system	Executable file
Red Hat Enterprise Linux 5.0 x86 with and without XEN component (up to U10)	lnvgy_utl_uxspi_10.1_rhel5_32-64.bin
Red Hat Enterprise Linux 4.0 AMD64/EM64T (up to U9) <ul style="list-style-type: none"> <li>• Entry Server [ES]</li> <li>• Advanced Server [AS]</li> <li>• Workstation Server [WS]</li> </ul>	lnvgy_utl_uxspi_10.1_rhel4_32-64.bin
Red Hat Enterprise Linux 4.0 x86 (up to U9) <ul style="list-style-type: none"> <li>• Entry Server [ES]</li> <li>• Advanced Server [AS]</li> <li>• Workstation Server [WS]</li> </ul>	lnvgy_utl_uxspi_10.1_rhel4_32-64.bin
SUSE Linux Enterprise Server 12.0 AMD64/EM64T with and without XEN component	lnvgy_utl_uxspi_10.1_sles12_32-64.bin
SUSE Linux Enterprise Server 11.0 AMD64/EM64T with and without XEN component (up to SP4)	lnvgy_utl_uxspi_10.1_sles11_32-64.bin
SUSE Linux Enterprise Server 11.0 x86 with and without XEN component (up to SP4)	lnvgy_utl_uxspi_10.1_sles11_32-64.bin
SUSE Linux Enterprise Server 10.0 AMD64/EM64T with and without Xen component (up to SP4)	lnvgy_utl_uxspi_10.1_sles10_32-64.bin
SUSE Linux Enterprise Server 10.0 x86 with and without XEN component (up to SP4)	lnvgy_utl_uxspi_10.1_sles10_32-64.bin

#### Linux OS support notes:

- If you are comparing firmware packages in UXSP for Linux operating systems, UXSPI supports fuzzy OS check. Therefore, if the current OS is not in the firmware package's support list, it might also be listed in the comparison result of UXSPI.
- UXSPI depends on the **ifconfig** command for the Linux OS, which may not be installed on RHEL 7. For UXSPI to update firmware on RHEL 7, you must install **nettools** rpm.
- 500 MB of free disk space is recommended when running Linux versions of UpdateXpress System Pack Installer.
- Linux device driver updates require specific packages. The Linux device driver update packs require the following packages be installed:
  - Red Hat Enterprise Linux: rpm-build, perl, and bash
  - SUSE Enterprise Linux: perl and bash

## VMware

UpdateXpress System Pack Installer is supported on following versions of VMware.

Table 5. VMware support

Operating system	Executable file
VMware ESX Server 4.1	lnvgy_utl_uxspi_10.1_rhel5_32-64.bin
VMware ESX Server 4.0u3	lnvgy_utl_uxspi_10.1_rhel5_32-64.bin

**VMware support note:**

- To use the remote functions of VMware ESX server, you must make specific adjustments to your configuration. For more detailed information about how to make these adjustments, see Additional considerations when using VMware ESX remote functions in “Limitations and problems” on page 55.

UpdateXpress System Pack Installer is supported on following versions of VMware with a Lenovo customized image.

Table 6. VMware ESXi Support (Lenovo customized image)

VMware ESXi Version	4.1 U1 and 4.1 U2	4.1 U3	5.0.x, 5.1.x, and patch	5.5 and patch	5.5 U1 and patch	5.5 U2	6.0
uEFI/iMM/DISA/FPGA	Y	Y	Y	Y	Y	Y	Y
LSI	N	N	Y	N	Y	Y	Y
Broadcom	N	N	N	N	N	N	N
QLogic NXII	N	N	N	N	N	N	N
QLogic CNA	Y	Y	Y	N	Y	Y	Y
QLogic FC	N/A	N/A	Y	N	Y	Y	Y
Emulex	N	Y	Y	N	Y	Y	Y
Brocade	Y	Y	Y	N	Y	Y	Y

**Important:** Broadcom NetXtreme II was acquired by Qlogic. Rebranding work is currently being done, including the new provider. Therefore, UXSPI does not support the Qlogic NetXtreme II firmware update on VMWare ESXi.

**Additional VMware ESXi support notes:**

- If the uEFI/IMM of the system has been upgraded to the Lenovo version, ensure that patch 2.1 or later has been applied with the VMWare ESXi customized image.
- UXSPI does not support a customized image with customer insertion of non-publicly available drivers. UXSPI does not support a customized image with customer insertion of publicly-available drivers, but in this case, Lenovo will seek solutions if there is any problem.
- For information about ESXi support requirements, see “Updating firmware on an ESXi system” on page 52.

---

## 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 the program.

---

## Chapter 4. Using Lenovo UpdateXpress System Pack Installer

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

### Windows

For v10.1 of the installer, the Windows executable file is named:

```
lnvgy_utl_uxspi_10.1_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 **lnvgy\_utl\_uxspi<sub>version</sub>\_winsrvr\_32-64.exe**, where `lnvgy_utl_uxspi` is the name of the executable file and *version* indicates the installer version number.

### Linux

For v10.1 of the installer, the Linux executable files are named:

```
lnvgy_utl_uxspi_10.1_rhel4_32-64.bin
lnvgy_utl_uxspi_10.1_rhel5_32-64.bin
lnvgy_utl_uxspi_10.1_rhel6_32-64.bin
lnvgy_utl_uxspi_10.1_rhel7_32-64.bin
lnvgy_utl_uxspi_10.1_sles10_32-64.bin
lnvgy_utl_uxspi_10.1_sles11_32-64.bin
```

### VMware

For v10.1 of the installer, the executable file for VMWare ESX Server 4 is named:

```
lnvgy_utl_uxspi_10.1_rhel5_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 either 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.

---

## UpdateXpress System Pack Installer user interfaces

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

### Functional differences

While the UpdateXpress System Pack Installer CLI and GUI contain nearly the same functional capabilities, there are some functions that are available in the CLI and not the GUI. Using the CLI, you can instruct 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 BladeCenter systems.

## Command-line interface

You can run UpdateXpress System Pack Installer by specifying commands and options in the Command Line Interface (CLI).

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

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

A description of <program> and [common options] are listed in the “[common options]” section. For details on <command> and [command options] for UpdateXpress System Pack Installer, see the following sections:

- “Acquire updates” on page 23
- “Compare and update functions” on page 26
- “Updating BladeCenter” on page 32

### [common options]

The following options are available to use with 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 might 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.

**Note:** You cannot specify other options with this option.

#### **-include software:**

Specifies vendor software that should also be updated.

#### **--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. Although it is not interactive, UXSPI displays messages as standard output.

**-v | --version:**

Displays the version of UpdateXpress System Pack Installer in the current console window and then 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-l, 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_zyyt18a_windows_i386
      New Version    : 1.03 <ZYYT18A>
      Installed Version : <ZYYT18A>

<12> [ ] IBM ServeRAID 8i, 8k, 8k-l 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-l, 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 versions are displayed. For example, the MPTSAS driver on Linux might 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 might be prompted to provide input. When the available updates are displayed, you can select the updates you would like to install.

For an update that you want to install, type the number of the update on the command line and press ENTER. 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 update 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:

**a:** Apply selected updates.

**enter:** Pressing the **ENTER** key by itself refreshes the full update information screen instead of the summary list of selected updates.

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

**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.

**q:** Quit immediately without applying any updates.

The following fields are 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 Lenovo 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 detected, this field displays the individual update contained within the update package. If the update is currently uninstalled or undetected, this field displays the version of the overall 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 the executable filename. In the following examples, <program> represents 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 CLI 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 will 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. Use the command line options: `--drivers` and `--firmware` to specify a category of updates.

### Usage examples

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

This command acquires the Windows-only updates for a System x260, 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 on page 18 in “Command-line

interface” on page 16. 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 in the following locations.
  - Windows: C:\Lenovo\_Support\systemname\_machinetype\_timestamp.log
  - Linux: /var/log/Lenovo\_Support/systemname\_machinetype\_timestamp.log*systemname* is the dns name of the system, *machinetype* is the 4-digit machine Type, and *timestamp* is the time stamp for 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.
- 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 not valid.

See “Return codes” on page 73 for more specific <program> execution details and troubleshooting information.

## Using the GUI

You can use the UpdateXpress System Pack Installer graphical user interface (GUI) to acquire UpdateXpress System Packs and the latest individual updates.

### Launching the GUI

You can use the CLI to invoke the UpdateXpress System Pack Installer GUI by typing **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** or by double-clicking on the **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** program icon.

#### Prerequisites:

- 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.
- 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 downloads UpdateXpress System Packs and individual updates for supported machine types from a remote location such as Lenovo support.

### Using the command line interface

This section provides information about running the **acquire** command using the CLI.

**Format:**

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe acquire [options]
```

**Options:****--check-update**

Checks the Lenovo support website for a newer version of UXSPI and downloads it if available.

**--include-software**

Specifies that the vendor software should also be updated.

**-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. If this option is specified, only the update specified by the update ID is downloaded.

Example: `--id=lnvgy_fw_uefi_the104b-1.00_anyos_32-64`

**-l UXSP\_path, --local=UXSP\_path**

Specifies the UXSPI directory on the local system where downloaded UpdateXpress System Packs 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 updates instead of UpdateXpress System Packs 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 not to use a proxy for acquisition. If the `--no-proxy` option is used with any of the following set proxy arguments, an error message is displayed with return error code 10:

- `--proxy-address`
- `--proxy-port`
- `--proxy-user`
- `--proxy-password`

**-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 values are:

- `all`
- `none`

- windows
- rhel4
- rhel5
- rhel6
- sles10
- sles11
- vmware

*OS independent updates* are 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*. The address can be an IPv4, IPv6, or DNS address.

Example: `--proxy-address=10.1.0.10`.

**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.

Example: `--proxy-port=40`

**--proxy-user=user**

Sets the proxy user setting to *user*.

Example: `--proxy-user=fred`

**--proxy-password=password**

Sets the proxy password setting to *password*.

Example: `--proxy-password=passwOrd`

**--proxy-password-secure=password**

Sets the secure proxy password setting to *password*.

Example: `--proxy-password-secure=STPXR6ygjRIs`

**-r, --report**

Queries the IBM update repository to determine the matching update set, but does not actually download any updates. Instead displays a list of update-ids. Each update-id is displayed on a new line. The updates that are already present in the UXSPI directory are distinguished from the updates that need to be downloaded. If necessary, you 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 as not available for report generation.

**--xml** Specifies the file `ac_result.xml` should be created in the `Lenovo_Support` directory to create summary report files.

**--vmware-esxi-update=version**

Specifies downloading the customized Lenovo VMWare ESXi



self-update package together with firmware updates. This package is not downloaded by default because it is larger than 200 MB. Currently the only supported version is 4.1.

Example: `--vmware-esxi-update=4.1`

---

## Compare and update functions

The compare and update functions inventory the system where an 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.

### Using the command line interface

This section provides information about running 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 commands 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 not usable.

#### **compare (co) - compares updates with installed versions**

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

**Format:**

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe compare [options]
```

#### **update (up) - applies updates**

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

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

**Format:**

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe update [options]
```

#### **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.

Example: `-e lnvgy_fw_uefi_the104b-1.00_anyos_32-64`



This option can be used with the `--latest` option. The `--latest` option customizes the content of a UXSP and excludes specific updates from UXSP. If excluded updates have 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`.

Using the same *update-id* for the `--include` and `--exclude` options causes an error.

If a fixed ID specified in update IDs cannot be found, an error is displayed. UXSPI exits without deploying any updates.

**--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.

**Notes:**

- 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, which could be a prior version compared to the version currently on 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 force argument. Note that this argument does not specify whether the update is selected.

The decision to select the update is determined by the version comparison check or by specifying the `--select` argument.

**-F | --firmware**

Applies only firmware updates.

**Note:** The `--firmware` option does not install or upgrade any drivers, regardless of whether the driver is required as a prerequisite.

**--include-software**

Specifies that the vendor software should also be updated.

This option can be used with the following commands: **acquire**, **compare**, and **update**.

**-i update\_ids, --include=update\_ids**

Includes the updates specified by the list of comma separated update IDs.

Example: `-ilnvgy_fw_uefi_the104b-1.00_anyos_32-64`.

If there are more recent versions of the included update, they are not deployed; subsequent updates in the supersede chain are not included. However, if update IDs contains two or more updates belonging to the same supersede chain, a return error code of 36 is returned with a message displayed, and no updates are deployed.

Using the same *update-id* for the `--include` and `--exclude` options causes an error.

The `--latest` option customizes the content of a UXSP and includes specific updates from UXSP. If the `--latest` option is used with a UXSP, the fix ID that it supersedes in the UXSP is automatically excluded from the list of updates being deployed. This argument has a higher priority than `--drivers` and can be combined with `--drivers` to include a specific firmware update.

Similarly, `--include` has a higher priority than the `--firmware` option 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) for the search of an applicable UpdateXpress System Pack XML file.

This option can also specify a Windows network share in the format.

Example: `\\server\share`.

HTTP and FTP URL-style addresses are not supported.

**`-L` | `--latest`**

Applies the latest updates whether the latest updates are from 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 is applied.

**`-m machine_type` | `--machine type=machine_type`**

Specifies the machine type to be used by the **`compare`** and **`update`** commands.

Setting this value prevents UXSPI from determining the machine type of the host system from inventory, and instead uses the specified machine type for the compare and update functions.

**`-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 and Emulex update behave like other updates.

**`--noinventory`**

Performs a minimal inventory check and obtains 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 the `--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. This only effects the Linux drivers.

Update IDs can have the value *all*, which means the override command should be applied to all Linux drivers.

Example: -o all.

Deploy Linux drivers with the --update and --override options instead of --update-force-if-overridden. This causes drivers to be updated even if the current driver was distributed with the Linux distribution.

If the fix ID specified in update IDs cannot be found, a warning message is displayed. UXSPI continues to complete the compare or update command.

**--remote=*remote\_address***

Performs 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.

Example: --remote=10.1.0.1

The address should not be prefixed with://.

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.

Example: --remote-dir=c:\tmp

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

Sets the password to the specified password when authenticating with the remote server.

Example: --remote-password=UXSPI0

If the --remote-user option is specified but the --remote-password or the --remote-password-secure options 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 a specified password when authenticating with the remote server.

Example: --remote-password-secure=UXSPI0.

If the --remote-user option is specified but --remote-password or --remote-password-secure options 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-secure with no value to pass an empty password.

**--remote-user=*user***

Sets the username to user when authenticating with the remote server.

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 that were used for the compare step. The summary report displays the fix ID, description, and whether the update is to 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 regardless of whether the system version is newer than the update package version.

Example: `-s brcm_fw_nic_1.0.0_windows_32-64`

The default behavior is from a previous version before uEFI and BIOS diagnostics and IMM and BMC firmware updates. Other updates will not apply a previous version to the system. 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 with a level that cannot be detected.

**undetected**

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

You can specify the *all* value to select all updates. This is the equivalent of the `--force` option available in UpdateXpress System Pack Installer version 1.20 and 1.21.

**--update-args=**

**category\_1: --user=*user\_id* --password\_type=*password***

**category\_2:options**

Specifies the options to be used 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

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

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

- The user id and password are for IMM IPMI user account.
- The password\_type option can be:

**--password=password**

Sets the password to the specified password when authenticating with the remote server.

Example: `--password=UXSPI0`

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

Sets the secure password to the specified password when authenticating with the remote server.

Example: `--remote-password-secure=UXSPI0`

**--vmware-esxi=https://userid:password@vmware\_esxi\_IPaddress:port**

Specifies the authorization information to the remote ESXi system when comparing or updating a Lenovo customized VMware ESXi.

The default port is 5989.

**--xml** Specifies that the `co_result.xml` and `up_result.xml` files should be created in the `Lenovo_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 of the update command on a Windows system

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

This is an example of how to:

- Invoke UpdateXpress System Pack Installer on a local system running Windows that has a file path for location of the UpdateXpress System Pack XML file as: `uxsp\4199\windows\`.
- Issue the **update** command to inventory, query, compare, and deploy updates.
- Select all updates as applicable, regardless of the system version or the available version by specifying: `-s all`.
- Run the updates in unattended mode by specifying: `-u`.

## Example of the compare command on a Linux system

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

This is an example of how to:

- Invoke UpdateXpress System Pack Installer on a local system running Red Hat Linux 4.0. The file path for the location of the UpdateXpress System Pack XML file is: `[root@localhost /root/uxsp/4199/rhel4]# ./`
- Run the **compare (co)** command to inventory, query, and compare updates.

## Linux device drivers and UpdateXpress System Packs

The default operation for Linux device drivers is to maintain the Linux distribution certified drivers whenever possible. Therefore 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 the `--linuxoverride` argument 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.

Complete the following steps to compare and install updates using the GUI.

1. Launch the UpdateXpress System Pack Installer GUI by double-clicking `lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe`.
2. Use the appropriate task as described in Chapter 5, “Lenovo UpdateXpress System Pack Installer scenarios,” on page 41.

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

---

## Updating BladeCenter

You can use the **bladecenter** function to update the BladeCenter Management Module, the I/O Modules, and the RAIDed Shared Storage Module (RSSM) infrastructure.

### Prerequisites for updating RSSM:

- RSSM must be manually set to **servicemode**. Failure to have RSSM in servicemode causes the One Button Code Load (OBCL) to return an error.
- When updating the RSSM infrastructure, installation of Python (with the Pexpect package) is a prerequisite.
- For Windows OS, Cygwin is also a prerequisite. UpdateXpress System Pack Installer must be run from a Cygwin shell.

**Prerequisite for updating I/O Modules:** The password for I/O modules should be set before using UXSPI to update the firmware.

## Acquiring MM and I/O modules

This list provides a definition for each category of the tables found later in this section.

### 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 Management Module (MM) or Advanced Management Module (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 UpdateXpress System Pack Installer can acquire updates.

## Package availability

Specifies whether packages are available from the Lenovo 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 an FTP or TFTP server installed for the switch to communicate with.

Table 8. BladeCenter command switch names

Switch name	VPDID	POSID	Updates acquirable using UXSPI	Package availability	Deployment location
Brocade 4Gb 10-port SAN Switch Module	0x0135	0x0009	No <sup>1</sup>	Vendor website	FTP server
Brocade 4Gb 20-port SAN Switch Module	0x0135	0x0009	No <sup>1</sup>	Vendor website	FTP server
Brocade Enterprise SAN Switch Module	0x0135	0x0004	No <sup>1</sup>	Vendor website	FTP server
Brocade Entry SAN Switch Module	0x0135	0x0004	No <sup>1</sup>	Vendor website	FTP server
Brocade SAN Switch Modules	0x135	0x000F	No	Vendor website	FTP server
Cisco 4X Infiniband Switch Module	0x0138	0x0002	Yes	Vendor website <sup>2</sup>	TFTP/FTP server
Cisco Catalyst Switch 3012	0x0130	0x0010	Yes	IBM website	TFTP/FTP server
Cisco Catalyst Switch 3110G	0x0130	0x000C	Yes	IBM website	TFTP/FTP server
Cisco Catalyst Switch 3110X	0x0130	0x000B	Yes	IBM website	TFTP/FTP server
Cisco Nexus 4001I Switch Module	0x0130	0x0015	Yes	IBM website	TFTP/FTP server
Cisco Systems Intelligent GbE Switch Module	0x0130	0x0003	Yes	IBM website	TFTP/FTP server
Cisco SystemsFiber Intelligent GbE Switch Module	0x0130	0x0007	Yes	IBM website	TFTP/FTP server
IBM 2-port FC Switch Module	0x0135	0x0000	Yes	Vendor website <sup>2</sup>	TFTP/FTP server



Table 8. BladeCenter command switch names (continued)

Switch name	VPDID	POSID	Updates acquirable using UXSPI	Package availability	Deployment location
IBM 4x Infiniband Pass-thru Module	0x0138	0x0003	Yes	IBM website	TFTP server
IBM Copper pass-through module	0x135	0x03	Yes	IBM website	TFTP server
IBM BladeCenter SAS Connectivity Module	0x0133	0x0001	Yes	IBM website	TFTP server
IBM Disk Storage Module (DSM) for BC-S Chassis	0x0183	0x0005	Yes	IBM website	TFTP server
IBM Gb Ethernet Switch Module	0x0130	0x0000	Yes	IBM website	TFTP/FTP server
IBM Intelligent copper pass-through module	0x130	0x0f	No <sup>1</sup>	IBM website	TFTP server
IBM Optical pass-through module	0x135	0x01	Yes	IBM website	TFTP server
IBM RAIDed SAS Switch Module	0x0133	0x0002	Yes	IBM website	Local system
IBM Server Connectivity Module	0x0130	0x000A	Yes	IBM website	TFTP/FTP server
McData 6-port (2Gb) FC Switch Module	0x0135	0x0007	Yes	Vendor website <sup>2</sup>	FTP server
McData 10-port (4Gb) FC Switch Module	0x0135	0x0008	Yes	Vendor website <sup>2</sup>	FTP server
McData 20-port (4Gb) FC Switch Module	0x0135	0x0008	Yes	Vendor website <sup>2</sup>	FTP server
Nortel 1/10Gb Uplink Ethernet Switch Module	0x0130	0x000E	No <sup>1</sup>	Vendor website	TFTP/FTP server
Nortel Layer 2-7Gb Ethernet Switch Module	0x0130	0x0001	No <sup>1</sup>	Vendor website	TFTP server
Nortel Layer 2/3 Copper Gb Ethernet Switch Module	0x0130	0x0005	Yes	Vendor website <sup>2</sup>	TFTP/FTP server
Nortel Layer 2/3 Fiber Gb Ethernet Switch Module	0x0130	0x0006	Yes	Vendor website <sup>2</sup>	TFTP/FTP server
Nortel 10Gb High Speed Switch Module	0x0130	0x000D	Yes	Vendor website <sup>2</sup>	TFTP/FTP server
QLogic 2Gb 6-port FC Switch Module	0x0135	0x0005	Yes	Vendor website <sup>2</sup>	FTP server
QLogic 2-port 16Gb FC Switch Module	0x0135	0x0006	Yes	Vendor website <sup>2</sup>	FTP server
QLogic 8Gb FC Switch Module	0x0135	0x000C	Yes	Vendor website <sup>2</sup>	TFTP/FTP server



Table 8. BladeCenter command switch names (continued)

Switch name	VPDID	POSID	Updates acquirable using UXSPI	Package availability	Deployment location
QLogic 10-port 4Gb FC Switch Module	0x0135	0x0006	Yes	Vendor website <sup>2</sup>	FTP server
QLogic 20-port 4Gb FC Switch Module	0x0135	0x0006	Yes	Vendor website <sup>2</sup>	FTP server
QLogic Infiniband Ethernet Bridge Module	0x0138	0x0004	Yes	Vendor website <sup>2</sup>	FTP server
QLogic Infiniband FC Bridge Module	0x0138	0x0005	Yes	Vendor website <sup>2</sup>	FTP server
Topspeed InfiniBand Switch Module	0x0138	0x0001	Yes	IBM website	TFTP/FTP server

**Note:** The following messages are an example of what is displayed for updates that UXSP Installer cannot acquire. You can acquire these updates from the IBM website or the appropriate vendor website. For updates that are hosted on a vendor website, UpdateXpress System Pack Installer acquires only the readme and metadata.

- 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\_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 CN4093 10Gb Converged Scalable Switch	00D5823	Yes	Yes	FTP/SFTP/TFTP server
IBM Flex System EN2092 1Gb Ethernet Scalable Switch	49Y4294	Yes	Yes	FTP/SFTP/TFTP server
IBM Flex System EN2092 1Gb Ethernet Scalable Switch				
IBM Flex System EN4023 10Gb Scalable Switch		Yes	Yes	FTP/SFTP server
IBM Flex System Fabric EN4093 10Gb Scalable Switch	49Y4270	Yes	Yes	FTP/SFTP/TFTP server
v Fabric EN4093R 10Gb Scalable Switch	95Y3309	Yes	Yes	FTP/TFTP/SFTP server
IBM Flex System EN6131 40Gb Ethernet Switch	90Y9346			FTP/TFTP/SFTP server

Table 9. IBM Flex System switch names (continued)

Switch name	Part Number	Updates acquirable using UXSPI	Package availability	Deployment location
IBM Flex System FC3171 8Gb SAN Switch	69Y1930	Yes	Yes	FTP/SFTP/TFTP server
IBM Flex System FC5022 16Gb SAN Scalable Switch	88Y6374	Yes	Yes	FTP/SFTP server
IBM Flex System FC5022 24-port 16Gb ESB SAN Scalable Switch	90Y9356	Yes	Yes	FTP/SFTP server
IBM Flex System IB6131 Infiniband Switch Module	90Y3450	Yes	Yes	FTP/SFTP/TFTP server
IBM Flex System Fabric SI4093 Server Interconnect Module	95Y3313	Yes	Yes	FTP/SFTP/TFTP server

**Tip:** The switches listed in the Table 9 on page 35 table are updated using SSH. The others are updated using Telnet. Each switch should first be enabled for either SSH or Telnet service. Some switches use separate accounts for SSH and Telnet. Verify the correct SSH or Telnet account is being passed to UXSPI for each switch.

## Using the command line interface

This section provides information about running the **bladecenter** command using the CLI.

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

### Format:

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bladecenter [options]
```

### Options:

#### **-c --convert**

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

#### **-h, --help**

Displays the (help) message.

#### **-i, --io**

Updates the firmware for the I/O modules.

#### **-m --mm**

Updates the firmware for the management module.

#### **-s, --scan**

Scans the management modules and I/O modules.

## Additional bladecenter (bc) command options

### Scan-specific options

#### **--mm-address=address**

Sets the IP address of the management module to the specified address. This parameter is mandatory. If it is not used, a syntax error is displayed.

Example: `--mm-address=10.1.0.1`

**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. This parameter is mandatory. If it is not used, a syntax error is displayed.

Example: **--mm-user=admin**

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

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

Example: **--mm-password=UXSPI0**

### MM-update-specific options

**--mm-address=*address***

Sets the IP address of the management module to **address**. This parameter is mandatory. If it is not used, a syntax error is displayed.

Example: **--mm-address=10.1.0.1**

**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 not used, a syntax error is displayed.

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** option is specified but the **--mm-password** option is not specified, you are 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** option is specified, both the primary and redundant MM is updated. If **-a** option is not specified, the results depend on the MM.

For most MM and 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 not used, a syntax error is displayed.

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 is not necessary for AMM. If it is MM1 and this parameter is not used, a syntax error is displayed.

Example: **--mm-file2 cnetrgus.pkt**

## I/O-module-update-specific options

### **--io-fingerprint=fingerprint**

Set the finger print (RSA key) of the SFTP server where the firmware image is located for the switch module update.

Example: **--io-fingerprint=7f:6e:26:ef:71:05:cb:a9:f7:32:42:8c:af:ce:72:0b**

### **--mm-address=address**

Sets the IP address of the management module to **address**. This parameter is mandatory. If it is not used, a syntax error is displayed.

Example: **--mm-address=10.1.0.1**

**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 not used, a syntax error is displayed.

Example: **--mm-user=admin**

### **--mm-password=password**

Sets the password of the management module to *password* when authenticating with the management module. If the **-s** or **--scan** parameter is specified but the **--mm-password** or **--mm-password-secure** parameters are not specified, you are 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 the **-s** or **--scan** parameter is specified but the **--mm-password** or **--mm-password-secure** parameters are not specified, you are 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 not used, a syntax error is displayed.

Example: **--io-bay=1**

**-a --all** Updates all I/O modules of the same POSID or 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. If **-i** or **--io** option is specified but the **--io-user** is not specified, you are prompted to enter a user name.

Example: **--io-user=admin**

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

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

Example: `--io-password=UXSPI0`.

**--io-password=password**

Sets the password of the switch to the specified password when authenticating with the switch. If `-i` or `--io` option is specified but the `--io-password` or the `-io-password-secure` option is not specified, you are prompted to enter a password, which is not echoed to the console.

Example: `--io-password=UXSPI0`

**--io-file=file1**

Sets the first path and name of the firmware file of the switch. 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 require a user name and password. If you specify these values, they are ignored.

Examples:

- `--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`

**Notes:**

- For the *Accipiter Pass-Through* module, put the update package into its own SFTP server manually before performing an update.
- You also need to specify the package path and credential when calling the UXSPI update option, `--io-file=sftp://username:password@10.1.0.2/passthruupdatenname.file`.

**--io-file2=file2**

Sets the second path and name of the firmware file of the switch. Some switches only support FTP downloading while others support TFTP downloading, however the path uses a similar syntax: -  
scheme://username:password@server/path. TFTP does not need a user name and password. If you specify values, they are ignored.

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`

**--io-id=update-id**

Updates specified by update-id. This id corresponds to the **FSP fix-id**. If this option is specified, only the update specified by the update-id is downloaded.

Example of an update-id option is: `bnt_fw_flsw_gbscse-10g-6.5.0.39_anyos_noarch`

Example of an `-io-id` option is: `--io-id= bnt_fw_flsw_gbscse-10g-6.5.0.39_anyos_noarch`.

**--local=update-path**

Sets the directory on the local system to search for an applicable switch package XML file. This can also specify a Windows network share in the format `\\server\share`. HTTP and FTP URI style addresses are not supported.

**--io-uploadpath=url**

Sets the upload path. Some switches only support FTP and SFTP downloading, while others support TFTP downloading, however the path uses a similar syntax: - scheme://username:password@server/path/

Examples:

- `--io-file1=tftp://10.1.0.1/firmware/`
- `--io-file1=ftp://user:pass@10.1.0.1/firmware/`

## Convert-specific options

**--response=***response\_file*

Sets the path and name of the response file to the specified file name.

Example: `--response=d:\chassis.rsp`

**--script=***script\_file*

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

Currently passwords are scrambled in the response file. The software unscrambles these passwords when creating the batch or sh files.

The passwords appear in clear text in the batch or sh file.

Example: `--script=d:\chassis.bat`

## Examples

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bc -h
```

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bc -s  
--mm-address=10.1.0.1 --mm-user=USERID --mm-password=PASSWORD
```

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bc -m  
--mm-address=10.1.0.1 --mm-user=USERID --mm-password=PASSWORD  
--mm-file=c:\CNETBRUS.pkt --mm-file2=c:\CNETMNUS.pkt
```

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bc -i  
--mm-address=10.1.0.1 --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
```

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bc -c  
--response=d:\chassis.rsp --script=d:\chassis.bat
```

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe bc -i  
--mm-address=10.1.0.1 --mm-user=USERID --mm-password=PASSWORD  
--io-bay=1 --io-user=USERID --io-password=PASSWORD --io-id=  
bnt_fw_flsw_gbscse-10g-6.5.0.39_anyos_noarch --local=  
d:\packages --io-uploadpath=ftp://user:pass@10.1.0.1/ftp/firmware/
```

---

## Chapter 5. Lenovo UpdateXpress System Pack Installer scenarios

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

---

### Updating a local machine from a website

UpdateXpress System Pack Installer can update a local machine with UpdateXpress System Packs or individual updates acquired from a website.

#### Before you begin

The following prerequisites are required to complete this task:

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

#### Procedure

1. Double-click **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** to launch the UpdateXpress System Pack Installer GUI. The initial window describes UpdateXpress System Pack Installer.
2. Click **Next**. The machine type and operating system for the system running UpdateXpress System Pack Installer is displayed near the top of the window. The UpdateXpress System Pack Installer version is also displayed.
3. On the Update Task window, select **Update the local machine** and click **Next**.
4. On the Update Type window, select which type of update you want to acquire.
  - UpdateXpress System Packs (UXSPs)
  - Individual updates
5. Click **Next**. The Updates Location window is displayed.
6. Select **IBM website** and click **Next**. The Target Directory window is displayed.
7. Specify the directory where you want to download the updates to or accept the default location and click **Next**. The HTTP Proxy Setting window is displayed.
8. If required, specify the proxy information and click **Next**. If you selected to acquire individual updates, the Update Selection window is displayed.
9. Select the updates you want and click **Next**. The installer begins acquiring updates. The progress bar indicates that the installer is processing but does not show the percentage of progress completed.
10. On the Update Recommendation window, make any changes and then click **Next**.
  - If operating system independent ESW updates are detected, the Update Options window opens. Specify any necessary options and click **Next**.
  - If no options are specified, the operating system independent ESW updates are applied using the default settings. The Update Execution window is displayed while the updates are installed on your local system.

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

11. Click **Finish**.

---

## Updating a local machine from a local directory

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

### Before you begin

The following prerequisites are required to complete this task.

#### Prerequisites:

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

### Procedure

1. Double-click **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** to launch the UpdateXpress System Pack Installer GUI. The initial window describes UpdateXpress System Pack Installer.
2. Click **Next**. The machine type and operating system for the system running UpdateXpress System Pack Installer is displayed near the top of the window. The UpdateXpress System Pack Installer version is also displayed.
3. On the Update Task window, select **Update the local machine** and click **Next**.
4. In the Update Type window, select the type of updates you want to acquire.
  - UpdateXpress System Packs (UXSPs)
  - Individual updates
5. Click **Next**. The Updates Location window is displayed.
6. Select **Check in a local directory**.
7. Browse to select a different directory to download the updates to or accept the default location and click **Next**. The HTTP Proxy Setting window is displayed.
8. Select the updates you want and click **Next**. The installer begins acquiring updates. The progress bar indicates that the installer is processing but does not show the percentage of progress completed.
9. In the Update Recommendation window, make any changes and then click **Next**.
  - If operating system independent ESW updates are detected, the Update Options window opens. Specify any necessary options and click **Next**.
  - If no options are specified, the operating system independent ESW updates are applied using the default settings. The Update Execution window is displayed while the updates are installed on your local system.

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

10. Click **Finish**.

---

## Creating a repository of updates

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



## Before you begin

The following prerequisites are required to complete this task:

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

## About this task

Complete the following procedure to create an update repository:

### Procedure

1. Double-click **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** to launch the UpdateXpress System Pack Installer GUI. The initial window describes UpdateXpress System Pack Installer.
2. Click **Next**.

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

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

#### Tips:

- You can select all of 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, select the machine type in the list and then click **Remove**.
6. In the Operating Systems window, select the operating systems you would like to acquire updates for.

#### Tips:

- If you selected to acquire individual updates, you can 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.
  - In the CLI, use **none** to qualify the **-o | --os** option. In the CLI or the GUI, specify **OS independent update** as the OS type.
7. In the Target Directory window, specify the directory to download the updates to or accept the default location and click **Next**.
  8. In the HTTP Proxy Setting window, specify the proxy information, if required, and click **Next**.

9. If you selected to acquire individual updates, the Update Selection window is displayed. Select the updates you want, and then click **Next**. The progress bar indicates that the installer is acquiring updates, but does not show the percentage of progress completed. The Complete window is displayed when the repository has been created successfully.
10. Click **Finish**.

---

## Local deployment using CLI noninteractive mode

You can deploy a package or packages to a directory on the local system using the command-line properties defined in the XML package.

### Before you begin

The following prerequisites are required to complete this task.

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

### Procedure

1. From the CLI, run UpdateXpress System Pack Installer using the **update** command using the options to specify the location on the file system to search for the update packages and the option to apply the updates to the local system in noninteractive mode. Example:  

```
C:\uxsp> lnvgv_utl_uxspi_10.1_winsrvr_32-64.exe update --local=C:\updates -u
```
2. You can view the status on standard output **stdout**, as the application reads all of the UpdateXpress System Pack XML files in the specified directory to determine which UpdateXpress System Pack is applicable to the system. UpdateXpress System Pack Installer builds an internal catalog of the available updates as specified by the XML file.  
UpdateXpress System Pack Installer performs the following tasks:
  - a. Gathers the system inventory, providing status.
  - b. Compares the inventory with the update catalog and determines a recommendation of updates to apply.
  - c. Provides status while it proceeds to sequentially run each applicable update on the local system.
  - d. Exits with a return code designating whether the updates were successful or not.
  - e. Logs status to the system logs during this operation.

The following list provides possible error conditions that can occur.

- If the operating system is not supported, a message is displayed at the beginning of the UpdateXpress System Pack Installer program stating that you cannot 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, and it is supported by 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 is still possible to run updates by specifying Individual Updates. To specify Individual Update, specify the **--latest** or **-L** argument.

- If an individual update package has an error during deployment, UpdateXpress System Pack Installer continues with the next update, and then sets the return code for the appropriate time when UpdateXpress System Pack Installer program exits.

---

## Local deployment using CLI interactive mode

You can deploy a package or packages to a directory on the local system using the command-line properties defined in the XML package.

### Before you begin

The following prerequisites are required to complete this task.

#### Prerequisites:

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

### Procedure

1. Run UpdateXpress System Pack Installer using the **update** command from the CLI using the options that specify the location on the file system to search for the update packages and the option to apply the updates to the local system in interactive mode. Example:

```
C:\uxsp> lnvgv_utl_uxspi_10.1_winsrvr_32-64.exe update --local=C:\updates
```

2. You can view the status on standard output **stdout** as the application reads all of the UpdateXpress System Pack XML files in the specified directory to determine which UpdateXpress System Pack are applicable to the system. UpdateXpress System Pack Installer builds an internal catalog of the available updates as specified by the XML file. This catalog is regenerated each time UpdateXpress System Pack Installer runs.

UpdateXpress System Pack Installer performs the following tasks:

- a. Gathers the system inventory, providing status.
  - b. Compares the inventory with the update catalog and determines a recommendation of updates to apply.
  - c. Displays a list of available updates. This list includes: a description, filename, current version, new version, severity, a field for enabling or disabling each update, and a number associated with each update.
3. Enter the number of the updated that you want to enable or disable.
  4. Type a to apply the updates. Instructions are displayed on the screen to tell you how to perform this step.

UpdateXpress System Pack Installer performs the following tasks:

- Provides status while it proceeds to sequentially run each applicable and enabled update on the local system.
- Displays the final status of all the updates that were applied.
- Exits with a return code designating whether the updates were successful or not.
- Logs status to the system logs during this operation.

The following list provides possible error conditions that can occur.

- If the operating system is not supported, a message is displayed at the beginning of the UpdateXpress System Pack Installer program stating that you cannot 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 by 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 then sets the return code for the appropriate time when UpdateXpress System Pack program exits.

---

## Customizing UpdateXpress System Pack using CLI

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

### Before you begin

The following prerequisites are required to complete this task.

#### Prerequisites:

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

### Procedure

1. Download the update that needs to be replaced in UpdateXpress System Pack. The update can be downloaded directly from the Lenovo website or the installer can be used to acquire the update. In either case, the update must be placed in the same directory as 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. The following example specifies a BIOS update. Example:

```
C:\uxsp> lnvgv_utl_uxspi_10.1_winsrvr_32-64.exe update --local=C:\updates  
--include=lnvgv_fw_uefi_the104b-1.00_anyos_32-64
```

3. You can view the status on standard output **stdout** as the application reads all of the UpdateXpress System Pack XML files in the specified directory to determine which UpdateXpress System Pack is applicable to the system. UpdateXpress System Pack Installer builds an internal catalog of the available updates as specified by the XML file. This catalog is regenerated each time UpdateXpress System Pack runs.

UpdateXpress System Pack performs the following tasks:

- a. Gathers the system inventory, providing status.
- b. Compares the inventory with the update catalog and determines a recommendation of updates to apply.
- c. Displays a list of available updates. This list includes: a description, filename, current version, new version, severity, a field for enabling or disabling each update, and a number associated with each update.

**Note:** The recommended updates are already enabled.

4. Enter the number of the updated that you want to enable or disable.
5. Type **a** to apply the updates. Instructions are displayed on the screen to tell you how to perform this step. UpdateXpress System Pack performs the following tasks:
  - Provides status while it proceeds to sequentially run each applicable and enabled update on the local system.
  - Displays the final status of all the updates that were applied.
  - Exits with a return code designating whether the updates were successful or not.
  - Logs status to the system logs during this operation.

The following list provides possible error conditions that can occur.

- If the operating system is not supported, a message is displayed at the beginning of the UpdateXpress System Pack program stating that you cannot deploy updates. UpdateXpress System Pack exits with an unsuccessful return code.
- If no UpdateXpress System Pack XML file can be found in the specified directory, that is supported by 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 then sets the return code for the appropriate time when UpdateXpress System Pack Installer program exits.

---

## Updating from removable media (non-bootable)

You can use UpdateXpress System Pack Installer (UXSPI) to copy a set of UpdateXpress System Packs to removable media, such as a USB key or CD. The version of UXSPI is included in each of the UpdateXpress System Packs.

### Before you begin

When mounting the media on a Linux operating system ensure the `exec` flag is set on the mounted device. This is especially true for RHEL5, since the default is to mount USB keys using `noexec`. Otherwise, you will get a permission denied message when executing a program from the mounted device.

**Note:** Use the following workaround for RHEL5:

1. Unmount the USB key.
2. Remount it using an explicit `exec` option. For example:

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

---

## Updating the firmware for a BladeCenter RAID SAS switch module

The following procedure describes how to update the firmware for a BladeCenter RAID SAS switch module.

## Before you begin

The following prerequisites are required to complete this task.

### 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 *UpdateXpress System Pack Installer Release Notes* to determine if there are persistent alerts that are fixed in this level of code.
- The following utilities must be installed to your system and are included in the following procedure.
  - Windows: Microsoft Visual Studio Dynamic Link Libraries
  - Windows: Cygwin

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

- Linux: Python version 2.5 or higher
- Pexpect

## About this task

Complete the appropriate steps for your system to update firmware for a BladeCenter RAID SAS switch modules.

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

## 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 Microsoft Visual C++ 2005 Redistributable Package (x86) at <http://www.microsoft.com/en-us/download/details.aspx?id=3387> and clicking **Download**.
  - b. Run **vc\_redist\_x86.exe** in the temporary directory, using the instructions in the installation wizard.
2. (Windows only) Install Cygwin.
  - a. Download Cygwin to the C:\cyg\_dnld\ directory from the web at [www.cygwin.com/setup.exe](http://www.cygwin.com/setup.exe).
  - b. Run **setup.exe** in the C:\cyg\_dnld\ 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 is finished, 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/](http://www.python.org/download/).

4. Install Pexpect for Python:
  - a. Download Pexpect from the web at [pexpect.sourceforge.net/pexpect-2.3.tar.gz](http://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:

```
lnvgv_utl_uxspi_10.1_winsrvr_32-64.rhel5.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:

- Windows: `lnvgv_utl_uxspi_10.1_winsrvr_32-64.exe`
- Red Hat Enterprise Linux 5:  
`lnvgv_utl_uxspi_10.1_rhel5_32-64.bin`
- SUSE Linux Enterprise Server 10.1:  
`lnvgv_utl_uxspi_10.1_sles10_32-64.bin`

**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.

---

## Acquiring the latest updates for a particular type of update

UpdateXpress System Pack Installer can be used to acquire the latest UpdateXpress System Packs (UXSPs) or all the latest updates for a particular machine type and operating system. It can also be used to acquire the latest update for a particular type of update, if you know the update-id (filename) of an earlier update.

### Example

If 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 with the `-L` option, you can acquire the latest BIOS update for that system.

```
lnvgv_utl_uxspi_10.1_winsrvr_32-64 ac -i ibm_fw_bios_gge134e_windows_i386 -L
```

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

```
lnvgv_utl_uxspi_10.1_winsrvr_32-64 ac -i ibm_fw_bios_gge134e_windows_i386  
-L --report
```

---

## Acquiring an update for an ESXi system

UpdateXpress System Pack Installer can update an ESXi system with UpdateXpress System Packs (UXSPs) or individual updates acquired from a Lenovo website and can also acquire and deploy the ESXi self-update package that enables you to update ESXi on the target system.



## Before you begin

The following prerequisites are required to complete this task.

### Prerequisites:

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

## Procedure

On the command line, enter the UXSPI command for acquiring either the latest individual firmware updates or available UpdateXpress System Packs. Select one of the following examples for acquiring the latest individual firmware updates, UpdateXpress System Pack updates, or the ESXi self-update package.

- To acquire the latest individual firmware updates for machine type 7946:  

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe acquire -latest -m 7946 -o vmware -l C:\updates\7946\esxi
```
- To acquire the latest UpdateXpress System Pack for the same system:  

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe acquire -u -l C:\uxsp\7946\esxi -m 7946 -o vmware
```
- To acquire the ESXi self-update package for the target system:  

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe acquire -u -l C:\uxsp\7946\esxi -m 7946 --vmware-esxi-update=4.1 -o vmware
```

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

---

## Comparing firmware on an ESXi system

The following procedure describes the process for comparing the firmware inventory on an ESXi system with the updates currently in the update repository.

## Before you begin

The following prerequisites are required to complete this task.

### Prerequisites:

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

## Procedure

1. On the command line, enter the UXSPI command for comparing the firmware inventory of the target system with the updates available in the repository.

Example:

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe compare -l local_folder_path -L --vmware-esxi=https://userID:password@VMware_ESXi_host_IPaddress:port
```

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.

2. For more information on the compare options, see “Command-line interface” on page 16.

---

## Updating firmware on an ESXi system

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

### Before you begin

The following prerequisites and assumptions are required for this task.

#### Prerequisites and Assumptions:

- You are running UpdateXpress System Pack Installer on the local system to update the remote VMWare ESXi host.
- The system is running a supported operating system.
- To update firmware on VMWare ESXi systems, the system must be IMM-based.
- The target system must be reachable on port 5989 through CIM-HTTPS.
- For updates from an FTP server, the server must be properly configured. Currently only ESXi hypervisor; self-update requires FTP server.
- **usb0** cannot be used when configuring network adapters on VMWare ESXi systems.

Before running UXSPI to update VMWare ESXi 4.1.x, ESXi 5.0.x, and ESXi 5.1.x, the following conditions must be met:

1. After the initial power-on or subsequent reboot of VMWare ESXi 4.1.x and vSphere 5.0.x, you must allow the Lenovo CIM providers to complete the initialization and loading process before continuing. This process can take up to 20 minutes.
2. Verify the `/etc/cim/lenovo/imm_fw_schema` file is present by completing the following steps.
  - a. **SSH** into the ESXi system.
  - b. Verify the `/etc/cim/lenovo/imm_fw_schema` file is present.
  - c. Open the file and check that the following lines are contained in the file:
    - `SCHEMA_STATE=check`
    - `FW_VERSION=<IMM_Version>`
3. Beginning with UXSPI v4.40, UXSPI supports updating the ESXi hypervisor. Currently this function is only supported for the Lenovo Customized ESXi hypervisor. For ESXi 4.1 U1, the ESXi image itself is supported.
4. If ESXi is in LOCKDOWN mode or the Lenovo CIM port (default 5988/5989) is modified, perform the following operations manually:
  - On ESXi 4.1: Enable SSH manually.
  - On vSphere 5.0.x, 5.1.x, and 4.1.x:
    - a. Enable SSH manually and disable the firewall by SSH to vSphere.
    - b. To turn off the firewall, run the command: **`esxcli network firewall set -d true`**.
    - c. Close the firewall.

**Note:** Fix Central provides software updates for a specified system and operating system. You can find available VMWare ESXi fixes and patches in the Embedded Hypervisor section of Fix Central. To view available updates, either select your system and operating system or search Embedded Hypervisor. A patch was recently added for VMWare vSphere 5.0.x, and 5.1.x with Lenovo Customization. To see the available updates, see Fix Central for Lenovo Systems - product view at

<http://www-933.ibm.com/support/fixcentral/systemx/groupView?query.productGroup=Lenovo+x86+servers>.

## Procedure

On the command line, enter the UXSPI command for updating the firmware on the target system.

- From a local repository:

```
lnvgy_utl_uxspi_10.1_winsrvr_32-64.exe update -l local_repository_path -L  
--vmware-esxi=https://userID:password@vmware_esxi_system_IPaddress:port
```

- From an FTP server:

```
lnvgy_utl_uxspi_10.1_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 16. The following information will further assist you with updating an ESXi system:

- To determine whether the IMM has completed initialization, ssh into the ESXi system and run this command: **/etc/cim/lenovo/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 displays as undetected.
- Beginning in UpdateXpress System Pack Installer v4.40, UXSPI supports updating the ESXi hypervisor. Currently this function is only supported for the Lenovo Advanced Customized ESXi 4.1.x, 5.0.x, and 5.1.x hypervisor. Other versions of ESXi, for example the standard VMWare ESXi or Lenovo 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.

- For ESXi 4.1 U1 and U2, only the updates to the Lenovo ESW (DSA/uEFI/IMM/FPGA), Brocade and QLogic options, and to the ESXi image itself are supported.
- To perform updates using VMware ESXi 4.1 U1, you must run UXSPI on the local system to update the remote ESXi 4.1 U1 host.
- The support of QLogic FC is not applicable because the firmware of QLogic FC is embedded in the driver.
- For vSphere 5.0, 5.0 U2, 5.1, 5.1 U1, and 5.5 U1, if the Brocade driver and provider version is older than firmware version, you need to manually update the Brocade driver and provider to the version that is the same as the firmware. The Brocade driver and is available at Brocade Drivers and Downloads: <http://www.brocade.com/services-support/drivers-downloads/index.page>.

---

## Updating third-party vendor tools

UpdateXpress System Pack Installer provides an option for managing third-party vendor tools. This option can be used with the acquire, compare, or update function.

### Before you begin

The following prerequisites are required to complete this task.

#### Prerequisites:

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

## Procedure

Select one of the following options.

- If you are performing an acquire task, select the `--include-software` option to specify vendor software that should also be updated. UXSPI will acquire all available vendor software from ECC FSP for the target operating system selected.
- If you are performing an update or comparison task, select the `--include-software` option to manage the vendor software. UXSPI will manage the vendor software packages with the other update packages.

---

## Chapter 6. Troubleshooting

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

---

### Limitations and problems

The following limitations are applicable to UpdateXpress System Pack Installer (UXSPI).

**UXSPI fails to detect the firmware version for Intel adapters**

UXSPI does not support detecting the Intel firmware version.

**UXSPI may crash during Gathering Inventory for iSCSI Driver Update on RHEL6.6**

The component in UXSPI that collects the iSCSI Driver version sometimes crashes on RHEL6.6

**UXSPI fails to detect the installed firmware version of some Qlogic adapters on VMWare ESXi**

Legacy Brocade adapters, which have been acquired by Qlogic and have had the firmware and VPD rebranded from Brocade to Qlogic, require that you update to the rebranded firmware first. UXSPI can then detect the installed firmware version.

**UXSPI cannot detect the installed firmware version of LSI adapters on Windows 32-bit operating systems**

**UXSPI fails to update firmware for the LSI SSD Expansion Card on VMWare ESXi**

**UXSPI fails to detect Brocade firmware version on RHEL 7 and SLES 12**

UXSPI fails to detect the installed firmware version of the Brocade options on RHEL 7 and SLES 12.

**UXSPI shows only one adapter for multiple Emulex adapters of the same model on a system**

If a system has more than one Emulex adapter of the same model, UXSPI only lists one adapter in the comparison result. Although only one adapter is listed, the firmware on all of the matching adapters is appropriately updated.

**UXSPI intermittently crashes in GUI while updating xFW on Flex System x240**

**UXSPI fails to detect the installed firmware version for Intel 800GB SSD**

**UXSPI fails to detect and update firmware for a IBM Flex System adapter**

UXSPI fails to detect and update firmware for the IBM Flex System FC 5172 2-port 16Gb FC Adapter on VMWare ESXi 5.1U2.

**UXSPI fails to update firmware to 3.20.06**

UXSPI fails to update firmware to 3.20.06 for the QLogic 16Gb QLE-2662 FC Dual Port HBA on VMWare ESXi 5.1 and 5.5.

**UXSPI fails to detect the Broadcom firmware version**

UXSPI fails to detect the installed version of the Broadcom NIC on IBM Flex System3100 M5 for Windows and Linux.

**UXSPI cannot restore the multi-node interface IP after an update**

If you set the static IPs for IMM **usb0/usb1** on a multi-node system, UXSPI might configure these IPs to workable ones, which can connect to IMM. However, after running UXSPI to perform an update, the IPs do not recover to the original IPs. You need to manually restore the IPs.

**UXSPI cannot detect the installed Brocade firmware version with firmware older than version 2.4.1b**

UXSPI cannot detect the installed firmware version of a Broadcom option with firmware that is older than version 2.4.1b on VMWare vSphere 5.0/5.1/5.5 with Patch 9, vSphere 5.1 U2, and vSphere 5.5 U1.

**UXSPI fails to test the proxy connection with CCproxy**

UXSPI fails to test the proxy connection in the GUI when the proxy is set by **CCproxy**. You can ignore the testing proxy connection and continue acquiring packages.

**UXSPI is unable to detect the firmware version of CN4054 on vSphere5.1 U2**

UXSPI is unable to detect the installed firmware version on VMWare vSphere 5.1 U2 for the Emulex Virtual Fabric Adapter CN4054.

**UXSPI fails to stop at a prompt to update VMware ESXi**

When you use putty to log into Linux OS and then run a UXSPI command line on a remote Linux OS to update firmware on VMware ESXi in Attended Mode, the screen of putty keeps flashing after UXSPI does a comparison. You cannot continue and cannot stop it with Ctrl+C.

**UXSPI shows the wrong device name for the Broadcom NetXtreme I Quad Port GbE Adapter**

UXSPI shows the installed firmware version of the Broadcom NetXtreme I Quad Port GbE Adapter with the wrong device name.

**Host must be discovered by MegaRAID Storage Manager before UXSPI can upgrade MegaRAID Storage Manager to a newer version**

For MegaRAID Storage Manager (MSM) to work correctly, the supported SAS/SATA controller must be plugged into the machine, and the driver and firmware must be flashed for the controller. With the MegaRAID Storage Manager installed on a system, before you can upgrade it to a newer version using UXSPI, the following prerequisite must be met: Launch the prior version of MSM and discover the host successfully, otherwise the upgrade task using UXSPI might fail.

**AMD Driver Pack current version is always undetectable**

UXSPI does not detect the current version of the AMD Driver Pack. As a result, the AMD Driver Pack update package is recommended for deployment on every execution of UXSPI, regardless of the current version.

**Intel Driver Pack current version is always undetectable**

UXSPI does not detect the current version of the Intel Driver Pack. As a result, the Intel Driver Pack update package is recommended for deployment on every execution of UXSPI, regardless of the current version.

**UXSPI always installs the LSI driver**

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

**Broadcom NetXtreme firmware update requires version 3.58b or later for the tg3 driver** The Broadcom NetXtreme firmware update requires version 3.58b or later for the tg3 driver to support the firmware update process. Version 3.58b or later of the driver must be loaded and currently running before the firmware update can be successfully applied.

**Linux device driver updates require specific packages**

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

- Red Hat Enterprise Linux: rpm-build, perl, and bash
- SuSE Enterprise Linux: perl and bash

**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 UpdateXpress System Packs that are installed. The ServeRAID firmware update packages return an error code when executed without the filter driver being installed. The Windows system requires a reboot before this driver becomes active. You can rerun 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 (32-bit and 64-bit operating systems). If you are running UXSPI compare or update functions on Windows Server 2008 R2, a dialog box opens stating: Integrated RAID On Chip (IROC) Library has stopped working. To have UXSPI continue, double click **Close the Program**.

**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 both the installed version and the update version of the firmware. The following results are displayed for 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 that IPMI drivers are installed and running. 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 might take 15 to 20 minutes when Linux Remote Supervisor Adapter II (RSA II) daemon is installed without the Linux RSA II card being 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 loaded and active drivers associated with a device are detected**

For Windows systems, UXSPI only detects the presence and version information for drivers that are loaded and active. Although a driver for a device might have been installed, it will not be detected until the operating system associates the driver with its matching device. Drivers are not detected if they are not associated with a matching device.

**Different New Version is displayed before and after an update**

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

**Offline updates are not deployed**

Offline updates are not compared or deployed by UXSPI. The 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 x460/MXE-460/x3950. If you want to update a 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 update for QLogic Fibre Channel (FC) firmware, updates both QLogic FC BIOS and firmware. However, the QLogic FC firmware update versions 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 whether the QLogic firmware is a previous version.

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

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

**UXSPI does not support an AMM firmware update in some cases**

UXSPI does not support the update of Advanced Management Module



(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 the inserted CD-ROM while updates are being applied on Windows**

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

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

On the LS21/LS41, the onboard LSI 1064 cannot be distinguished from the LSI 1064 expansion adapter. This means that when running in the 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 might be incorrectly determined to be backlevel and can 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 the latest individual update) for a given system is done by selecting the the Windows operating system. This means that although Windows updates for a given system can be acquired, there might not be updates for the Windows version of interest.

For example, the acquired UXSP supports Windows 2000 and Windows 2003, but not support Windows 2008. You can use this UXSP to update on Windows 2008. In that case you will get an error code of 33, stating: Cannot find UpdateXpress System Pack XML file for this Machine Type and Operating System.

**There is no built-in timeout for completion of updates**

UXSPI does not require that updates complete within a certain time period. If an update does not end UXSPI 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. However, 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 the Windows 2008 environment**

Do not attempt to run an update for this adapter because it will fail. This is a limitation with the Adaptec HRCCONF tool.

**Second OS image is 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, UXSPI updates the boot image and only one OS image. The following error is displayed when the product tries to update the second OS image: Could not find update file. The AMM version must be at least BPET42D or later to properly configure the ICPM card.

**UXSPI only supports updating two files for legacy Management Modules**

UXSPI only supports the updating of two files for legacy Management Modules.

**Cobia card on Windows 64-bit OS requires a 64-bit native build Broadcom CIM provider**

The Cobia card on the Windows 64-bit OS requires a 64-bit native build Broadcom CIM provider.

**Device driver update returns code 1603**

Code 1603 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 IBM System x3450**

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

**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 `/etc/ssh/sshd_config` file 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 provide access to the server by the agent. Complete the following steps to provide access.

1. Log into 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** and click **OK**.

**Libusb\_support must be enabled to allow an update of the RSA2 driver on VMWare 4.0**

You must enable **Libusb\_support** support manually prior to running the update. To enable support, run the command **esxcfg-module -s libusb\_support=1 usb.o** 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. Complete the configuration steps for one of the applicable VMware systems.

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 lo`
5. 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. 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**

The LSI provider used by UpdateXpress System Pack Installer to gather the LSI adapter data during inventory collection displays many lines of LSI BUS messages on 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. This occurs because the driver updates that are in v14.0 are already bundled with Windows Server 2008 R2, and 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 the version data if 2.1.1a has already been applied. However, the 2.1.0c packages can still be applied and the 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 is not detected on IBM System x3850 X5 with SLES 11 SP1**

UXSPI cannot detect the ServeRAID B5015 controller on IBM System x3850 X5 servers running SLES 11 Service Pack 1.

### **ServeRAID B5015 firmware version not detected on RHEL 5 U5 and RHEL 6**

UXSPI cannot detect the firmware version of the ServeRAID B5015 when running on RHEL 5 U5 or RHEL 6.

### **Broadcom adapters are not supported by VMware ESX 4.0 and 4.1**

UXSPI cannot detect the firmware of Broadcom adapters in VMware ESX 4.0 or 4.1 environments.

### **Mounted directory will be rejected when running UXSPI on SLES10**

The specified mount directory will be unmounted when running UXSPI on

SLES10. Keep the current working directory at the mount point, such as `/mnt` to prevent an unmount of the related network when running UXSPI.

**Brocade firmware version cannot be detected on RHEL 5.8, RHEL 6.2, RHEL 6.3, SLES 10.4, SLES 11.2, and ESX 4.1**

The Brocade firmware version displays as undetectable from UXSPI in RHEL 5.8, RHEL 6.2, RHEL 6.3, SLES 10.4, 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 a 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 IBM System x3950 X5 type 7146**

The IBM System x3950 X5 could hang after selecting **Updates** from the TUI or GUI menus, and return an unrecognizable error. This can be caused by a 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.

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

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

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

**Some systems do not recognize some USB keys**

Some IBM systems do not recognize the 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 AMM to perform updates remotely using the UXSPI GUI, Firefox displays a warning message for a busy or unresponsive script and provides the option to stop the script or 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-up windows are displayed**

Before deploying updates, close any pop-up windows opened by the operating system. In particular, you must close any "New Hardware Found" pop-up windows displayed by Windows. Until these are closed, Windows does not allow the new hardware to be updated, causing UXSPI to stop responding.

### **Brocade 10Gb dual port combined network adapter driver mismatch**

When using UXSPI to update systems that have the Brocade 10Gb dual port combined network adapter installed, you might receive a message warning that the BCU and driver versions do not match. UXSPI cannot detect the Brocade firmware version if the Brocade driver version is not equal to the provider version used by UXSPI. This is a known issue and can be safely ignored.

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.

### **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 could require that you 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 on 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 to exit on Linux**

When using the UXSPI CLI to update the IBM HBA/LSI onboard 6Gb firmware on Linux operating systems, UXSPI exits 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) are not executed. This issue does not affect the UXSPI GUI or an individual update for the IBM HBA/LSI onboard 6Gb 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.

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

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

### **Brocade driver 3.0 or higher is required to detect the Brocade firmware version**

Upgrade the Brocade driver to 3.0 or higher to detect the firmware version of the installed Brocade cards.

**UXSPI continues to run remotely when interrupted locally**

When UXSPI runs on a remote system, it is launched in a separate process from UXSPI 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.

To interrupt the local process, log on to the remote system and manually stop the UXSPI process.

**Power saving function is not supported for ESXi updates**

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

**UXSPI runs slowly on Windows multi-node systems**

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

**Broadcom 10GBase-T dual port NIC is not supported with RHEL 5**

The Broadcom 10GBase-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 the 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 that are 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 only a difference in the how the version is displayed and does not affect the compare function.

**Duplicate IP addresses when updating IMM, uEFI, and DSA**

When using UXSPI 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.

**Broadcom firmware update on ESXi is only supported on vSphere 5.0 u1 and vSphere 5.1 with the customized patch**

UXSPI does not support Broadcom firmware updates on vSphere 5.0 u1 and vSphere 5.1. Broadcom firmware updates are supported when the customized patch is installed.

**Some parameters for updating the IO module have restrictions**

The values of the following UXSPI parameters are URL format strings: **--io-uploadpath**, **--mm-file**, **--mm-file2**, **--io-file**, and **--io-file2**.

The username, password, and file path of the URL can not contain a blank character and special characters, such as ":" and "@".



**UXSPI requires rebooting VMWare ESXi after each loop of the ESW firmware update**

When using UXSPI to flash IMM, uEFI, or DSA on VMWare ESXi in loops, you must reboot VMWare ESXi each time a loop is completed.

**Make sure switch telnet access is enabled before updating it**

Telnet access for some switches is disabled by default.

You should manually enable the switch.

**A mounted directory is rejected when running UXSPI on SLES10**

The specified mount directory will be unmounted when running UXSPI on SLES10.

When running UXSPI, keep the current working directory as the mount point. Use `/mnt` to prevent unmounting on the related network.

**Ensure the Telnet connection is enabled and the password has not been changed for Cisco switches**

Click **Reset the switch to factory defaults** on the management page for the Cisco Switch to ensure the Telnet connection is enabled and the password has not been changed.

**Brocade device driver does not support SLES 11.3**

The inbox driver and the latest Brocade device driver package do not work on SLES 11.3.

**Firmware update for a switch might fail when the IP address of the switch is allocated by DHCP**

UXSPI requires that the IP address of a switch is stable during the firmware update process. If the IP address is changed after reboot, UXSPI fails to reconnect to the switch and return an error.

**IBM Flex System requirement for updating x-FW in out-of-band mode**

If you want to update x-FW in out-of-band mode on a IBM Flex System, you need to create an IPMI account via the IMM web page and ensure that the account is the same as the CMM login account.

**Detection of the Mellanox firmware version on Windows requires Mellanox Firmware Tools**

Mellanox Firmware Tools (MFT) is required for detecting the installed version of the Mellanox firmware on Windows. If the MFT is not installed, the Mellanox firmware version cannot be detected. The installation of a Mellanox firmware update, however, is not dependent on the MFT.

**OpenSSL on ESXi4.1, ESXi5.0, and ESXi5.1 can only support TLS level 1.0**

OpenSSL on ESXi4.1, ESXi5.0, and ESXi5.1 can only support TLS level 1.0. If you set the IMM TLS min level to 1.1 or 1.2, TC fails to get and set the IMM configuration through the ESXi system.

**UXSPI v9.50 and subsequent releases do not support Windows 2003**

UXSPI v9.50 and subsequent releases do not support Windows 2003. You can use UXSPI 9.41 on Windows 2003 systems. The file is available for download from the IBM Support Fix Central web page.

**There is no QLogic adapter support for the Lenovo customized VMWare ESXi 4.1 image**

There are no QLogic drivers and no provider for these adapters:

- QLogic 10Gb Virtual Fabric Adapter for IBM BladeCenter
- Qlogic QLE8262 Dual Port 10GbE SFP+ Adapter
- Qlogic MEZZ 16Gb 2p FC Adapter

There is currently no support for them on the Lenovo customized VMWare ESXi 4.1 image. In addition, even if you manually install the Qlogic driver and provider, there is still no support.

#### **Detection of Emulex firmware version requires the installation of Emulex OneCommand Manager**

Emulex OneCommand Manager (core version) is required for detecting the installed version of Emulex firmware. If it is not installed, the Emulex firmware can not be detected. The installation of Emulex firmware, however, is not dependent on Emulex OneCommand Manager.

### **RETAIN® tips**

The following tips in the IBM 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 operating systems - IBM System x
- H202234: 7164: UpdateXpress System Pack Installer (UXSPI) list multiple Unified Extensible Firmware Interface (UEFI) updates - IBM System x3755 M3
- H202235: UpdateXpress System Pack Installer (UXSPI) does not support Broadcom, LSI, or Emulex update in VMWare ESXi 4.1 - IBM BladeCenter and IBM System x
- H202237: ServeRAID B5015 SSD Controller Firmware Version Detection Limitation - IBM System x
- H202238: No ESW update support for x3755 M3 on VMWare ESXi 4.1 U1 - IBM System x3755 M3 (7164)
- H202239: Brocade device driver update fails every other time - Brocade 4 Gigabit FC HBA, Brocade 8 Gigabit FC HBA, Brocade 10 Gigabit CNA
- H202240: Multiple concurrent instances of VMWare ESXi update will fail - IBM System x
- H202241: IMM update option missed when install UXSP - IBM System x
- H202242: UXSPI unable to detect two ServeRAID BR10i controllers - IBM System x3400 M3 (7378), x3500 M3 (7380)
- H202243: GUI DOESN'T MATCH WITH CLI
- H203984: UXSPI unable to detect hard drive firmware version on Microsoft Windows 2008, 2008 R2 - IBM System x3250 M4 (2583)
- H204993: Python script will hang when calling UXSPI to update UEFI to 173v if the UEFI is already 173v - IBM System x3690 X5, x3850 X5
- H205607: UXLite update program cannot detect Brocade firmware and BIOS version - IBM BladeCenter HS23E (8038, 8039), IBM System x3530 M4 (7160), IBM System x3630 M4 (7158)
- H207166: UXSPI needs requisite XML file to know if the REQ was met - IBM BladeCenter and System x

---

## **Workarounds**

The following known problems and workarounds are applicable to UpdateXpress System Pack Installer, v10.1.

#### **Sometimes the X window on SLES12 stops working when running UXSPI to update**

Sometimes the X window on SLES12 stops working when running UXSPI to update, and at the same time the update finally succeeds. The screen does not show a response from the keyboard and the mouse, however it still works via SSH, which indicates the OS is still running.



**Workaround:**

1. You can use SSH to run UXSPI in CLI mode to update.
2. If this happens, you can connect to the OS via SSH and run these commands to restart:
  - init 3
  - init 5

**UXSPI does not support collecting FFDC on SLES12**

After failing to update xFW, UXSPI does not collect the First Failure Data Capture (FFDC) on SLES12.

**Workaround:** Collect the FFDC from the IMM web page.

**UpdateXpress System Pack Installer fails to update firmware for the IBM Flex System FC5052 and FC5054 adapters**

When using UpdateXpress System Pack Installer (UXSPI) to update firmware for the IBM Flex System FC5052 2-port 16Gb FC Adapter and the IBM Flex System FC5054 4-port 16Gb FC Adapter on a VMware system, the updates might fail because the system is out of memory.

**Workaround:** Manually disable the HHRC Wrapper on the VMware system.

**UXSPI fails to update xFW for one node of the IBM System x3950 X6**

Sometimes, UXSPI succeeds in updating xFW for node0 of IBM System x3950 X6, but fails to update xFW for node1.

**Workaround:** In this case, you can follow these steps to recover the system.

1. DC off the box.
2. Remove the alternating current power source from both the top and bottom nodes. Wait for all of the LEDs to turn off.
3. Unplug all of the Compute books except slot 1.
4. Connect the alternating current power source to only the bottom node.
5. Connect IMM enet to the bottom node.
6. Log on to IMM web on the bottom node.
7. Flash the IMM and uEFI code.
8. DC on the box and let it get to uefi f1/setup screen.
9. DC off the box.
10. Unplug the bottom alternating current power source. Wait for all of the LEDs to turn off.
11. Unplug compute book in slot 1.
12. Install compute book in slot 5.
13. Connect the alternating current power source to the top node only.
14. Install IMM enet to the top node.
15. Log into IMM web on the top node.
16. Load IMM and uEFI code.
17. Connect the video to the top node.
18. DC on the box.
19. Boot to the uEFI setup screen.
20. DC off the box.

21. Remove the alternating current power source. Wait for all of the LEDs to turn off.
22. Install all of the compute books.
23. Connect all of the alternating current power sources.
24. Verify through the IMM, that the box has been setup as a two-node, 8-way box.
25. DC on the box.
26. Ensure that the box boots.
27. Ensure that all of the code is up-to-date through the IMM web interface on both nodes, or through uEFI setup.

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

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

**Workaround:** Run UXSPI from the command line using the `-semdestroy` option. Then, run UXSPI 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 the same time. You can, however, run the tools against multiple remote systems 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 and 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 a remote UXSPI instance might cancel other instances of UXSPI**

If you use a remote UXSPI that is started by using the `--remote` option or from a third party connection package such as Windows Remote Desktop Connection, it cannot detect another UXSPI instance running on the same remote system. Running multiple instances on the same system is supported; however, clicking **Cancel** from the GUI terminates all instances of UXSPI running on the remote system.

**Workaround:** It is preferred that you not run multiple instances of UXSPI on the same remote system. If you do run multiple instances, manually check to see whether any other administrators are running UXSPI before clicking **Cancel**.

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

The list of supported machine types in the UXSPI 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 UXSPI from a USB key**

Some Linux operating systems (for example, SLES 10) automatically mount USB devices with the **noexec** parameter. This parameter disallows any user from running 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 the 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. UXSPI 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, after rebooting the system the new driver is active.

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

The Linux device drivers require activation. UXSPI 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 UXSPI requires compatibility libraries**

The 64-bit UXSPI requires the compatibility libraries. However, the compatibility libraries are not installed by default in RHEL4. Therefore, when you execute the installer, it returns an error stating the library file is missing.

**Workaround:** Ensure that 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 UpdateXpress System Pack to a directory that is less than 234 characters.

**Firmware updates for the Broadcom network card for Linux on 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 a router.

**UXSPI does not always start on Linux systems**

In rare cases UXSPI might fail to successfully start on Linux. In this case, 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 can vary and match the Linux system. The installer will return an error code of 1.

**Workaround:** Restart UXSPI. 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**. **noexec** means no application can run, including UXSPI.

**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 windows**

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

**Workaround:** To disable this feature for UXSPI, launch **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** at the command prompt with elevated privileges by completing the following steps.

1. Right-click **lnvgy\_utl\_uxspi\_10.1\_winsrvr\_32-64.exe** and select **Run as Administrator**.
2. At the UAC prompt command window, click **Yes**.

UXSPI is launched with a full administrator security token.

**Broadcom firmware is not detected or updated from CD or DVD bootable-media on a IBM System x3550 system**

On an IBM System x3550 system, bootable-media on a CD or DVD might not detect the Broadcom firmware version or successfully apply the firmware update.

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

**Unable to boot from USB Key bootable media on systems with onboard SATA drives**

Systems that only support onboard SATA drives, such as IBM System x336 and IBM System x306m, fail to boot from the USB Key bootable media. However, 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 instead from the USB key.

**Bootling from USB Key bootable media on a IBM System x3755 might display video error messages**

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

**Workaround:** Ignore these error messages.

**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 IBM System x3755, which displays a small screen size in the Bootable media TUI 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 for 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 Step-by-Step Guide for Setting Up IPv6 in a Test Lab 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** with a value=1.

**DSA (diags) firmware is not always installed if the IMM is a previous version**

Because the DSA firmware update is run before the IMM firmware update, if the IMM firmware is an older previous version, 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.

### **Update of IBM HBA/LSI onboard 6Gb firmware exits CLI**

When using the UXSPI CLI to update the IBM HBA/LSI onboard 6Gb firmware in Linux distributions (RHEL4 and RHEL5), UXSPI exits without an Installation Successful message after performing this update. The SAS firmware is installed correctly, but the updates which follow (firmware and drivers for other devices in the system), are not executed.

This issue does not affect the UXSPI GUI or the individual update for the IBM HBA/LSI onboard 6Gb adapter.

### **Full corequisite checking is not performed when using the CLI**

When specifying update packages from the command line, UXSPI does not perform full checking of corequisite packages. Specifically, while both prerequisites and corequisites are checked for a current package, if a package that is a prerequisite of the current package also has a corequisite, the corequisite 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, 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, complete the following 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 **Search** to display 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 using AMM can take an extremely long time to boot**

When running UXSPI from a USB key using an 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.

### **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 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.

### **UXSPI fails to update the DSA package**

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

**Workaround:** Remove **Diagnostics** from the Boot Options menu and AC-Cycle the system before flashing DSA with UXSPI. You can also restart the system and verify that **Diagnostics** is not in Boot Options before flashing DSA.



**UXSPI does not support uploading a directory to the TFTP server**

Due to the limitation of the TFTP server, UXSPI does not support uploading a directory to the TFTP server. Therefore, if the payload of the IO module firmware is a directory, UXSPI does not support updating it automatically using TFTP server.

**Workaround:** Upload the directory to the TFTP server manually and then use the `--io-file` option to update the firmware. Alternatively, use the FTP or SFTP server.

**UXSPI fails to update the device driver for the IBM Flex System FC5022 2-port 16Gb FC Adapter in CLI mode**

UXSPI fails to update the device driver for the IBM Flex System FC5022 2-port 16Gb FC Adapter in CLI mode on Windows.

**Workaround:** Update the device driver with UXSPI in GUI mode.

**UXSPI sometimes fails to update IMM on vSphere 5.0, 5.0 U1, and 5.1**

UXSPI sometimes fails to update IMM on vSphere 5.0, 5.0 U1, and 5.1 due to the operation system IPMI deadlock issue on vSphere 5.0, 5.0 U1, and 5.1. vSphere 5.1 U1 and 5.0 U2 are preferred.

---

## Return codes

UpdateXpress System Pack Installer issues a return code to indicate whether an error occurred while the program is running. The installer returns zero return code if the operation is successful and nonzero return code if there is an error. Review the `C:\Lenovo_Support\uxsp.log` file for Windows and the `/var/log/Lenovo_Support/uxsp.log` file for Linux to determine whether any errors occurred and the associated timestamp.

Refer to “UpdateXpress System Pack Installer return codes” for a complete list of return codes.

Each time the program is run, regardless of the command-line options used, UpdateXpress System Pack Installer logs to the following log files:

**Linux syslog or Microsoft Windows event log**

Contain only high-level, predefined strings.

Example:

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

**Program trace log file in the Lenovo\_Support directory**

Contains program information at a higher level of detail than what goes in the syslog or event log files. However, the same strings that are logged to the system log will be replicated here. 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 the following return codes to help you identify and troubleshoot errors.

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 metadata 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 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 Lenovo update repository.
71	Unrecoverable error downloading one or more updates from Lenovo 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.
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.



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

Return code	Description
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 Lenovo-customized ESXi is supported.

## UpdateXpress System Pack Installer deployment return values

UpdateXpress System Pack Installer issues these deployment return values when update deployment has finished.

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.

Table 12. UpdateXpress System Pack Installer deployment return values (continued)

Update return code	Displayed text	Description
171	Not applicable	This update is not applicable to the current system configuration. This is usually 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 of 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 cause the Installer to exit with return code of 60: Generic Update Failure. One or more updates did not install during deployment.

## UpdateXpress System Pack Installer xFW update return values

UpdateXpress System Pack Installer issues these return values when an xFW update (including UEFI, IMM, DSA, FPGA) has finished.

Table 13. UpdateXpress System Pack Installer xFW update return values for IMM v1 systems

Return code	Description
0	Update successfully
1	User input invalid command line
10	Ipmi connection lost
15	Failed to create a transaction on the IMM
20	Failed to parse the update file header xml
31	LAN over usb device driver issue or this device is disabled
32	It failed to connect to IMM via IPMI
33	IMM ipmi Authentication failure (userid/password mismatch)
41	It failed to transfer update image to IMM
51	Another flash is running, and it does not allow several updates running in parallel
171	It failed to detect system firmware version or did not detect update package build id

**Note:** xFW update 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 cause UpdateXpress System Pack Installer to exit with return code of 60: Generic Update Failure. One or more updates did not install during deployment.

---

## Chapter 7. Coexistence and compatibility

Lenovo UpdateXpress System Pack Installer builds on Dynamic System Analysis<sup>™</sup> code, but has no interactions with other products on the system. If Dynamic System Analysis is installed, UpdateXpress System Pack Installer coexists without interference.



---

## Glossary

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

To view glossaries for IBM products, go to the Terminology website at [www.ibm.com/ibm/terminology](http://www.ibm.com/ibm/terminology).

### A

**AMM** See **Advanced Management Module**.

#### **Advanced Management Module**

Advanced Management Module is a hardware unit that provides system-management functions for all the blade servers in a BladeCenterBladeCenter chassis.

### 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**

A 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**.

---

# Index

## A

- allowable UpdateXpress System Pack users 15
- AMD machines 11
- applying updates 3

## B

- BladeCenter, supported servers 9
- bladecenter, updating 32

## C

- CLI 15, 16, 23, 26
- coexistence 77
- command line interface (CLI) 16, 23, 26
- command options 23, 26
- command processing 21
- command-line interface 15
- commands 23, 26, 32
- compare usage 23, 26
- concepts 3
- CPLD firmware 6

## D

- deploying updates noninteractively 44
- deployment 44
- deployment return values 75
- download
  - UpdateXpress System Pack Installer 3
  - UpdateXpress System Packs 3
- DTD 44

## F

- firmware 9

## G

- glossary 79
- graphical user interface (GUI) 23
- GUI 15

## H

- how UpdateXpress System Pack Installer applies updates 3

## I

- incomplete inventory date 6, 21
- install required device drivers 6
- interactive local deployment using CLI 45
- interactively deploying updates 45

- introducing UpdateXpress System Pack Installer 1
- inventory date 6, 21
- invoke UpdateXpress System Pack Installer 15

## L

- Linux device drivers 9

## M

- migration 77
- missing inventory date 6, 21

## N

- noninteractive local deployment using CLI 44

## O

- operating system privileges 15
- operating systems, supported 11
- options 23, 26

## R

- remote commands 22
- removable media 47
- required device driver installation 6
- requirements 9
- restarts 21
- return codes 73, 74
- running UpdateXpress System Pack Installer 23

## S

- scenarios 41
- sequential processing of options and commands 16, 23, 26
- supported firmware 9
- supported hardware components 9
- supported Linux device drivers 9
- supported Linux operating systems 11
- supported operating systems 11
  - Linux 12
  - VMware 13
  - Windows 12
- supported Windows device drivers 9
- supported Windows operating systems 11
- Symantec packages 6

## T

- troubleshooting 55

## U

- unsupported systems 11
- update from removable media 47
- update usage 23, 26
- updates 21
- updates that require restart 21
- UpdateXpress System Pack 1
- UpdateXpress System Pack Installer 1
  - new features xi
- UpdateXpress System Pack Installer command processing 21
- UpdateXpress System Pack Installer commands 23, 26, 32
- UpdateXpress System Pack Installer interface 15
- UpdateXpress System Pack Installer options 23, 26
- UpdateXpress System Pack Installer scenarios 41
- Updating firmware on an ESXi system 52
- using UpdateXpress System Pack Installer 15
- uxspi command 15

## W

- web resources ix
- what's new xi
- who can use UpdateXpress System Pack Installer 15
- Windows device drivers 9

## X

- x86 machines 11
- xFW return values 76









Printed in USA