Lenovo XClarity Essentials UpdateXpress User Guide

Version 4.0.1

Note

Before using this documentation and the products it supports, read the information in Appendix B "Notices" on page 25.

This edition applies to Lenovo XClarity® Essentials UpdateXpress and to all subsequent releases and modifications until otherwise indicated in the new editions.

Contents

Tables

About this guide

Lenovo XClarity Essentials UpdateXpress (hereafter referred to as the UpdateXpress application) is an application that applies UpdateXpress System Packs (UXSPs) and individual updates to the server. This guide provides information about how to download and use the UpdateXpress application.

Who should read this guide

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

Conventions and terminologies

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 users 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 documentation, when users are instructed to enter a command, type the command and press Enter.

Supported websites

This section provides support web resources.

- Lenovo XClarity Essentials Web site

  Use this Web site to download multiple system-management tools for ThinkSystem and System x servers.

- Lenovo XClarity Essentials UpdateXpress

  Use this Web site to download the UpdateXpress application.

The following Web sites provide information about product compatibility and support, warranties and licenses, and various technical resources.

- Lenovo Flex System Support products and services
- ServerProven Web site
- Lenovo Server, Storage, and Networking Resource Library

Chapter 1. Technical overview

Lenovo XClarity Essentials UpdateXpress (hereafter referred to as the UpdateXpress application) can be used to acquire and apply UpdateXpress System Packs (UXSP) and individual updates to the local or remote system. The UpdateXpress application acquires and deploys UpdateXpress System Pack (UXSP) update packages and individual updates. UXSPs contain firmware and device driver updates.

The following section briefly introduces the four main functions of the UpdateXpress application. For more information, see .

Updating the local server
> Update the local machine currently running the UpdateXpress application. The machine type is detected and updates are acquired and automatically applied.

Updating a remote server
> Update the remote machine by the Baseboard Management Controller (BMC) running on the machine. Users need a Simple File Transfer Protocol (SFTP) server to transfer the updates to the target remote machine.

Creating a repository of updates
> Choose one or more machine types for which updates are acquired from the Lenovo Support Web site. Updates are downloaded to the folder specified, but no updates are applied. Users can later use the UpdateXpress application to apply those updates by indicating that updates should be obtained from the folder specified rather than from the Lenovo Support Web site.

Remote RAID Configuration
> Configure RAID array using BMC service.

UpdateXpress System Pack (UXSP)

A UXSP is an integration-tested bundle of online firmware and driver updates for System x and ThinkSystem servers. UXSPs are released semiannually for the first three years and annually for the final three years of support.

UXSPs simplify the process of downloading and installing all of the online driver and firmware updates for a given system. UXSPs ensure that users always work with a complete and most up-to-date set of updates that have been tested together and bundled by Lenovo.

UXSPs are created for a machine type and operating system combination. Separate UXSPs are provided for Windows® operating systems and each of the Linux distributions. For example, there could be several UXSPs for one particular machine type. There could also be an update for the Windows operating system and for each Linux distribution.

There is also a kind of platform UXSP which can be used to update a system in out-of-band way. The platform UXSP does not contain operating system.

UXSP format
> A UXSP is delivered in an XML file. The naming convention for a UXSP has the following format:
> lnvgy_utl_uxsp_*version_operatingsystem_arch*.xml
> Example: `lnvgy_utl_uxsp_a3sp27a-1.00_windows_32-64.xml`

Applying UXSPs updates with the UpdateXpress application

Users can use the UpdateXpress application to apply UXSP updates to their machine. The UpdateXpress application inventories the machine on which the update will be applied, queries a specified location for a list of applicable update packages, compares the inventory to the applicable update list, recommends a set of updates to apply, and then deploys those updates to the machine.

To apply UXSPs through the UpdateXpress application, do the following:

1. Download the UpdateXpress application from the Lenovo Support Web site.
2. Run the UpdateXpress application. Select **Update the local machine** or **Update a remote machine**.
3. Select **Check the Lenovo Support Web site**.
4. Select **UpdateXpress application System Packs (UXSPs)**.

Users also can download the updates directly from the Lenovo Support Web site. Remember to download the update payload as well as the XML file. For convenience, choose the same destination folder for each UXSP download. Users can download multiple system packs for different machine types to the same folder. When users run the UpdateXpress application, 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. Common files that are already in the folder will not be downloaded again. Therefore, the overall download time is reduced.

Handling a UXSP as a bundle

The UpdateXpress application is designed to download and apply UXSPs. The UXSP is a collection of individual updates as specified by the UXSP XML file.

When running the UpdateXpress application, users can select to work with either UXSPs or individual updates. In most cases, it is recommended to work with UXSPs, but the option to also work with individual updates gives users greater flexibility in choosing which updates to use.

Handling update requisites

This topic describes how the update requisites are acquired and applied.

To successfully apply updates, all prerequisites and corequisites for an update must also be acquired and applied. The UpdateXpress application automatically checks for, acquires, and applies prerequisites and corequisites. Updates frequently require users to apply prerequisite files before they can be successfully applied or to include corequisite packages to properly use the applied update. To simplify the update process, the UpdateXpress application uses information included in the update file to identify requisite packages for the specified updates. The UpdateXpress application then applies these requisite packages.

Prerequisite files

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

By default, the UpdateXpress application acquires the update packages and evaluates them to determine whether the prerequisite conditions have been met, and if necessary, applies the prerequisite files automatically before applying the specified update. Users can choose not to apply the prerequisite files. However, this could cause the update not to be applied successfully.

If prerequisite packages have prerequisites or corequisites, they are acquired, evaluated, and applied in the same manner.

Corequisite files

Some updates require corequisite files, that is, additional packages that must be applied to complete the update successfully, but these packages do not have to be applied prior to the update specified.

By default, the UpdateXpress application identifies, acquires, evaluates, and applies the corequisite packages as part of the update.

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

Example

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

1. To ensure that the update can be completed, the UpdateXpress application first downloads the update.
2. The prerequisite files are downloaded.
3. The corequisite files are downloaded.
4. The prerequisite or corequisite files 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 prerequisite files are applied.
6. The update is applied.
7. The necessary corequisite files are applied.

Update recommendation

By default, the application UpdateXpress will select the packages that are recommended for the system to install or upgrade. Users can also manually select those packages to install or upgrade. In this case, users will receive a warning message similar to the following one:
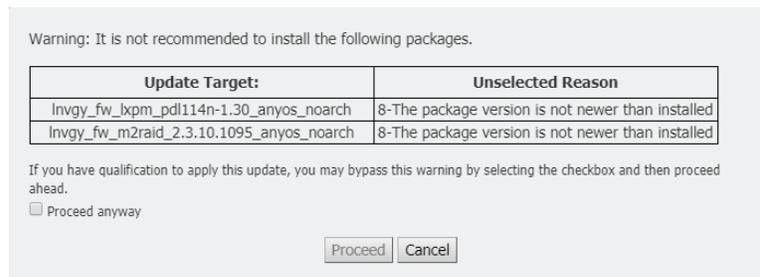
If users see this message, it is recommended to stop the update process.

Operating system independent updates

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

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

Missing or incomplete inventory data

Sometimes an update package applies to a component for which the UpdateXpress application cannot determine the firmware or driver version. In this case, the UpdateXpress application displays the version of the update package instead of the component version. If an installed component version is not detected, the update is not selected by default. In this case, select the package as a recommended update manually.

Installing required drivers

The UpdateXpress application installs required device drivers.

The UpdateXpress application installs every driver in the UXSP when:

- The current device driver is earlier than the available device driver in the UXSP.
- The UpdateXpress application is unable to determine the current device driver version, which typically occurs when the device driver is not installed.

    Note: The UpdateXpress application displays `Undetected` when an installed device driver version is not detected.

Users 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

Chapter 2. Hardware and software requirements

Before users begin to use the UpdateXpress application, review the hardware, operating system, and the local operating system privilege requirements. Systems running the UpdateXpress application require at least 1 GB of Radom-Access Memory (RAM).

Supported server models

The UpdateXpress application supports Windows and Linux device drivers and firmware that are included in available UXSPs. A list of currently supported components device drivers and firmware can be found in the UpdateXpress application readme file that is included in each system pack.

Table 1. Supported Lenovo systems

Series	Server models	
ThinkEdge	• SE450 (7D8T)	
ThinkSystem	• DX1100U Gateway (7D49) • DX1100U Performance/Capacity (7D4A) • DXN2000 Storage (7D5W) • Microsoft Azure Edge Device (7D6Q) • SD530 (7X21) • SD630 V2 (7D1K) • SD650 DWC (7X58) • SD650 V2 (7D1M) • SD650 V3 (7D7M) • SD650-I V3 (7D7L) • SD665 V3 (7D9P) • SD670 V2 (7D1N) • SE350 (7Z46, 7D1X, 7D27) • SN550 (7X16) • SN550 V2 (7Z69) • SN850 (7X15) • SR150/SR158 (7Y54, 7Y55) • SR250 (7Y51, 7Y52) • SR250 V2 (7D7R, 7D7Q) • SR258 V2 (7D7S) • SR530 (7X07, 7X08) • SR550 (7X03, 7X04) • SR570 (7Y02, 7Y03) • SR590 (7X98, 7X99) • SR630 (7X01, 7X02)	• SR630 V2 (7Z70, 7Z71) • SR630 V3 (7D72, 7D73, 7D74) • SR635 (7Y98, 7Y99)[1] • SR635 V3 (7D9G, 7D9H) • SR645 (7D2X, 7D2Y) • SR645 V3 (7D9C, 7D9D) • SR650 (7D4K, 7X05, 7X06) • SR650 V2 (7D15, 7Z72, 7Z73) • SR650 V3 (7D75, 7D76, 7D77) • SR655 (7Y00, 7Z01)[1] • SR655 V3 (7D9E, 7D9F) • SR665 (7D2V, 7D2W) • SR665 V3 (7D9A, 7D9B) • SR670 (7D4L, 7Y36, 7Y37, 7Y38) • SR670 V2 (7Z22, 7Z23) • SR850 (7X18, 7X19) • SR850 V2 (7D31, 7D32, 7D33) • SR850P (7D2H, 7D2F, 7D2G) • SR860 (7X69, 7X70) • SR860 V2 (7Z59, 7Z60, 7D42) • SR950 (7X11, 7X12, 7X13) • ST250 (7Y45, 7Y46) • ST250 V2 (7D8F, 7D8G) • ST258 V2 (7D8H) • ST550 (7X09, 7X10) • ST558 (7Y15, 7Y16) • ST650 V2/ST658 V2 (7Z74, 7Z75, 7Z76)
ThinkServer	• DN8848 V2 (7D6A, 7D8U)[2] • SR588/SR590 (7D4M) • SR588 V2/SR590 V2 (7D53)[2] • SR658H V2(70WD,70WE,70WF)[2]	• SR660 V2/SR668 V2(7D6L)[2] • SR860P (7D5D) • WH5900 Appliance (7D5V)
Solutions	• ThinkAgile VX Series (7D1Y, 7D28, 7D2Z, 7D43, 7Y12, 7Y13, 7Y14, 7Y92, 7Y93, 7Y94, 7Z12, 7Z13, 7Z62, 7Z63) • ThinkAgile MX Series (7D19, 7D1B, 7D1H, 7D2E, 7D5R, 7D5S, 7D5T, 7D66, 7D67, 7D6B, 7Z20)	• ThinkAgile HX Series (7D1Z, 7D20, 7D29, 7D2T, 7D46, 7D4R, 7D5U, 7X82, 7X83, 7X84, 7Y88, 7Y89, 7Y90, 7Y95, 7Y96, 7Z03, 7Z04, 7Z05, 7Z08, 7Z09, 7D0W, 7D0Y, 7D0Z, 7D11, 7D52, 7Z82, 7Z84, 7Z85)

Table 1. Supported Lenovo systems (continued)

Series	Server models	
System x	• HX 3310 Appliance (8693) • HX 5510/7510 Appliance (8695) • nx360 M5 (5465, 5467) • x240 Compute Node (7162, 2588) • x240 M5 Compute Node (2591, 9532) • x280 X6/x480 X6/x880 X6 Compute Node (4258, 7196)[3] • x440 (7167, 2590)	• x3250 M6 (3633, 3943) • x3500 M5 (5464) • x3550 M5 (5463, 8869) • x3650 M5 (5462, 8871) • x3750 M4 (8753) • x3850 X6/x3950 X6 (6241)[3]

Notes:

1. This server model is AMD one socket processor-based.

2. This server model is ThinkBMC-based. UpdateXpress only supports BMC/UEFI/FPGA firmware update on this server model.

3. This server model supports both single node and multiple node.

Supported operating systems

The UpdateXpress application is supported on Linux and Windows operating systems.

Windows

The UpdateXpress application is supported on 64-bit operating systems. Use the information in the following table to identify operating systems that are supported by the UpdateXpress application.

Table 2. Supported Windows operating systems

Operating system	Update Local	Update Remote	Local Repository	Remote RAID Configuration
Microsoft Windows 10/11 Desktop Editions	No	Yes	Yes	Yes
Microsoft Windows 10/11 Pro for Workstations (21H2)	Yes[1]	Yes	Yes	Yes
Microsoft Windows Server 2016	Yes	Yes	Yes	Yes
Microsoft Windows Server 2019	Yes	Yes	Yes	Yes
Microsoft Windows Server 2022	Yes	Yes	Yes	Yes

1. The update local feature of Microsoft Windows 10/11 Pro for Workstations (21H2) is only supported in SR655/SR645 V3/SR665 V3.

Linux

The UpdateXpress application is supported on the following versions of Linux operating systems.

Table 3. Supported Linux operating systems

Operating system	Update Local	Update Remote	Local Repository	Remote RAID Configuration
Red Hat Enterprise Linux 7.X (7.5 and later versions)	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 8.X (8.1 and later versions)	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 9.X	Yes	Yes	Yes	Yes
SUSE Linux Enterprise Server 12.X (12.4 and later versions)	Yes	Yes	Yes	Yes
SUSE Linux Enterprise Server 15.X	Yes	Yes	Yes	Yes

Notes:

- 500 MB of free disk space is recommended when running the UpdateXpress application on a Linux operating system.

- The UpdateXpress application supports fuzzy operating system check. If the current operating system does not support the firmware packages in a UXSP, the firmware packages might also be listed in the comparison result of the UpdateXpress application.

- Depending on the `ifconfig` command on Linux OS, UpdateXpress might not be installed on RHEL 7.0 or later versions. To update the firmware on RHEL 7.0 or later versions, users should install net-tools.

- Linux device driver updates require specific packages. The following packages are required to be installed:
  - Red Hat Enterprise Linux: rpm-build, perl, and bash
  - SUSE Enterprise Linux: perl and bash

- For the following operating systems,users can use UpdateXpress 3.4.0 instead:
  - RedHat 7.0/7.1/7.2/7.3/7.4/8.0
  - SUSE 12.0/12.1/12.2/12.3
  - Windows 7/8
  - Windows server 2008R2/2012/2012R2

Operating system privileges

To run the UpdateXpress application, users should have administrator or root-equivalent operating system privileges. The UpdateXpress application returns an error when a user with insufficient privileges attempts to run the program.

Store the UpdateXpress application, including its extractions, and all the sensitive logs to a safe place where only authorized users can access.

Chapter 3. Using the UpdateXpress application

Users can use the UpdateXpress application to interactively deploy updates. A screen resolution of 1024 x 768 or higher is recommended when running the UpdateXpress application. To run the UpdateXpress application, extract the compressed file and invoke the executable file for the operating system. No installation is required.

Windows

> For Windows operating system, the UpdateXpress application is named as follows:
>
> ```
> lnvgy_utl_lxce_ux{ build id }_4.x.x_windows_x86-64.zip
> ```
>
> For each release of the UpdateXpress application, users can distinguish the Windows ZIP file name by its version number. The Windows ZIP file is specified as **lnvgy_utl_lxce_ux{ build id }_{ version }_windows_i386.zip** where *lnvgy_utl_lxce_ux* is the name of the ZIP file, *build id* indicates the build number and *version* indicates the UpdateXpress application version number.

Linux

> For Linux operating system, the UpdateXpress application is named as follows:

Operating system	Name of the UpdateXpress application
Red Hat Enterprise Linux 7.X/8.X/9.X AMD64/EM64T and above	`lnvgy_utl_lxce_ux{ build id }_4.x.x_rhel_x86-64.tgz`
SUSE Linux Enterprise Server 12.X/15.X AMD64/EM64T and above	`lnvgy_utl_lxce_ux{ build id }_4.x.x_sles_x86-64.tgz`

The name of the UpdateXpress application is different for Windows and Linux operating systems. For convenience, hereafter *<Zipfile>* is used to refer to the name of the UpdateXpress application for both Windows and Linux operating systems in this documentation.

Launching the UpdateXpress application

Users can use the UpdateXpress application to acquire the latest UXSPs and individual updates.

To launch the UpdateXpress application, do the following:

- **For Windows**:
    1. Extract the *<Zipfile>* to a local folder.
    2. Do one of the following:
        – Double-click **lxce_ux.exe**.
        – Right-click **lxce_ux.exe** and click **Run as administrator** in the pop-up menu.
- **For Linux**:

    Type the following commands in the terminal:

    `tar xvf` *<Zipfile>*

    `./start_lxce_ux.sh`

Updating a local server from the Web site

The UpdateXpress application can update a local machine with UXSPs or individual updates acquired from the Web site.

The following prerequisites are required to complete this task:

- The UpdateXpress application is running on a local machine to be updated.
- The machine is running a supported operating system. For details of supported operating systems, see "Supported operating systems" on page 6.

To update a local machine from the Web site, do the following:

1. Launch the UpdateXpress application. See "Launching the UpdateXpress application" on page 9.

2. In the Welcome window, click **Next**.

3. In the Target Server window, select **Manage the local server**. If **Input BMC access information** is selected, input the BMC information in this window and click **Next**.

4. In the Task window, select **Perform updating** on target server and click **Next**.

5. In the Update Setting window, do one or more of the following:
   - To downgrade the firmware, select **Enable updating to a back-level firmware** and click **Next**.
   - To upgrade the backup system firmware, select **Only update the backup image of the BMC (and UEFI where applicable)** and click **Next**.

6. In the Update Location window, select **Check the Lenovo support web site**, and click **Next**.

7. In the Update Type window, select the target update type, and click **Next**.

8. In the Target Directory window, specify the location for the updates to be downloaded or accept the default location, and click **Next**.

9. On the Network Access page, if users have no special requirement for security access, click **Test Connection** to check the network connection of the Target URL, and click **Next**.
   If users have more security concerns, before clicking **Test Connection**, do one or the following:
   - Configure **Proxy server**:
     a. Select **Proxy Server** if users require an HTTP/HTTPS proxy to connect to the Web, and complete the following fields:

Proxy Type	The proxy type of the proxy server.
IP address or Hostname	The host name, IP address, or domain name of the proxy server.
Port	The port number of the proxy server.

     b. Select **Proxy authentication** if credentials must be specified to authenticate to the proxy server, and complete the following fields:

User Name	The user name for authenticating to the proxy server.
Password	The password for the specified user name.

   - Configure **Custom URL security configuration**

     Select **Custom URL security configuration** if users require a reverse proxy, and select one of the following options:
     - **Accept target server's certificate by default**
     - **Specify the certificate (PEM)**

Network Access
Internet connection is required to download update packages from the Lenovo or IBM repository. If this system needs a proxy server to access the Internet, provide the proxy server information here. It is recommended to test the connection to validate that the proxy service is working.

☑ **Proxy server**

| **Proxy Type:** | **IP address or Hostname:** | **Port** |
| HTTP ▾ | * | * |

☑ **Proxy authentication**

| **User Name:** | * | **Password:** | * |

☑ **Custom URL security configuration**
  ○ Accept target server's certificate by default
  ○ Specify the certificate (PEM)

Test Connection
Test the connection to validate that the proxy service is working.

Target URL: https://support.lenovo.com   [Lenovo URL]

[Test Connection]

10. In the Update Recommendation window, do one of the following:

- To compare the versions of installed driver and firmware with the latest versions, click **Begin**. After the progress is completed, select one or more target packages, and click **Next**.

- To compare the version of devices installed in the local system with the latest version, select **Only compare installed devices**, and click **Begin**. After the progress is completed, select one or more target packages, and click **Next**.

11. In the Acquire Updates window, the acquisition table displays the acquiring progress of the packages. When the progress is completed, click **Next**.

12. In the Update Execution window, click **Begin Update and confirm to continue on the pop window**. The execution table displays the upgrade progress of the packages. When the upgrade progress is completed, click **Next**.

13. In the Finish window, click **View Log** to check the upgrade log, copy and save the commands generated, and click **Finish** to exit.

Updating a local server from a local directory

The UpdateXpress application can update a local machine with UXSPs or individual updates acquired from a local folder.

The following prerequisites are required to complete this task:

- The UpdateXpress application is running on a local machine to be updated.

- The machine is running a supported operating system. For details of supported operating systems, see "Supported operating systems" on page 6.

To update a local machine from a local directory, do the following:

1. Launch the UpdateXpress application. See "Launching the UpdateXpress application" on page 9.

2. In the Welcome window, click **Next**.

3. In the Target Server window, select **Manage the local server**, and click **Next**.

4. In the Task window, select **Perform updating** on target server, and click **Next**.

5. In the Update Setting window, do one or more of the following:

   - To update the back-up image of BMC or UEFI, select **Only update the backup image of the BMC** or **Only update the backup image of the UEFI**, and click **Next**.

   - To downgrade the firmware, select **Enable updating to a back-level firmware**, and click **Next**.

6. In the Update Location window, select **Look in local directory**. To specify a local folder, do one of the following:

   - Click **Browse**, select the target folder, and then click **Next**.

   - Input the folder path into the field beside the **Browse** button, and click **Next**.

7. In the Update Recommendation window, do one of the following:

   - To compare the versions of installed driver and firmware with the latest versions, click **Begin**. After the progress is completed, select one or more target packages, and click **Next**.

   - To compare the version of devices installed in the local system with the latest version, select **Only compare installed devices**, and click **Begin**. After the progress is completed, select one or more target packages, and click **Next**.

8. In the Update Execution window, click **Begin Update and confirm to continue on the pop window**. The execution table displays the upgrade progress of the packages. When the upgrade progress is completed, click **Next**.

9. In the Finish window, click **View Log** to check the upgrade log, copy and save the commands generated, and click **Finish** to exit.

Updating a remote server from the Web site

The UpdateXpress application can update a remote machine with UXSPs or individual updates acquired from the Web site.

The following prerequisite is required to complete this task:

The UpdateXpress application is running on a machine installed with a supported operating system. For details of supported operating systems, see "Supported operating systems" on page 6.

To update a remote machine from the Web site, do the following:

1. Launch the UpdateXpress application. See "Launching the UpdateXpress application" on page 9.

2. In the Welcome window, click **Next**.

3. In the Target Server window, select **Manage the remote server**, input the following information, and click **Next**.
   - **IP address or Host name**: BMC IP address or host name of the target system.
   - **User Name**: BMC user name of the target system.
   - **Password**: BMC password of the target system.
   - **Port**: BMC CIM or RSET port number. If users do not input, the default port is used.

   Note: If not checking the BMC server certificate, select **Accept BMC server's certificate by default**, and click **Next**.

4. In the Task window, select **Perform updating** on target server, and click **Next**.

5. In the Update Setting window, if **Use a separate remote server** is selected, input the following information:

- (SFTP/HTTP/HTTPS/FTP Setting) **IP address or Host name**: IP address or host name of the server.
- (SFTP/HTTP/HTTPS/FTP Setting) **User Name**: User name of the server.
- (SFTP/HTTP/HTTPS/FTP Setting) **Password**: Password of the server.
- (SFTP/HTTP/HTTPS/FTP Setting) **Port**: Port number of the server. If users do not input, the default port is used.
- (SFTP/HTTP/HTTPS/FTP Setting) **Directory**: The location on the server where update packages are copied to.

  Note: Input a full path on the SFTP/HTTP/HTTPS/FTP server. The FTP server is only used for the ThinkServer marked with superscript 2 (Note 2) in "Supported server models" on page 5.

6. To configure the SFTP server key fingerprint, do one of the following:

   - To check the SFTP server key fingerprint, click **Yes**.

   - Not to check the SFTP/HTTPS server key fingerprint, select **Skip check SFTP server's key fingerprint**, and click **Next**.

7. Do one or more of the following:

   - To downgrade the firmware, select **Enable updating to a back-level firmware**, and click **Next**.

   - To upgrade the backup system firmware, select **Only update the backup image of the BMC (and UEFI where applicable)**, and click **Next**.

8. In the Update Location window, select **Check the Lenovo Support Web site**, and click **Next**.

9. In the Target Directory window, specify the location for the updates to be downloaded or accept the default location, and click **Next**.

10. On the Network Access page, if users have no special requirement for security access, click **Test Connection** to check the network connection of the Target URL, and click **Next**.
    If users have more security concerns, before clicking **Test Connection**, configure **Proxy server** and/or **Custom URL security configuration** depending on the security requirements as follows:

    - **Proxy server**
      a. Select **Proxy Server** if users require an HTTP/HTTPS proxy to connect to the Web, and complete the following fields:

Proxy Type	The proxy type of the proxy server.
IP address or Hostname	The host name, IP address, or domain name of the proxy server.
Port	The port number of the proxy server.

      b. Select **Proxy authentication** if credentials must be specified to authenticate to the proxy server, and complete the following fields:

User Name	The user name for authenticating to the proxy server.
Password	The password for the specified user name.

    - **Custom URL security configuration**

      Select **Custom URL security configuration** if users require a reverse proxy, and select one of the following options:

      – **Accept target server's certificate by default**
      – **Specify the certificate (PEM)**

Network Access

Internet connection is required to download update packages from the Lenovo or IBM repository. If this system needs a proxy server to access the Internet, provide the proxy server information here. It is recommended to test the connection to validate that the proxy service is working.

☑ **Proxy server**

Proxy Type: **IP address or Hostname:**   **Port**

[HTTP ▾]   [_____] *   [_____] *

☑ **Proxy authentication**

User Name: [_____] *   **Password:** [_____] *

☑ **Custom URL security configuration**

○ Accept target server's certificate by default

○ Specify the certificate (PEM)

Test Connection

Test the connection to validate that the proxy service is working.

Target URL: [https://support.lenovo.com]   [Lenovo URL]

[Test Connection]

11. In the Update Type window, select the target update type, and click **Next**.

12. In the Update Recommendation window, click **Begin** to compare the version of firmware with the latest version. After the progress is completed, select one or more target packages, and click **Next**.

13. In the Acquire Updates window, the acquisition table displays the acquiring progress of the packages. When the progress is completed, click **Next**.

14. In the Update Execution window, click **Begin Update and confirm to continue on the pop window**. The execution table displays the upgrade progress of the packages. When the upgrade progress is completed, click **Next**.

15. In the Finish window, click **View Log** to check the upgrade log, copy and save the commands generated, and click **Finish** to exit.

Updating a remote server from a local directory

The UpdateXpress application can update a remote machine with UXSPs or individual updates acquired from a local folder.

The following prerequisite is required to complete this task:

The UpdateXpress application is running on a machine installed with a supported operating system. For details of supported operating systems, see .

To update a remote machine from a local directory, do the following:

1. Launch the UpdateXpress application. See .

2. In the Welcome window, click **Next**.

3. In the Target Server window, select **Manage the remote server**, input the following information, and click **Next**.
   - (Setting) **IP address or Host name**: BMC IP address or host name of the target system.

- (Setting) **User Name**: BMC user name of the target system.
- (Setting) **Password**: BMC password of the target system.
- (Setting) **Port**: BMC CIM or RSET port number. If users do not input, the default port is used.

   Note: If users are not intended to check the BMC server certificate and SFTP/HTTPS server key fingerprint, select **Accept BMC server's certificate and SFTP/HTTPS server's key fingerprint by default**, and click **Next**.

4. In the Task window, select **Perform updating** on target server, and click **Next**.

5. In the Update Setting window, if **Use a separate remote server** is selected, input the following information:
   - (SFTP/HTTP/HTTPS/FTP Setting) **IP address or Host name**: IP address or host name of the server.
   - (SFTP/HTTP/HTTPS/FTP Setting) **User Name**: User name of the server.
   - (SFTP/HTTP/HTTPS/FTP Setting) **Password**: Password of the server.
   - (SFTP/HTTP/HTTPS/FTP Setting) **Port**: Port number of the server. If users do not input, the default port is used.
   - (SFTP/HTTP/HTTPS/FTP Setting) **Directory**: The location on the server where update packages are copied to.

   Note: Input a full path on the SFTP/HTTP/HTTPS/FTP server. The FTP server is only used for the ThinkServer marked with superscript 2 (Note 2) in .

6. To configure the SFTP server key fingerprint, do one of the following:

   - To check the SFTP server key fingerprint, click **Yes**.

   - Not to check the SFTP/HTTPS server key fingerprint, select **Skip check SFTP server's key fingerprint**, and click **Next**.

7. Do one or more of the following:

   - To downgrade the firmware, select **Enable updating to a back-level firmware**, and click **Next**.

   - To upgrade the backup system firmware, select **Only update the backup image of the BMC (and UEFI where applicable)**, and click **Next**.

8. In the Update Location window, select **Look in local directory**. To specify a local folder, do one of the following:

   - Click **Browse** , select the desired folder, and click **Next**.

   - Input the folder path into the field beside the **Browse** button, and click **Next**.

9. In the Update Type window, select the target update type, and click **Next**.

10. In the Update Recommendation window, click **Begin** to compare the version of installed firmware with the latest version. After the progress is completed, select one or more target packages, and click **Next**.

11. In the Update Execution window, click **Begin Update and confirm to continue on the pop window**. The execution table displays the upgrade progress of the packages. When the upgrade progress is completed, click **Next**.

12. In the Finish window, click **View Log** to check the upgrade log, copy and save the commands generated, and click **Finish** to exit.

Creating a repository of updates

The UpdateXpress application can create a repository of UXSPs or individual updates acquired from the Web site.

The following prerequisites are required to complete this task:

- The UpdateXpress application is running on a machine where the repository is to be created.

- The machine is running a supported operating system. For details of supported operating systems, see "Supported operating systems" on page 6.

To create an update repository, do the following:

1. Launch the UpdateXpress application. See "Launching the UpdateXpress application" on page 9.

2. In the Welcome window, click **Next**.

3. In the Target Server window, select **Create a repository of updates**, and click **Next**.

4. In the Update Type window, select the target update type, and click **Next**.

   - Select **UpdateXpress System Packs (UXSPs)** to update UXSP. The Update Selection window is skipped if **UpdateXpress System Packs (UXSPs)** is selected, but all the UXSP packages are downloaded.

   - Select **Latest available individual updates** to update individual packs. The Update Selection window is displayed in the following step if **Latest available individual updates** is selected, users should select the target packages.

5. On the Network Access page, if there are no special requirement for security access, click **Test Connection** to check the network connection of the Target URL, and click **Next**.
   If users have more security concerns, before clicking **Test Connection**, configure **Proxy server** and/or **Custom URL security configuration** depending on the security requirements as follows:

   - **Proxy server**

     a. Select **Proxy Server** if users require an HTTP/HTTPS proxy to connect to the Web, and complete the following fields:

Proxy Type	The proxy type of the proxy server.
IP address or Hostname	The host name, IP address, or domain name of the proxy server.
Port	The port number of the proxy server.

     b. Select **Proxy authentication** if credentials must be specified to authenticate to the proxy server, and complete the following fields:

User Name	The user name for authenticating to the proxy server.
Password	The password for the specified user name.

   - **Custom URL security configuration**

     Select **Custom URL security configuration** if users require a reverse proxy, and select one of the following options:

     – **Accept target server's certificate by default**
     – **Specify the certificate (PEM)**

Network Access

Internet connection is required to download update packages from the Lenovo or IBM repository. If this system needs a proxy server to access the Internet, provide the proxy server information here. It is recommended to test the connection to validate that the proxy service is working.

☑ **Proxy server**

Proxy Type: **IP address or Hostname:**   **Port**

[HTTP ▾]   [_____] *   [_____] *

☑ **Proxy authentication**

User Name: [_____] *   **Password:** [_____] *

☑ **Custom URL security configuration**

○ **Accept target server's certificate by default**

○ **Specify the certificate (PEM)**

Test Connection

Test the connection to validate that the proxy service is working.

Target URL: [https://support.lenovo.com]   [Lenovo URL]

[Test Connection]

6. In the Machine Types window, select the target machine types, and click **Next**.

   - To select all listed machine types, select the check box in the header.
   - To add a machine type, click **Add**, and specify the machine type.
   - To remove a machine type, select the machine type from the list, and click **Remove**.
   - To update the machine type list to the latest version, click **Update List**.
   - To reset the machine type list, click **Reset List**.

7. In the Operating Systems window, select the target operating systems, and click **Next**.

8. In the Target Directory window, specify the location for the updates to be downloaded or accept the default location, and click **Next**.

9. (Optional) Select **Latest available individual updates**, the Update Selection window is displayed. Select the target updates, and then click **Next**.

10. In the Acquire Updates window, the acquisition table displays the acquiring progress of the packages. When the progress is completed, click **Next**.

11. In the Finish window, click **View Log** to check the upgrade log, copy and save the commands generated, and click **Finish** to exit.

Configuring RAID array for a remote machine

The UpdateXpress application can do some RAID configuration for a remote machine, such as collecting RAID information, creating RAID array, configuring disk status and clearing the configuration of a controller.

The following prerequisite is required to complete this task:

- The UpdateXpress application is running on a machine installed with a supported operating system. For details of supported operating systems, see "Supported operating systems" on page 6.

To configure RAID array, do the following:

1. Launch the UpdateXpress application. See "Launching the UpdateXpress application" on page 9.

2. In the Welcome window, click **Next.**

3. In the Target Server window, select **Manage the remote server**, input the following information, and click **Next**.
   - (Setting) **IP address or Host name**: BMC IP address or host name of the target system.
   - (Setting) **User Name**: BMC user name of the target system.
   - (Setting) **Password**: BMC password of the target system.
   - (Setting) **Port**: BMC CIM or RSET port number. If users do not input, the default port is used.

   Note: If users are not intended to check the BMC server certificate and SFTP/HTTPS server key fingerprint, select **Accept BMC server's certificate and SFTP/HTTPS server's key fingerprint by default**, and click **Next**.

4. In the Task window, select **Remote RAID Configuration** or **Perform updating on target server**, or both items, and click **Next**.

5. In the Remote Setting window, input the following information, and then click **Next**.

   - (BMC Setting) **IP address or Host name**: BMC IP address or host name of the target system.

   - (BMC Setting) **User Name**: BMC user name of the target system.

   - (BMC Setting) **Password**: BMC password of the target system.

   - (BMC Setting) **Port**: BMC CIM or REST port number. If there is no input, the default port is used.

   The UpdateXpress application checks the BMC server's certificate and displays the content on a pop-up dialog. Click **OK**.

   Note: If users do not check the BMC server's certificate, select the checkbox before the message: `Accept BMC server's certificate by default`. Click **Next**.

6. In the RAID Configuration window, UpdateXpress will first collect RAID information of the remote server. After it finishes collecting, RAID information will be displayed in the window.

   - To clear the configuration of a controller, click **Clear Controller** .

   - To change drive status to JBOD, click **Make JBOD**.

   - To change drive status to Unconfigured GOOD, click **Make Good**.

7. In the RAID Configuration window, to create array for controller, click **Create Array**.

   a. In the wizard window, select RAID level, add spans, members and hot spares for the array, and create volumes and set disk parameters.

   b. When the summary information is displayed, click **Create** to start creating storage array.

   c. After the process is completed, click **Collect** or **Refresh** to collect RAID information again.

   d. Click **Next** if there is no other action needed.

8. In the **Finish** window, click **View Log** to check the configuration log, copy and save the command generated, and click **Finish** to exit the application.

Displaying OneCLI commands in the Finish Window

UpdateXpress performs updates by invoking OneCLI commands in the GUI wizard. UpdateXpress 2.7.0 and later versions displays these commands in the new message box in the Finish window. Users can save and use the commands to invoke the same function in CLI mode.

Example of OneCLI commands:

```
<LXCE OneCLI> update flash --uselocalimg --imm USERID:***@xx.xxx.xxx.xxx --dir
D:\build\Onegui\105980\lnvgy_utl_lxce_ux01k-2.7.0_windows_i386\workingdir --output
D:\build\Onegui\105980\lnvgy_utl_lxce_ux01k-2.7.0_windows_i386\Lenovo_Support\ --platform --log 5
```

Chapter 4. Troubleshooting

This chapter provides information about what to do if users experience a problem with the UpdateXpress application.

Limitations and problems

- **When specifying the certificate for custom proxy/URL security configuration in the process of running UpdateXpress under Linux, if users click Browse for the second time, the browse window might not be displayed on the UpdateXpress interface.**

  On the Network Access page, select **HTTPS** in the **Proxy Type** drop-down list, select **Custom proxy security configuration** and **Custom URL security configuration**, and click **Browse…** to specify the certificate for both selection. When users click Browse for the second time, the browse window might not be displayed.

  Workaround: Do one or more of the following:
  – Manually switch to the browse window in the background.
  – Adjust the window size to view the browse window in the background.
  – Use UpdateXpress on Windows instead.

- **UpdateXpress fails to set the out-of-box driver as default on some devices when upgrading from in-box driver to out-of-box one.**

  UpdateXpress calls OneCLI to perform update task. OneCLI could not compare the inconsistent versions of in-box driver and out-of-box driver and select the correct version for update. In this case, UpdateXpress could not select the out-of-box driver for update, and users should manually select the target out-of-box driver to override the in-box driver.

- **All UpdateXpress paths must use standard English-language alphanumeric characters.**

  All UpdateXpress paths must use standard English-language alphanumeric characters and must not include spaces, special characters, or non-English language characters.

- To download packages from IBM Web site through proxy, make sure the proxy server can access domain www.ibm.com and www-03.ibm.com when Windows OS is installed and access related IP address 207.25.252.197 and 129.42.160.51 when Linux OS is installed.

Workarounds

There are presently no known problems or workarounds for the UpdateXpress application.

Coexistence and compatibility

The UpdateXpress application builds on OneCLI, but has no interactions with other programs on the system. Do not run the UpdateXpress application and OneCLI at the same time.

Appendix A. Accessibility features for UpdateXpress

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

The following list includes the major accessibility features in the UpdateXpress application:

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

Keyboard navigation

Users can use the keyboard to navigate through the graphical user interface (GUI).

The following keyboard shortcuts are applicable on both the Windows and Linux operating systems.

Shortcut	Function
Tab	Go to the next control.
Shift+Tab	Move to the previous control.
Left arrow	Move back one character.
Right arrow	Move forward one character.
Backspace	Delete the character to the left of the cursor.
Delete	Delete the character under the cursor.
Up arrow	Move focus and selection upwards through the radio button.
Down arrow	Move focus and selection downwards through the radio button.
Space	Select or clear an option.

Screen-reader technology

Screen-reader technologies are primarily focused on software program interfaces, help information systems, and various online documents. For additional information about screen readers, see the following:

- Using the JAWS screen reader:

  http://www.freedomscientific.com/Products/Blindness/JAWS

- Using the NVDA screen reader:

  http://www.nvaccess.org/

Lenovo and accessibility

For more information about the Lenovo commitment to accessibility, go to http://www.lenovo.com/lenovo/us/en/accessibility.html.

Appendix B. Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area.

Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary.

Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Trademarks

LENOVO, FLEX SYSTEM, SYSTEM X, and NEXTSCALE SYSTEM are trademarks of Lenovo. Intel and Intel Xeon are trademarks of Intel Corporation in the United States, other countries, or both. Internet Explorer, Microsoft, and Windows are trademarks of the Microsoft group of companies. Linux is a registered trademark of Linus Torvalds. All other trademarks are the property of their respective owners.© 2022 Lenovo.

Important notes

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity might vary depending on operating environments.

Lenovo makes no representations or warranties with respect to non-Lenovo products. Support (if any) for the non-Lenovo products are provided by the third party, not Lenovo.

Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

Index