Lenovo

Lenovo XClarity Provisioning Manager V5 User Guide

Version 1.00

Server Models

Following are server models supported by LXPM V5:

- Lenovo ThinkSystem: SD520 V4, SR630 V4

First Edition (October 2024)

Contents

Chapter 1. Overview

This chapter provides an overview of the Lenovo XClarity Provisioning Manager V5 program (hereinafter referred to as LXPM V5). This chapter contains information about the program introduction, program startup, main interface, buttons displayed on the program interfaces, keyboard navigation, and how to download useful information.

Lenovo XClarity Provisioning Manager V5 Introduction

LXPM V5 combines the functions of configuring Unified Extensible Firmware Interface (UEFI), configuring Redundant Array of Independent Disks (RAID), and updating applications and firmware. It also enables you to install the supported operating systems and associated device drivers, run diagnostics, and collect service data.

This program has the following features:
- Easy-to-use, language-selectable interface
- Integrated help system
- Automatic hardware detection
- Ability to install an operating system and device drivers in an unattended mode or manually
- Ability to clone the settings in one server to other similarly configured Lenovo servers
- Supports RAID setup
- Supports firmware and applications update
- Supports UEFI setup
- Contains diagnostic utility

Note: When you are using LXPM V5, do not restart Lenovo XClarity Controller (also known as BMC).

Lenovo XClarity Provisioning Manager V5 startup

To start LXPM V5, do the following:
1. Turn on the server. Press F1 as soon as you see the logo screen.
2. If you have set a password, enter the correct password.
3. Wait for several seconds. LXPM V5 opens.

   Note: If the text-based interface for UEFI Setup opens instead of the program, go to **System Settings → <F1> Start Control** and select **Tool Suite**. Then, restart the server and repeat step 1 to step 3 to open the program.
4. Click  on the top right corner of the interface and select the language in which you want to view the program. Then, you can start to use the program.

Notes:

- When LXPM V5 opens, if there is any system error or warning, a window will be displayed. Follow the guidance of the window to go to the Diagnostics interface to see the detailed information for the error or warning.

Buttons on the interfaces

The following table provides information about the buttons appear on the interfaces.

Button	Description
	Select the language to be displayed.
	Display the Network Settings window. For details, refer to “Configuring network settings” on page 6.
	Click this button to display the following items: • **Help**: View context-sensitive help information for each interface. • **HotKey**: View keyboard navigation information. • **Getting Started**: View a brief introduction to LXPM V5, do some basic system settings and management network settings, and modify the Lenovo XClarity Controller credentials. • **License Agreement**: View Lenovo license agreement. • **Third-party Licenses**: View the third-party licenses. • **About**: View the LXPM V5 version, copyright, and trademark information.
	Exit LXPM V5 or the current interface.

Keyboard navigation

Note: Only United States layout keyboard is applicable in the user interface.

Both mouse and keyboard are supported in navigation. The following are the keys used for keyboard navigation:
- Ctrl+Tab: Switch between the left pane and the right pane.
- Tab: Move forward to the next selectable item in the active pane.
- Shift+Tab: Move backward to the previous selectable item in the active pane.
- Space: Same as a click when a button is active.
- Up arrow: Scroll up.
- Down arrow: Scroll down.
- Ctrl+L: Load the language menu.
- Ctrl+N: Load the network settings page.
- Ctrl+H:
- Ctrl+X: Exit.

For UEFI Setup, the following keys can be used for keyboard navigation:
- Enter: Select.
- +: Increase the value.
- –: Decrease the value.
- Esc: Return to the previous interface.
- F1: Display the help information.
- F2: Load the previous values.
- F3: Load the optimized default values.
- F4: Save and exit UEFI Setup.

Downloading useful information

- **User Guide**:
  - Provides the using information.
  - Click the **User Guide** tab in the left pane to view the corresponding QR code and website link.
- **Server Documentation**:
  - Provides user guide for Lenovo ThinkSystem servers.

  - Click the **Server Documentation** tab in the left pane to view the corresponding QR code and website link related to your server.
- **Tech Support**:
  - Provides driver and firmware downloads and support resources of your system.
  - Click the **Tech Support** tab in the left pane to view the corresponding QR code and website link.
- **Update Bundles (Service Packs)**:
  - Lenovo releases the firmware, firmware utility, and device drivers in Update Bundles (Service Packs). Go to https://datacentersupport.lenovo.com to download Update Bundles (Service Packs).

Chapter 2. Using LXPM V5

This chapter provides information about using LXPM V5.

Getting started

Click on the top right corner of the LXPM V5 main interface; then, click **Getting Started**. The following interface is displayed.

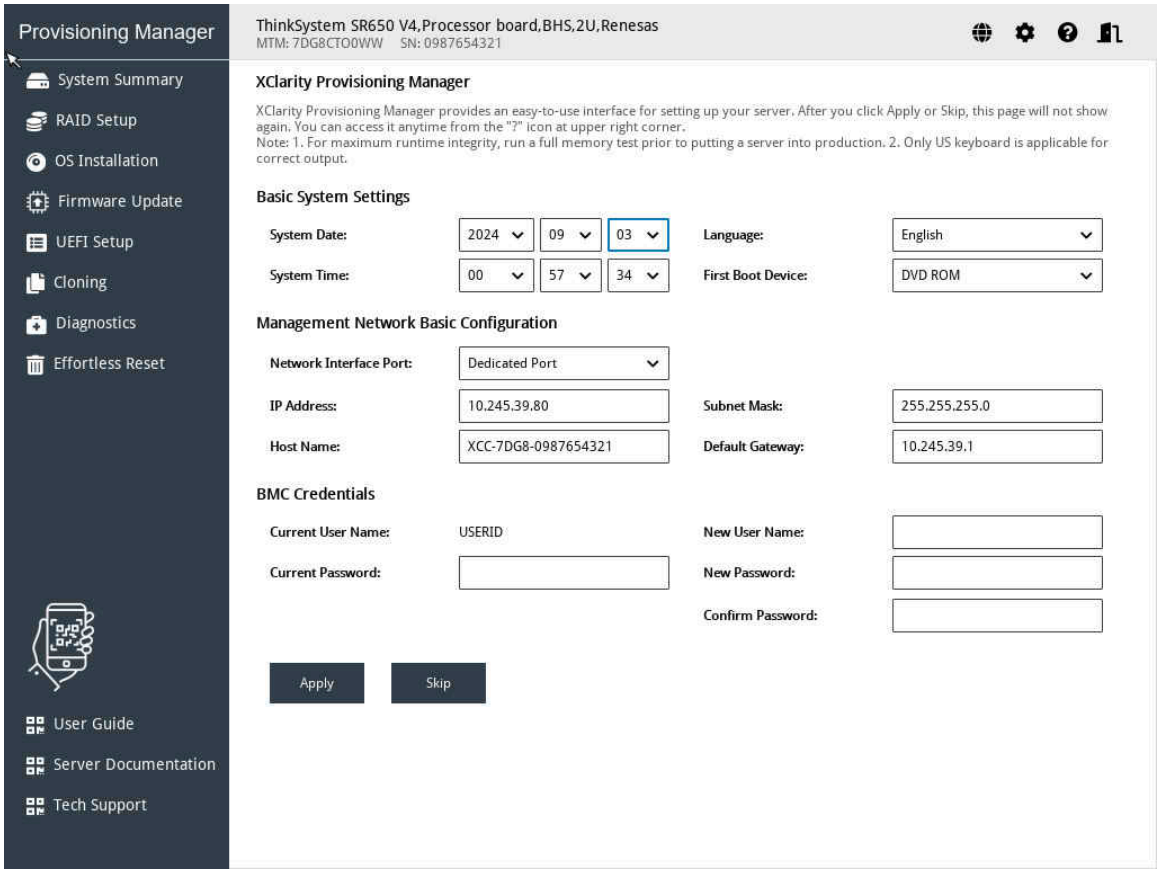


Figure 1. Getting Started interface

In this interface, you can do the following:
- View a general introduction to LXPM V5.
- Configure basic settings for the server, including system date, system time, language, first boot device, and boot mode.
- Configure the Lenovo XClarity Controller basic settings, including network interface port, IP address, default gateway, hostname, and subnet mask.
- Modify the Lenovo XClarity Controller credentials.

Modifying Lenovo XClarity Controller credentials

To modify the Lenovo XClarity Controller credentials, do one of the following:
- To modify the user name, input the new user name and the current password, and click **Apply**.

- To modify the password, input the current password and the new password, input the new password again, and click **Apply**.
- To modify the user name and password at the same time, input the new user name, current password, and new password, input the new password again, and click **Apply**.

Configuring network settings

To configure the network settings, do the following:

1. Click  on the top right corner of the LXPM V5 main interface, then click **Network Settings**. The following Network Settings window is displayed.

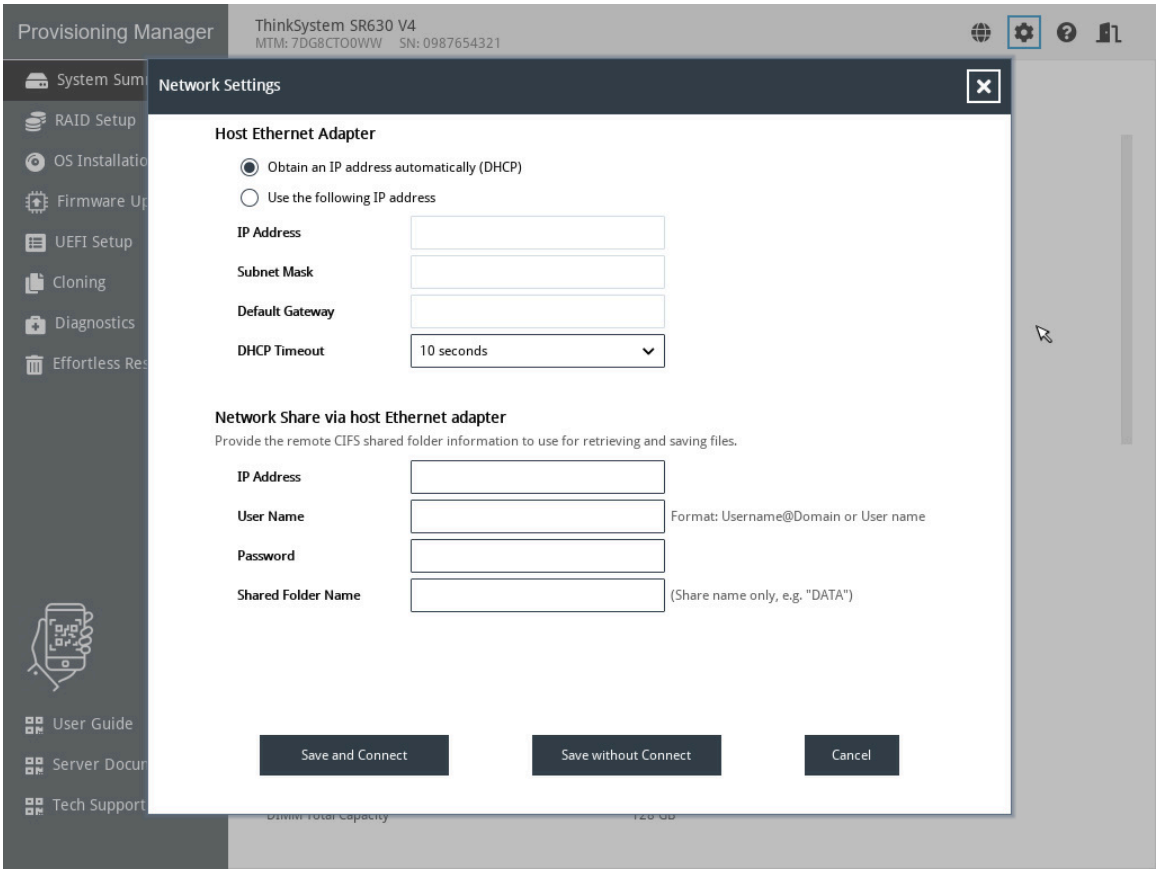


Figure 2. Network Settings window

2. Follow the instructions on the screen to configure the network settings.

   Note: If DHCP fails to obtain IP address, select **30 seconds** or more in the **DHCP Timeout** field.
3. After configuring the network settings, click one of the following buttons according to your needs:
   - **Save and Connect**: Save the settings and connect to the shared network. If the network cannot be connected, an error message will be displayed.
   - **Save without Connect**: Save the settings without connecting to the shared network. When you click the button, a confirmation window is displayed. Click **Continue** to save the settings without connecting, or click **Cancel** to go back to the Network Settings window.
   - **Cancel**: Discard the changes and exit the Network Settings window.

Update VPD

Click on the top right corner of the LXPM V5 main interface, then click **Update VPD**. The following Update VPD window is displayed.

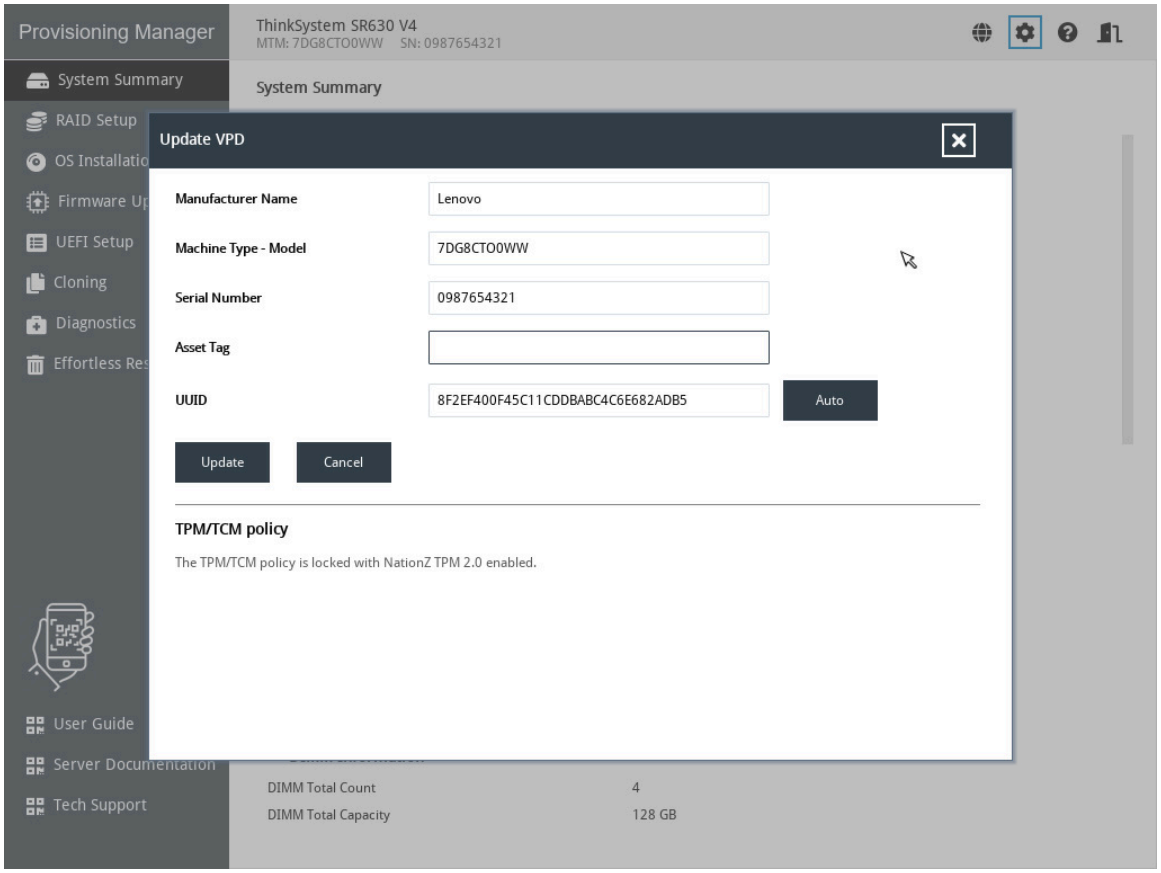
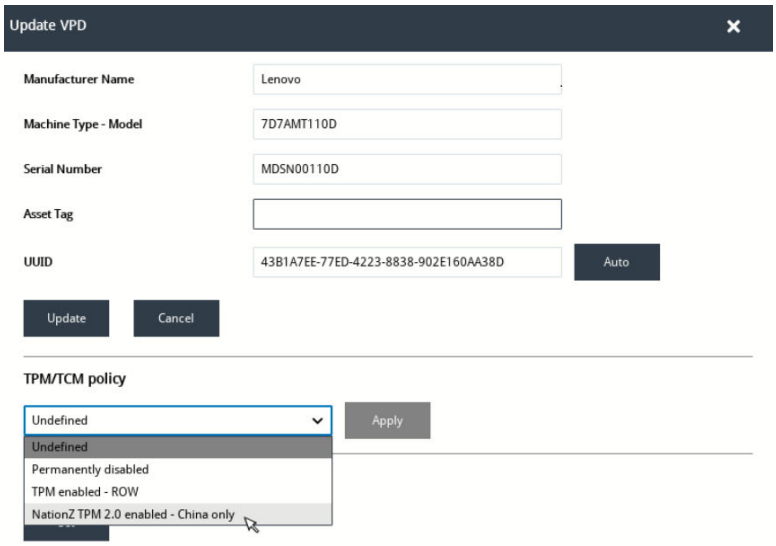


Figure 3. Update VPD

When your server is not equipped with TPM/TCM, TPM/TCM options are not available.

When your server is equipped with TPM/TCM, **Undefined** is the default setting and must be changed to one of the following options according to your need.

- Permanently disabled
- TPM enabled-ROW
- NationZ TPM2.0 enabled-China only



Notes:

1. Once the TPM/TCM policy is set, it cannot be changed anymore.
2. When your server TPM/TCM policy is set as **TPM enabled-ROW** or **NationZ TPM2.0 enabled-China only**, any device change or installation of unauthorized software will cause boot failure. Contact Lenovo support for more information.

System Summary

Click the **System Summary** tab in the left pane to view the following system information in the right pane:

- Product name
- UEFI, BMC, and LXPM V5 version information
- Machine type and serial number
- Universally Unique Identifier (UUID)
- Operating system driver package information
- CPU information
- DIMM information
- PCI device information
- Disk drive information
- Partition information

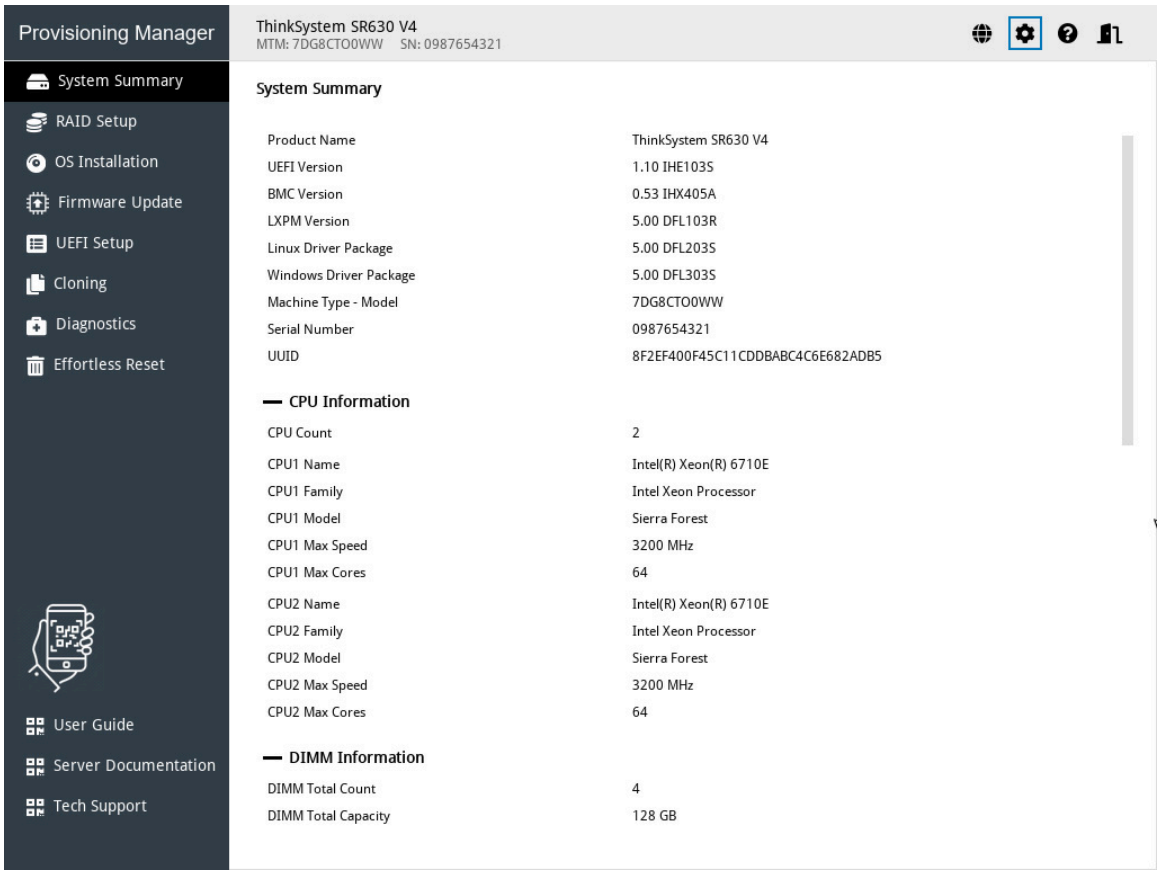


Figure 4. System Summary interface

Notes:
- The Non-Volatile Memory express (NVMe) SSDs will not be recognized as PCIe devices. So they are not listed in the PCI device information section but displayed in Disk drive information section.
- Non-RAID Kit devices will not be listed in the PCIe device information.
- When Intel Volume Management Device (VMD) feature is enabled on the root port of NVMe switch adapter and NVMe SSDs, NVMe switch adapter and NVMe SSDs will not be listed in the PCIe device information.
- For a running server, device changes will not be displayed in the System Summary interface in real time. To view the latest device information, you should restart the server.

RAID Setup

Click the **RAID Setup** tab in the left pane to enter the wizard for configuring RAID and disk settings for the installed RAID adapters. The following is the first interface for the wizard.

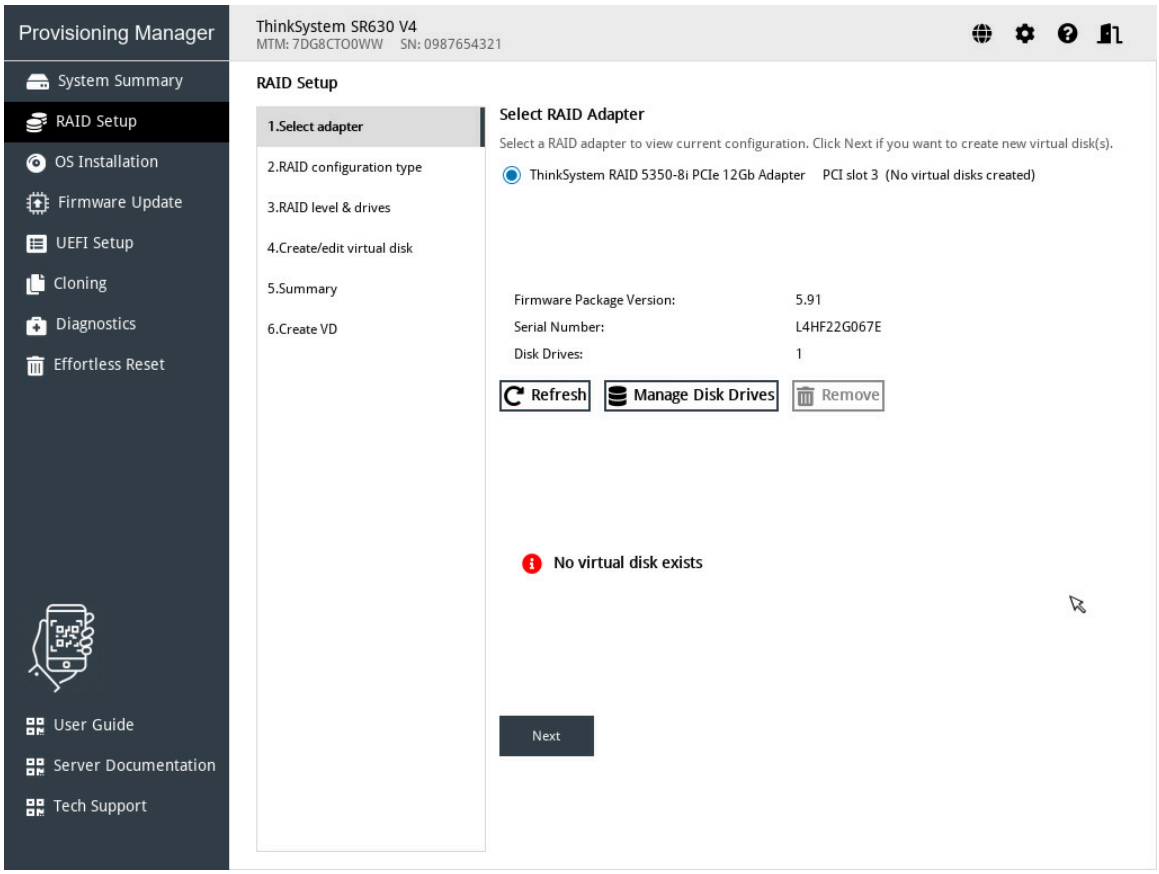


Figure 5. RAID Setup - Select RAID Adapter interface

Notes:

- NVMe RAID Adapter initializes the HDD to JBOD mode with RAID0 default, so you can find every disk become the virtual disk with RAID0 when you delete all the virtual disks from the controller and reboot the host.
- Lenovo 5330/9350 series adapters support HBA mode, RAID mode and Mixed mode (RAID and HBA devices can be used simultaneously). Mixed mode the default mode. It can create RAID array and functions a HBA adapter at the same time, so LXPM take it as UGOOD in RAID Setup. When one adapter set the HBA mode and Mixed mode/RAID mode for different channels, then LXPM will show the drive status as “HBA”(HBA mode) and “UGOOD”(Mixed and RAID mode). When deleting volumes in one array, volumes must be deleted in the reverse order or volume creation.
- For Intel® Virtual RAID on CPU (Intel® VROC) series RAID adapters, when you set the capacity, the default volume capacity is 95% of the available space, unless specifically set . This is to support disk coercion. But for the second volume in the array, changing volume capacity is not supported.
- For Intel® VROC series RAID adapters, after you created arrays/volumes in RAID Setup, then they can be shown/deleted normally and the volumes also can be used to install the OS directly in OS Deployment without reboot host. But for firmware limitation of Intel® VROC adapters, you could not find the new arrays/volumes in HII of the UEFI Setup without rebooting the host.

To configure RAID and disk settings, follow the wizard to do the following:

1. Select the RAID adapter you want to configure. The basic information and current configuration for the selected RAID adapter will be displayed. And you can do the following:
   - Click **Refresh** to update RAID adapter information.
   - Click **Manage Disk Drives** to view or change the drive status of the selected RAID adapter.
   - Click **Remove** to delete the disk array or virtual disks of the selected RAID adapter. In the Manage Disk Drives interface, all the drives connected to the selected RAID adapter are listed. You can

change the drive status according to your needs. Then, click **Save** and save changes and return to the “RAID Setup - Select RAID Adapter” interface or click **Cancel** to discard changes and return to the “RAID Setup - Select RAID Adapter” interface.

2. Select RAID configuration type. Click **RAID configuration type** to enter the “RAID Setup - Select RAID configuration type” interface and do one of the following:
   - Select **Simple configuration** and go to step 3.
   - Select **Advanced configuration** and select **Create new disk array and virtual disk** in the drop-down list box. Then, go to step 4.
   - Select **Advanced configuration** and select **Use free capacity on the existing disk array** in the drop-down list box. Then, go to step 5.
3. Set up RAID and level and hot spare. Click **Next** to enter the “RAID Setup - Set RAID level and hot spare” interface. Select the RAID level. Then go to step 7.
4. Select RAID level and drives. Click **Next** to enter the “Select RAID level and drives” interface. Select the RAID level and the drives for the new disk array, and set the role for each drive. Then, go to step 6.
5. Select disk array. Click **Next** to enter the “RAID Setup - Select disk array” interface. All the disk arrays that have free space will be displayed. Select a disk array for the new virtual disk. Then, go to step 6.
6. Create and edit virtual disk. Click **Next** to enter the “RAID Setup - Create and Edit Virtual Disk” interface. You can create new virtual disks. Then, you can edit or remove the new virtual disks. Follow the instructions on the screen to do the configuration.
7. Click **Next** to enter the “RAID Setup - Verify settings” interface. Double check the settings and click **Next**. A confirmation window is displayed.
8. Click **Yes** to enter the “RAID Setup - Creating Virtual Disk” interface. The virtual disk creation result is displayed.
9. Click **Next** to return to the first interface of the wizard and view the current configuration of the selected RAID adapter.

OS Installation

Click the **OS Installation** tab in the left pane to enter the OS Installation interface. The OS Installation interface provides a configuration wizard for installing an operating system.

Note: If you want to configure RAID settings before installing an operating system, it is recommended to do the configuration in the RAID Setup interface. If you do the configuration in UEFI Setup, you must restart your server before installing the operating system to ensure that the RAID configuration takes effect.

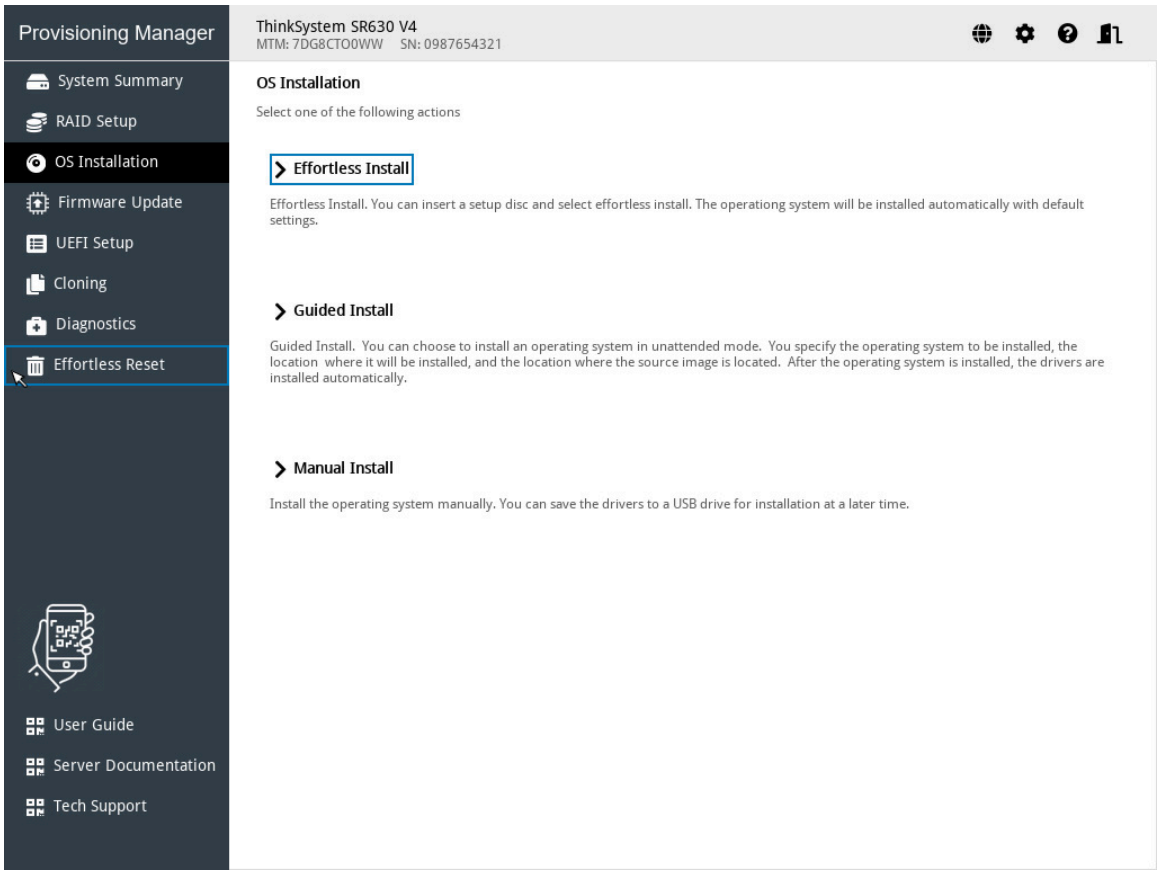


Figure 6. OS Installation interface

There are three types of installation for your selection:

- **Effortless Install**: Automatically detect, choose, and install an operating system and device drives with all default settings in an unattended mode.
- **Guided Install**: Install an operating system and device drivers in an unattended mode.
- **Manual Install**: Install an operating system and device drivers manually.

Note: The device drivers installed with the operating system are not complete. To view the complete list of the supported device drivers, refer to the readme files included in the Windows® Driver Bundle update package and Linux® Driver Bundle update package. To download the update packages, go to: https://datacentersupport.lenovo.com.

Effortless Installation

Prerequisites

- Ensure that the minimum space of the target storage device for installing the OS meets the following requirements:
  - For Windows, the minimum space should be 10 GB.
  - For Red Hat Enterprise Linux (RHEL)/SUSE Linux Enterprise Server (SLES) OS, the minimum space should be 24 GB.
- Before performing effortless installation, ensure that operating system installation files are prepared in one of the following:
  - CD or DVD

Note: Ensure that the disc is clean and the version and architecture of the operating system are correct.

– USB storage drive

  To create a USB installation medium, refer to the documentation at:
  https://download.lenovo.com/servers_pdf/how_to_create_usb_os_installation_media.pdf

– Shared network based on management network

  Note: Ensure that the Ethernet connector for system management is active and can connect to the specified IP address.

  If the shared network is connected, you can prepare the operating system installation files through Lenovo XClarity Controller.

Performing effortless installation

In the OS Installation interface, select and Click **Effortless Install**. Refer to one of the following to install an operating system:

- “Installing a Windows operating system” on page 13
- “Installing a Linux operating system” on page 15

Notes:

- The default Administrator password for installing a Windows operating system is “PASSW0RD”.
- The default root password for installing an RHEL/SLES operating system is “1234567”.
- Users should reset the password when logging in to the operating system for the first time.

Installing a Windows operating system

The wizard provides a step by step guidance for installing an operating system. Follow the instructions on the screen and the tips listed below to install a Windows operating system.

Note: For the information about the operating system compatibility, refer to https://lenovopress.com/osig.

1. Verify that the installation settings are correct, and click **Install OS** to start installation.

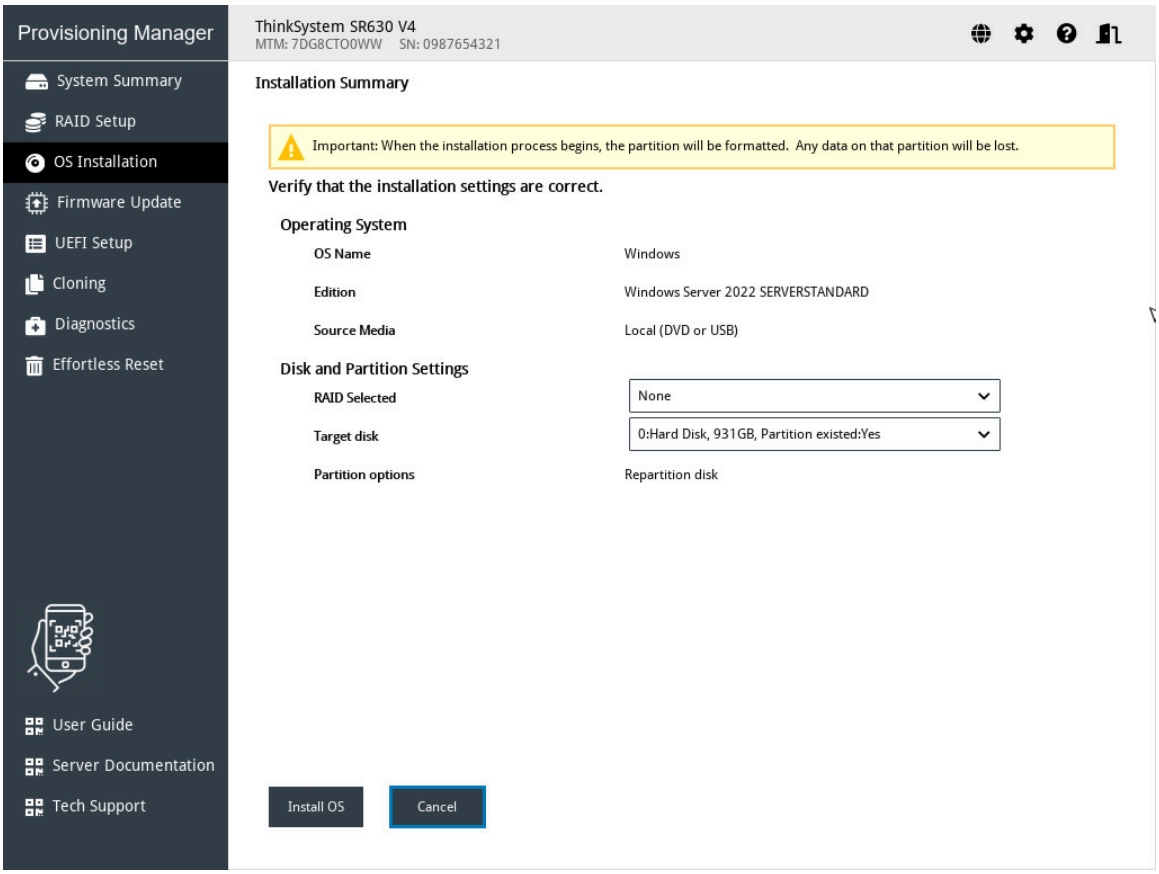


Figure 7. Installation Summary

2. Wait for several minutes, the Windows Setup window is displayed. Do one of the following based on your needs:

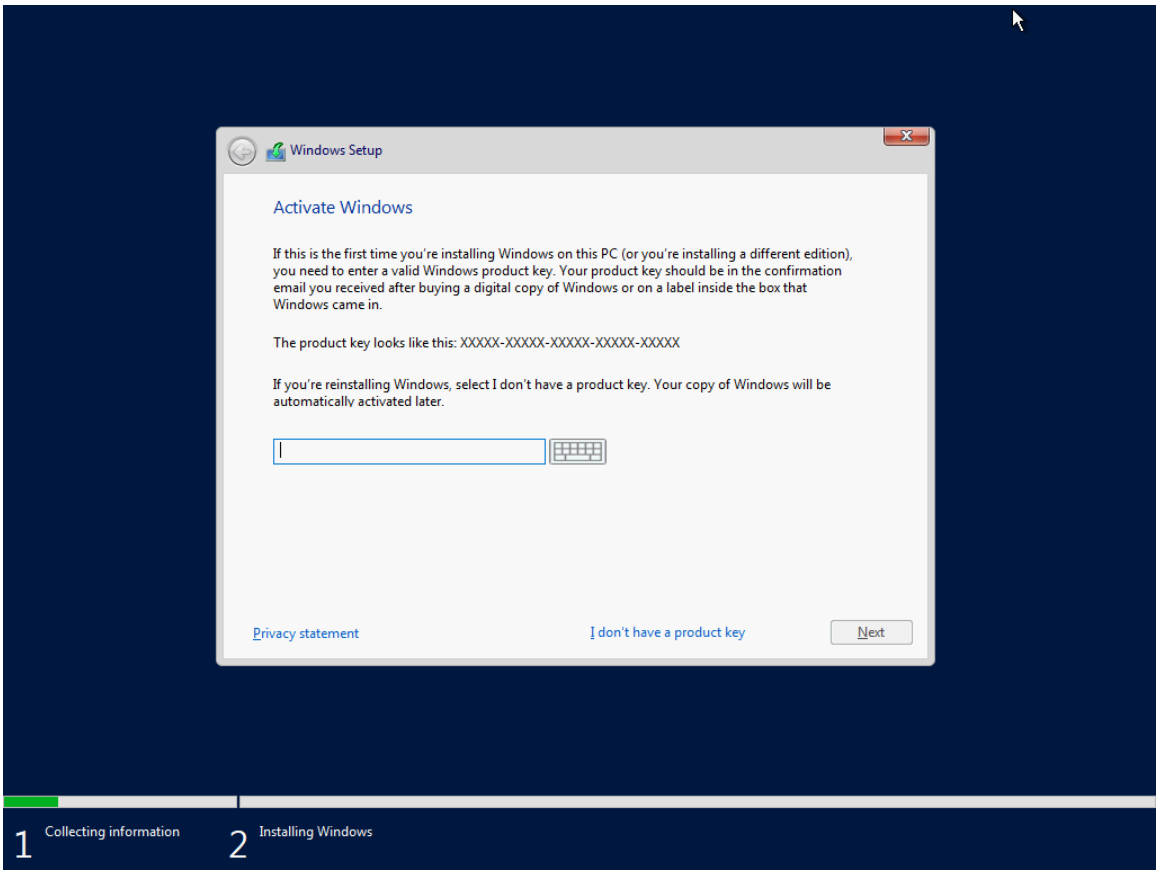


Figure 8. Activate Windows

- If you have a valid Windows product key, input the product key and click **Next** to start installation.
- If you don’t have a valid Windows product key, click **I don’t have a product key** to start installation.

3. After the installation procedure is completed, wait for several minutes, LXPM will be automatically restarted to make all installed drivers take effect.

Installing a Linux operating system

The wizard provides a step by step guidance for installing an operating system. Follow the instructions on the screen and the tips listed below to install a Linux operating system.

1. Verify that the installation settings are correct, and click **Install OS** to start installation.

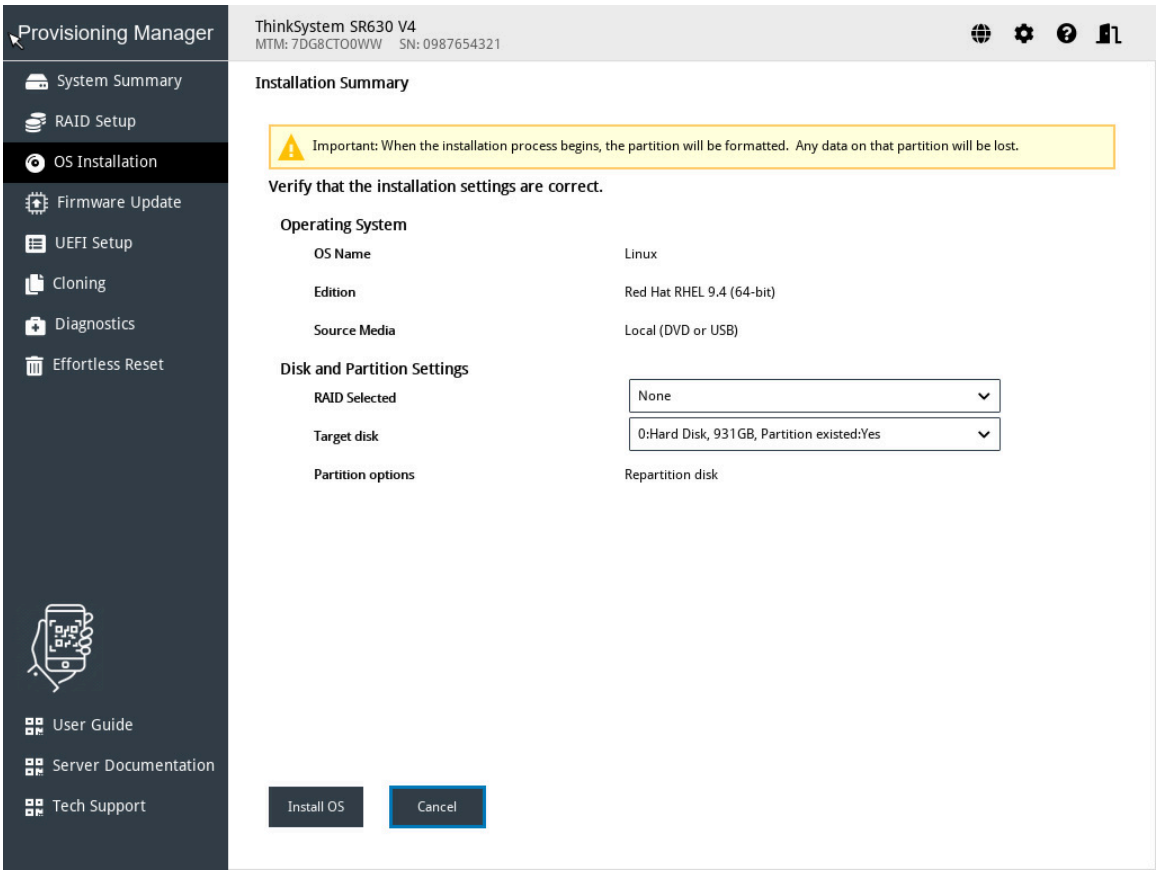


Figure 9. Installation Summary

2. Wait for several minutes until the installation procedure is completed. LXPM will be automatically restarted to make all installed drivers take effect.
3. Input user name and password, and click **Sign in** to enter into Linux.

Guided installation

Prerequisites

Before performing guided installation, ensure that operating system installation files are prepared in one of the following:

- CD or DVD

  Note: Ensure that the disc is clean and the version and architecture of the operating system are correct.
- USB storage drive

  To create a USB installation medium, refer to the documentation at:
  https://download.lenovo.com/servers_pdf/how_to_create_usb_os_installation_media.pdf
- Shared network based on management network

  Note: Ensure that the Ethernet connector for system management is active and can connect to the specified IP address.

  If the shared network is connected, you can prepare the operating system installation files through Lenovo XClarity Controller. If the shared network is a CIFS server based on Linux Samba, the Samba configuration file "/etc/samba/smb.conf" shall have "ntlm auth = yes" in the "[global]" section.

Performing guided installation

In the OS Installation interface, select **Guided Install**. Refer to one of the following to install an operating system:

- “Installing a Windows operating system” on page 17
- “Installing a Linux operating system” on page 22

Device drivers will be automatically installed during guided installation. It's recommended to reboot the OS after the guided installation is completed to make all drivers take effect. You also can export the operating system installation settings to a response file. For more information, refer to “Exporting an operating-system-installation response file” on page 28.

Installing a Windows operating system

The wizard provides a step by step guidance for installing an operating system. Follow the instructions on the screen and the tips listed below to install a Windows operating system.

Note: For the information about the operation system compatibility, refer to https://lenovopress.com/osig.

1. **Drive Selection**

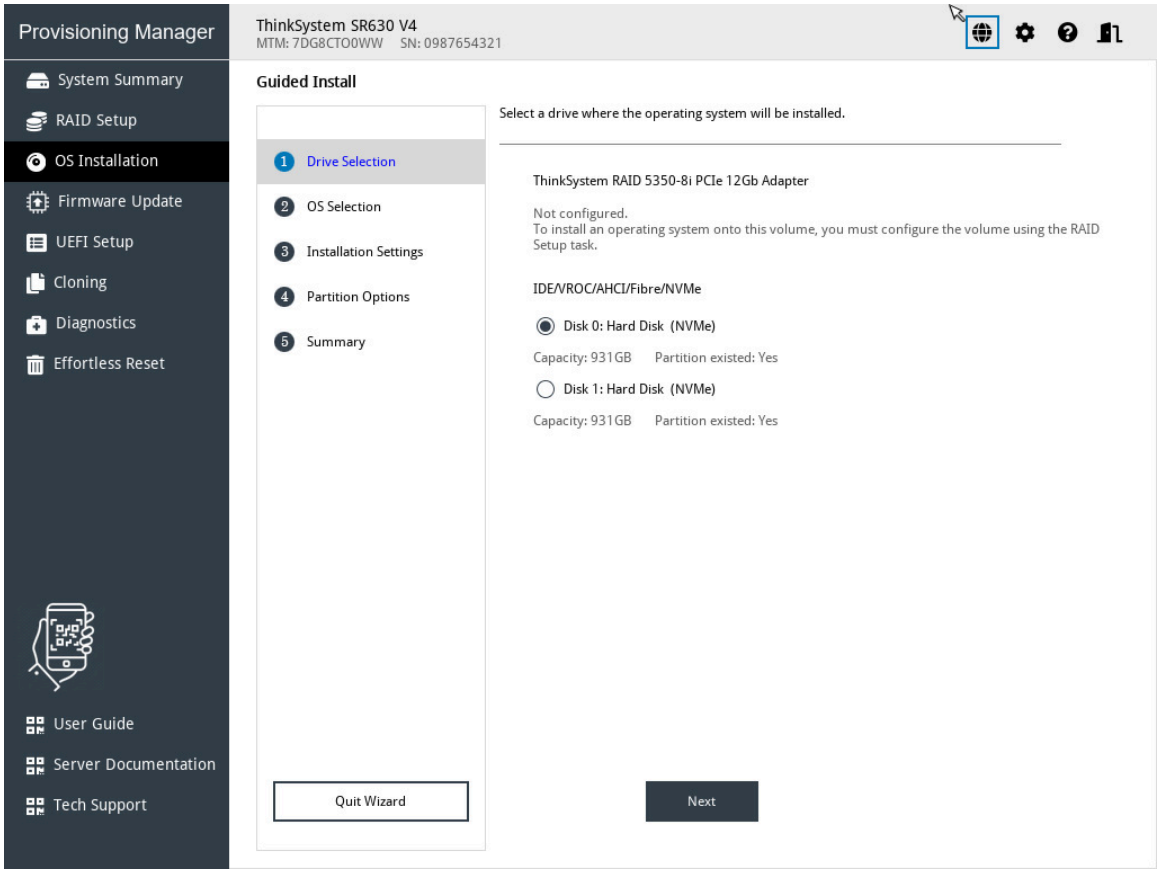


Figure 10. Drive Selection step (for Windows)

Attention: The selected drive will be formatted during the installation. Back up all data on it before the installation.

Note: The drivers will be installed automatically after the OS installation. It is recommended to restart your server to ensure that all installed drivers take effect.

2. **OS Selection**

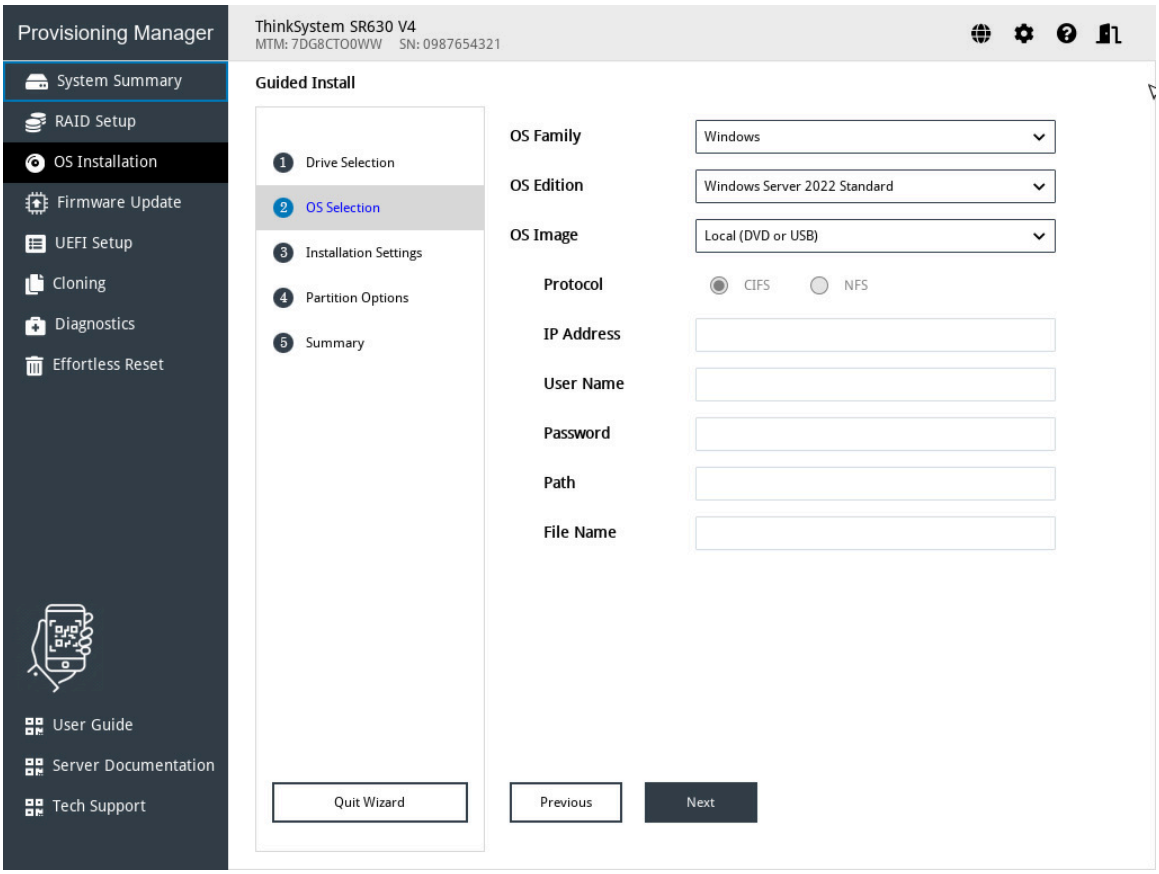


Figure 11. OS Selection step (for Windows)

Note: For Path, it is recommended to use "/My Share".

The IP address is made up of four parts separated by dots. The following table lists the valid value range for each part.

IP Address	Part 1	Part 2	Part 3	Part 4
Valid values	1 – 223	0 – 255	0 – 255	0 – 255

3. **Installation Settings**

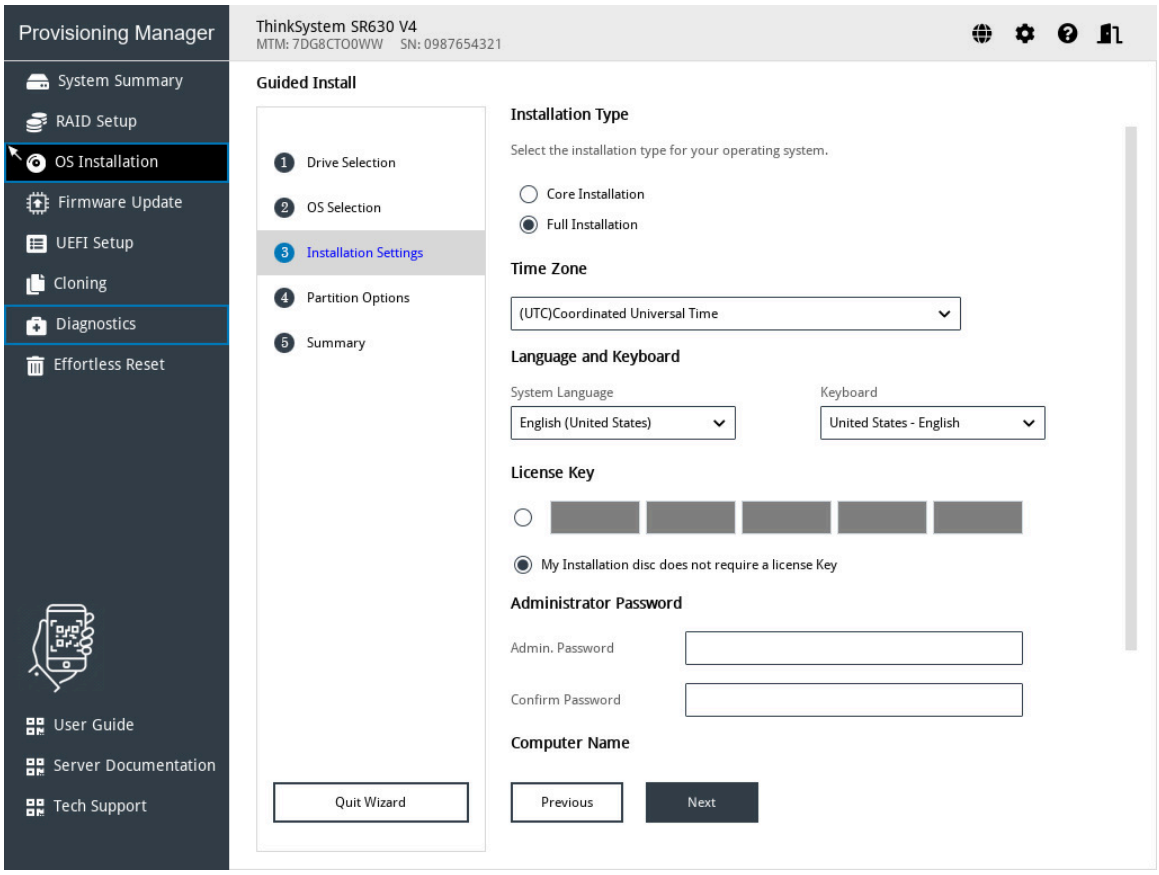


Figure 12. Installation Settings step – 1 (for Windows)

Administrator Password: You can change your administrator password later from the operating system.

If you want to do advanced configurations, expand the list by clicking the arrow icon next to **Advanced**.

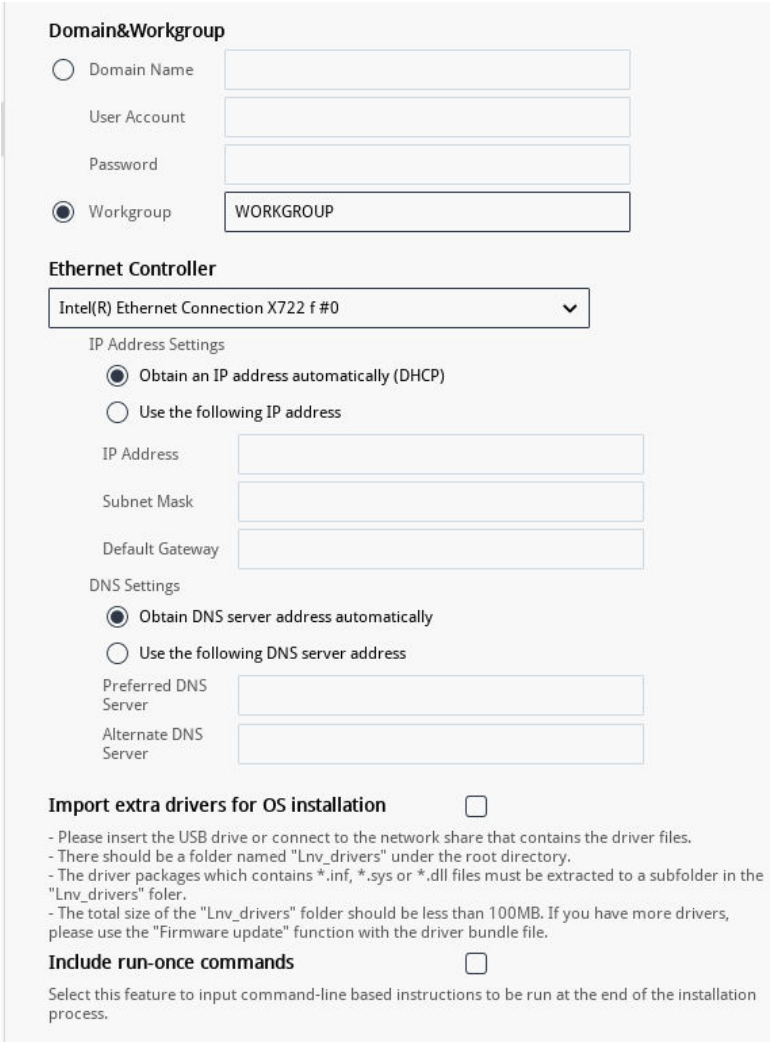


Figure 13. Installation Settings step – 2 (for Windows)

Refer to the following table for the valid values when you type the required address information.

Address	Part 1	Part 2	Part 3	Part 4
IP Address	1 – 126; 128 – 223	0 – 255	0 – 255	1 – 254
Subnet Mask	0 – 255	0 – 255	0 – 255	0 – 255
Default Gateway	0 – 255	0 – 255	0 – 255	0 – 255
Preferred DNS Server	1 – 126; 128 – 223	0 – 255	0 – 255	0 – 255
Alternate DNS Server	1 – 126; 128 – 223	0 – 255	0 – 255	0 – 255

Include run-once commands: If you want to run specified commands at the end of the installation process, select the check box. A command-type area is displayed. Input one command and click **Add**. The command is added to the command list. You can add five commands at most. If you want to remove a certain command, select it and click **Remove**. The commands in the command list will be run one time only and in the order you type them.

4. **Partition Options**

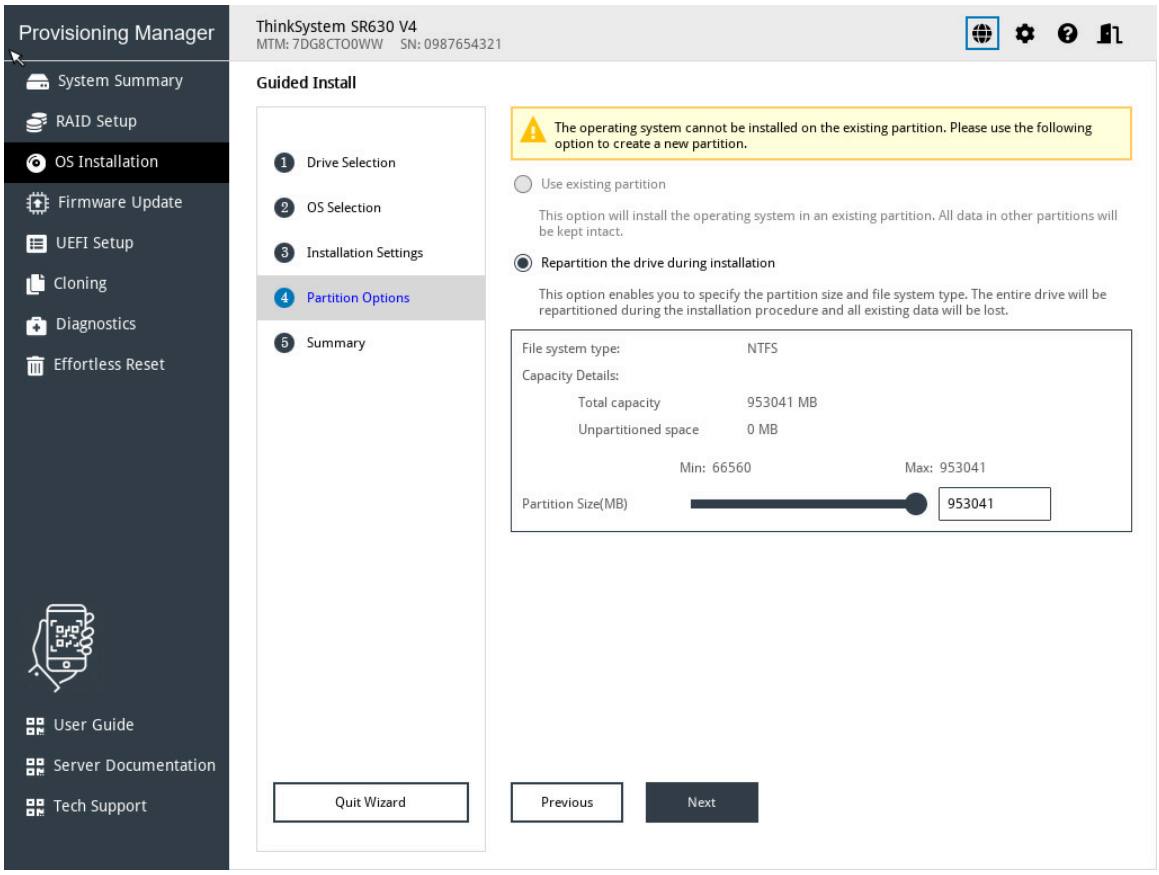


Figure 14. Partition Options step (for Windows)

If no existing partition is detected on the drive, select **Repartition the drive during installation**.

5. **Summary**

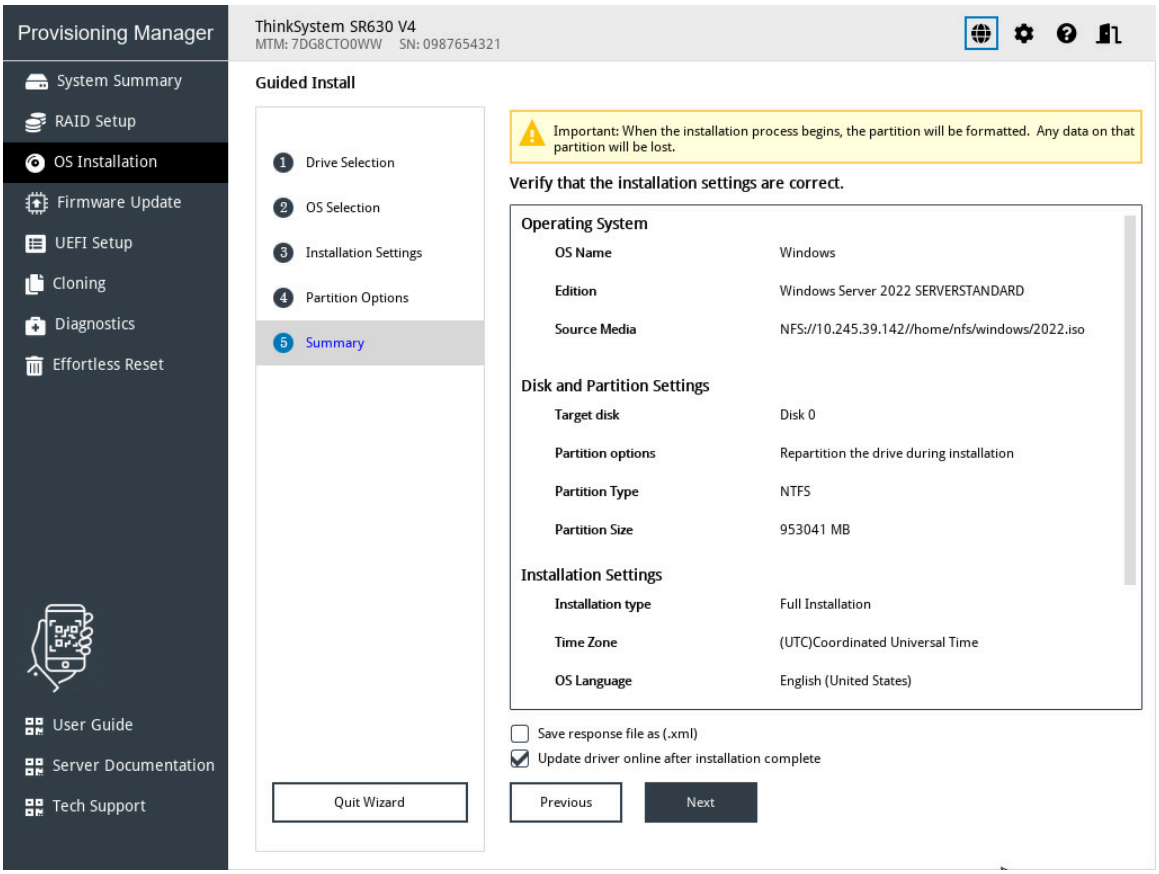


Figure 15. Summary step (for Windows)

If you want to change some settings, click **Previous** until you return to the page where you can make the changes.

If you want to export the operating system installation settings to a response file, refer to "Exporting an operating-system-installation response file" on page 28.

Click **Next**. The license agreement page for the operating system is displayed. Read and accept the license agreement. The installation process starts. Wait until the installation is completed.

Installing a Linux operating system

The wizard provides a step by step guidance for installing an operating system. Follow the instructions on the screen and the tips listed below to install a Linux operating system.

Notes:

- For the information about the operating system compatibility, refer to https://lenovopress.com/osig.

1. **Drive Selection**

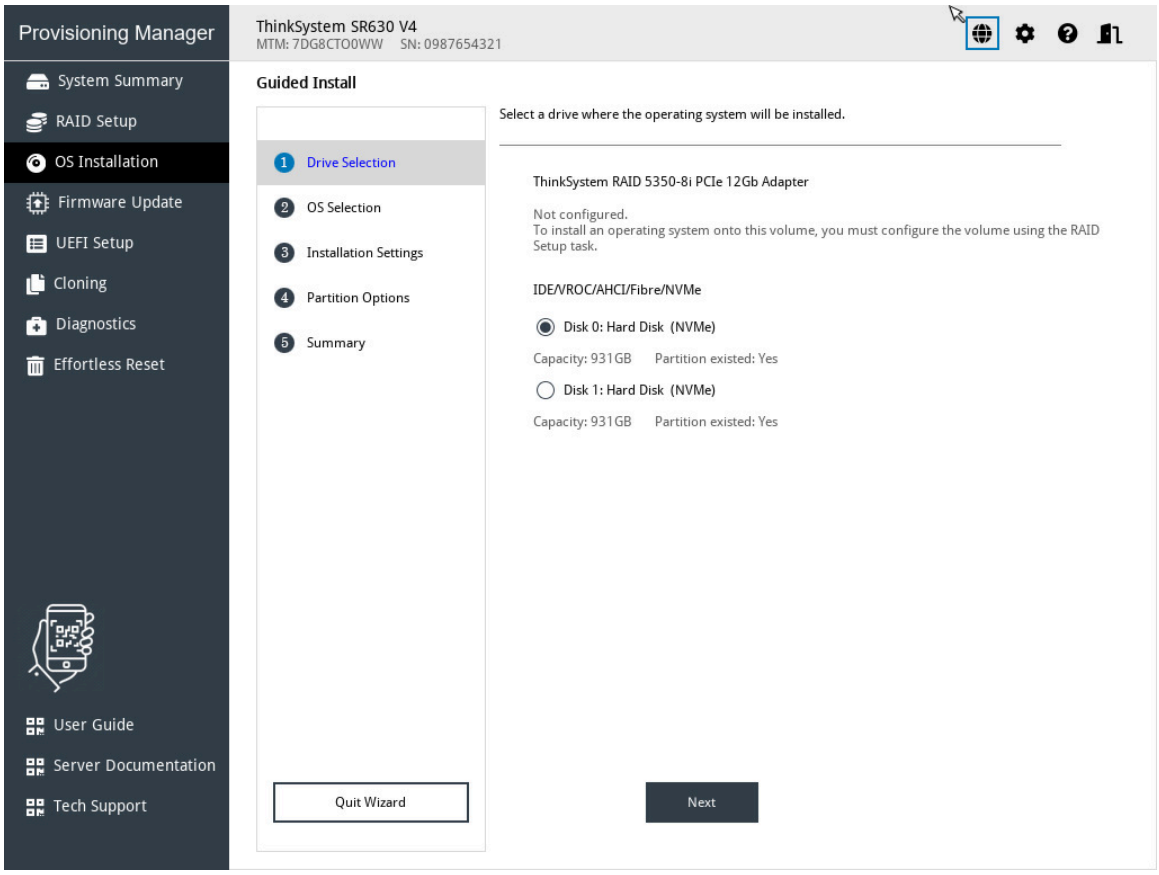


Figure 16. Drive Selection step (for Linux)

Attention: The selected drive will be formatted during the installation. Back up all data on it before the installation.

Note: The drivers will be installed automatically after the OS installation. It is recommended to restart your server to ensure that all installed drivers take effect.

2. **OS Selection**

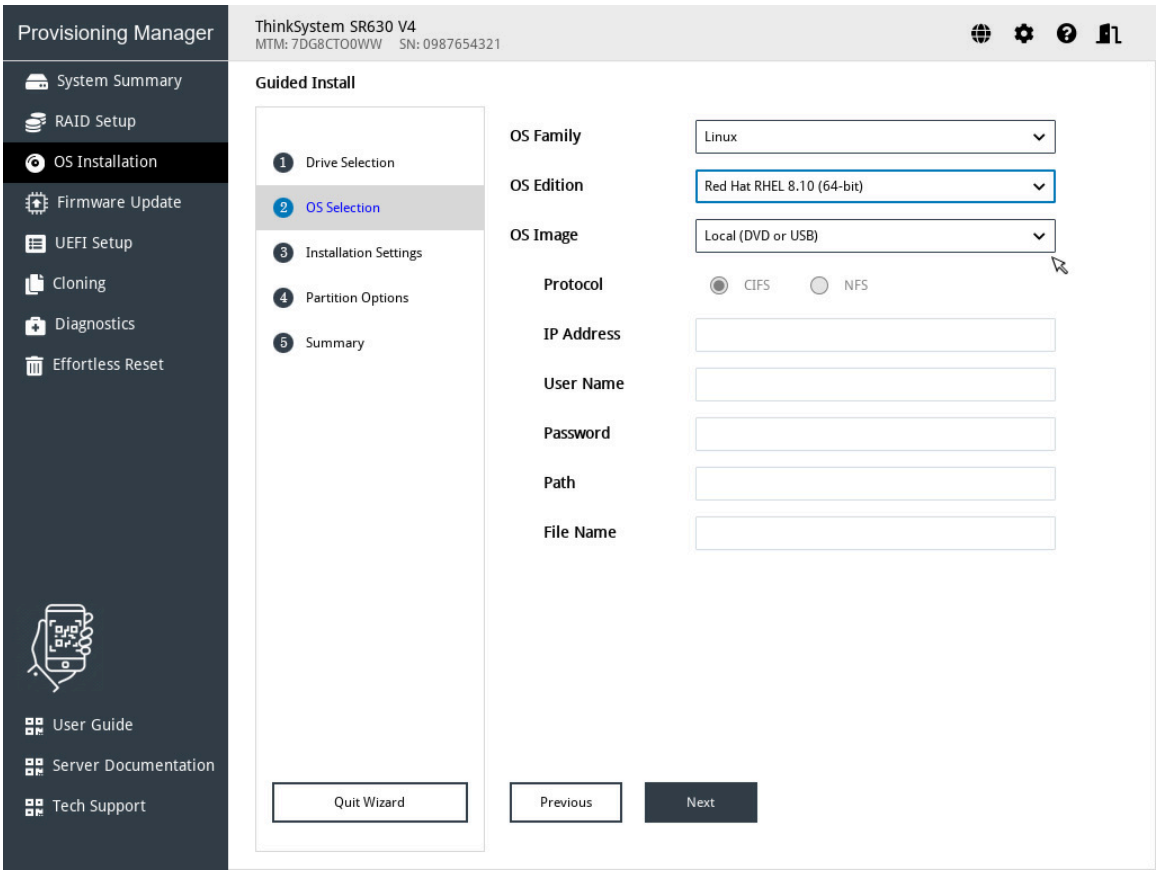


Figure 17. OS Selection step (for Linux)

The IP address is made up of four parts separated by dots. The following table lists the valid value range for each part.

IP Address	Part 1	Part 2	Part 3	Part 4
Valid values	1 – 223	0 – 255	0 – 255	0 – 255

3. **Installation Settings**

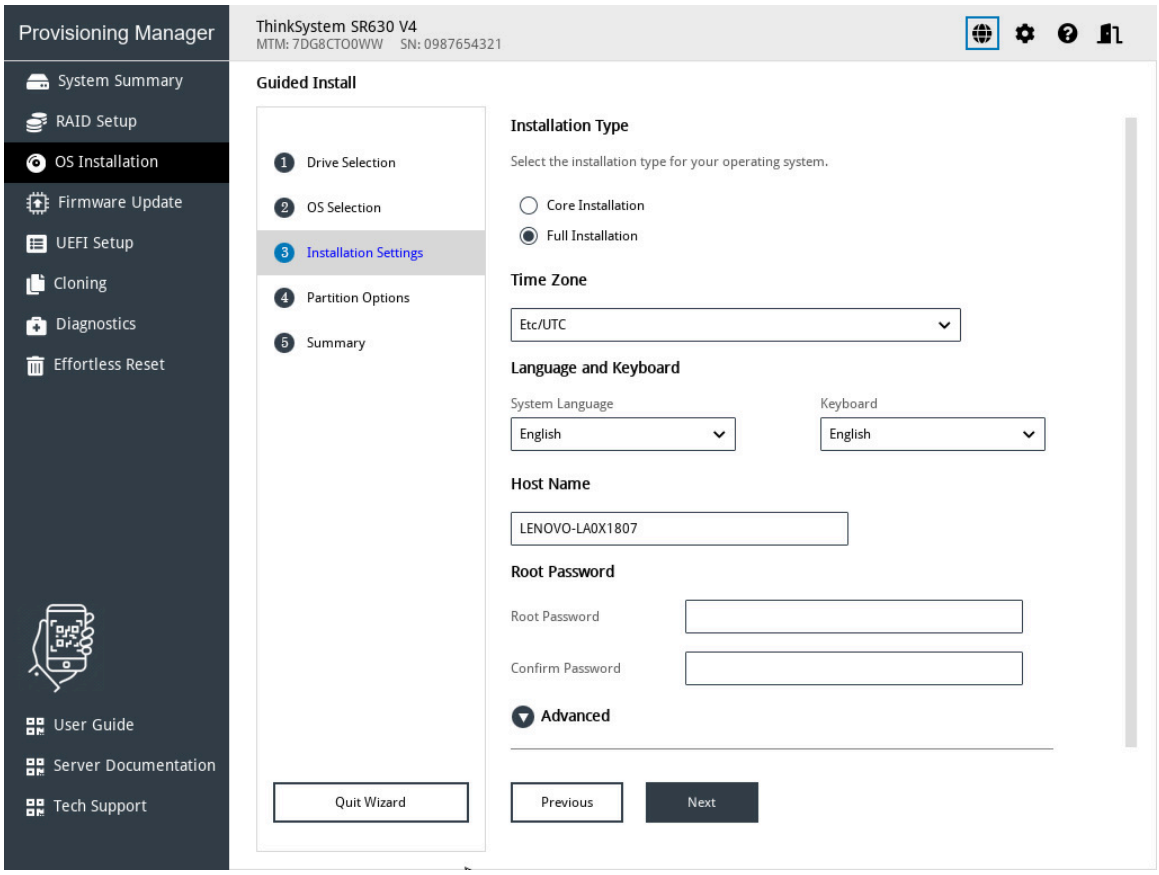


Figure 18. Installation Settings step – 1 (for Linux)

Root Password: You can change your root password later from the operating system.

If you want to do advanced configurations, expand the list by clicking the arrow icon next to **Advanced**.

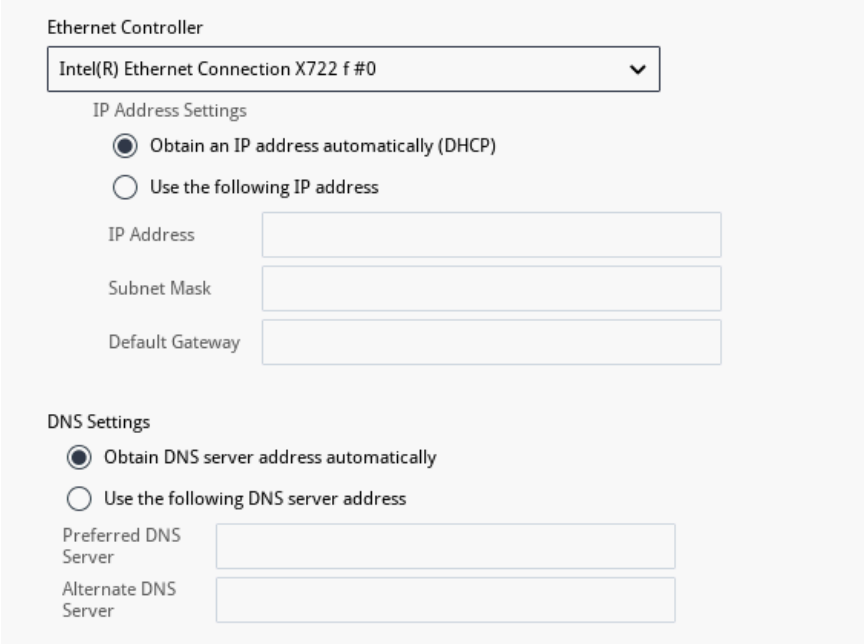


Figure 19. Installation Settings step – 2 (for Linux)

Refer to the following table for the valid values when you type the required address information.

Address	**Part 1**	**Part 2**	**Part 3**	**Part 4**
IP Address	1 – 126; 128 – 223	0 – 255	0 – 255	1 – 254
Subnet Mask	0 – 255	0 – 255	0 – 255	0 – 255
Default Gateway	0 – 255	0 – 255	0 – 255	0 – 255
Preferred DNS Server	1 – 126; 128 – 223	0 – 255	0 – 255	0 – 255
Alternate DNS Server	1 – 126; 128 – 223	0 – 255	0 – 255	0 – 255

4. **Partition Options**

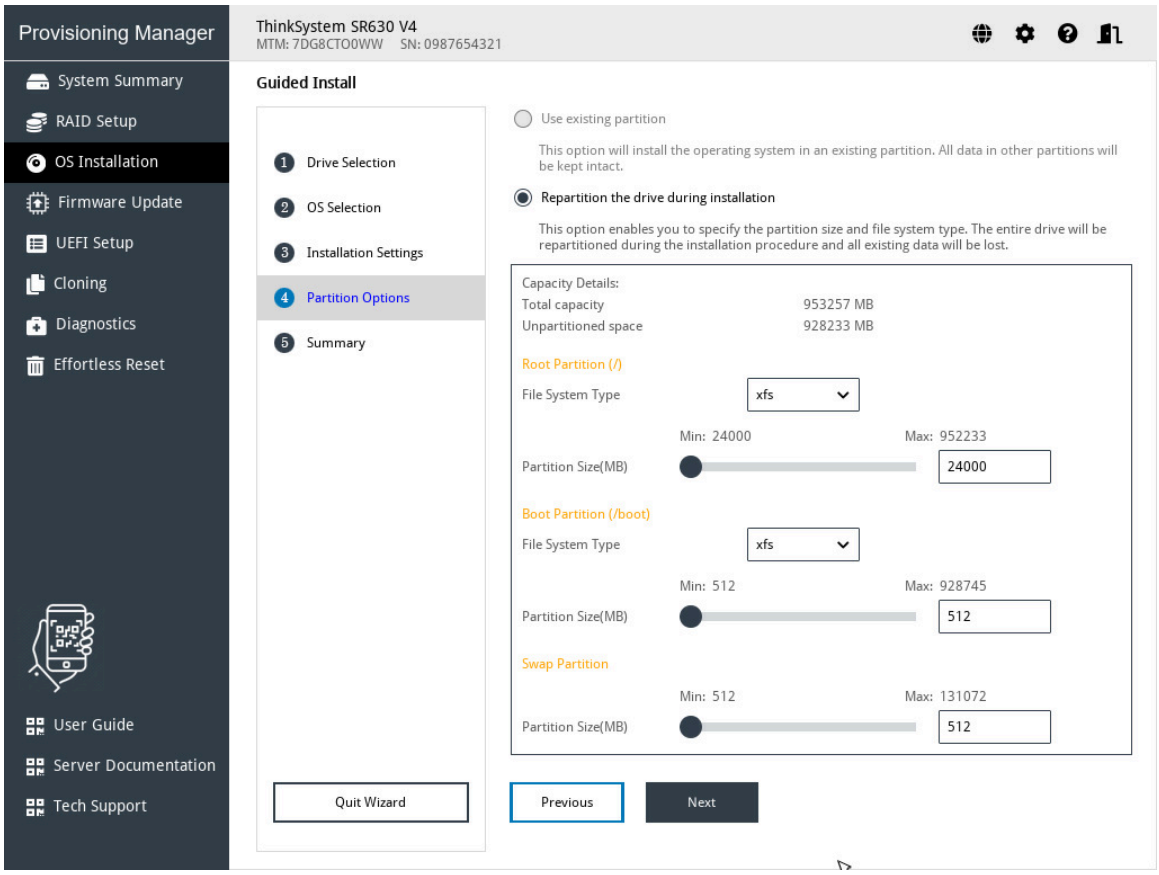


Figure 20. Partition Options step (for Linux)

If no existing partition is detected on the drive, select **Repartition the drive during installation**.

Root Partition: The root partition size depends on the space required for the operating system and applications.

Boot Partition: This partition contains files required to start the operating system.

Swap Partition: Swap partition is the virtual memory in Linux. When the Random Access Memory (RAM) is full, data will be stored on the swap partition temporarily. Although swap partition can be used to store data, it should not be considered as a replacement for RAM. It is on hard disk drives, and has slower access speed than RAM.

5. **Summary**

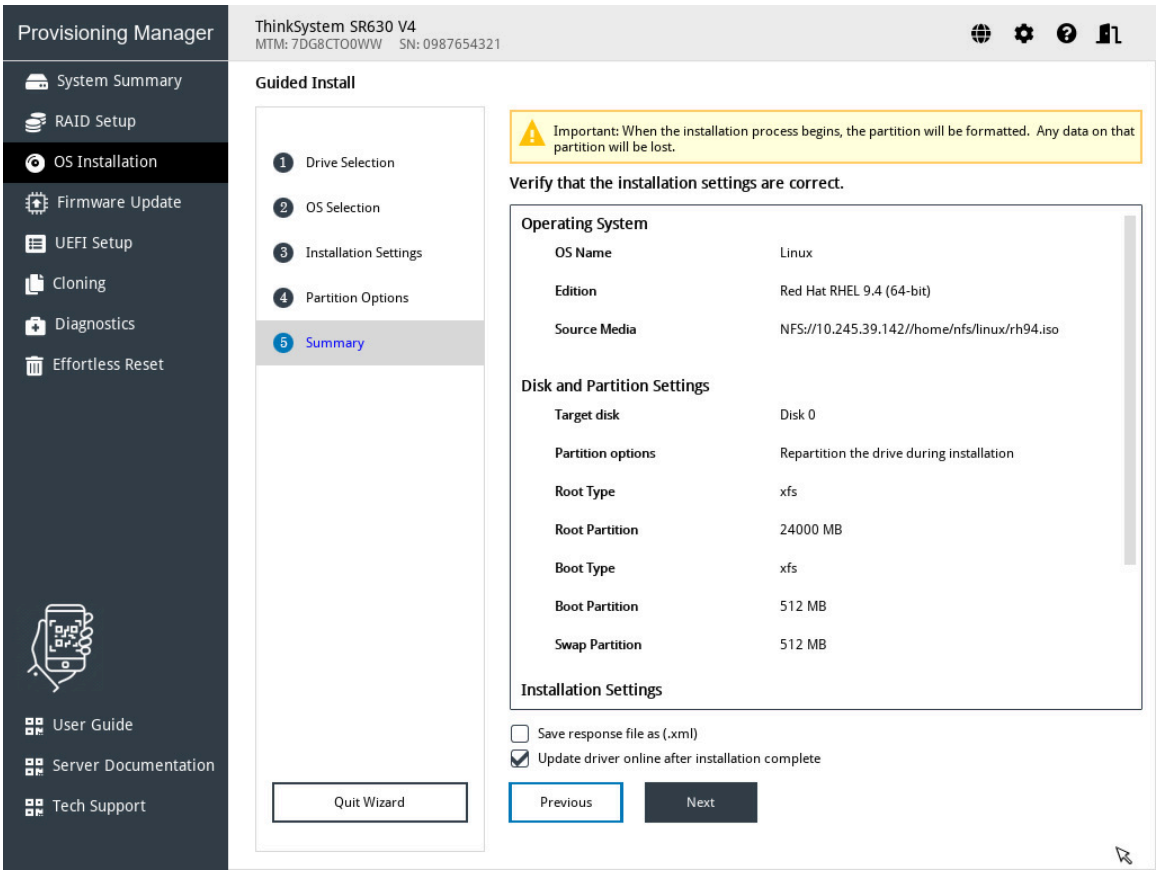


Figure 21. Summary step (for Linux)

If you want to change some settings, click **Previous** until you return to the page where you can make the changes.

If you want to export the operating system installation settings to a response file, refer to "Exporting an operating-system-installation response file" on page 28.

Click **Next**. The installation process starts. Wait until the installation is completed.

Exporting an operating-system-installation response file

You can export the operating system installation settings to a response file. Later, you can clone the settings in this response file to other similarly configured Lenovo servers.

To export an operating-system-installation response file, do the following:

1. Attach a USB storage drive to the server or connect your server to a shared network. For instructions on how to connect to a shared network, refer to "Configuring network settings" on page 6.

   Note: The USB storage drive should include an FAT32 partition.
2. Follow the wizard to go through the Drive Selection, OS Selection, Installation Settings, Partition Options, and Summary steps.
3. In the Summary step, select the **Save response file as (.xml)** check box, and click **Next**. The Save Response File window is displayed.
4. Select the location to save the response file and input a file name.
5. Click **OK**. Wait for several minutes until the saving process is completed.

Manual installation

Prerequisites

Before installing an operating system manually, ensure that operating system installation files are prepared in one of the following:

- CD or DVD

  Note: Ensure that the disc is clean and the version and architecture of the operating system are correct.
- USB storage drive

  To create a USB installation medium, refer to the documentation at:
  https://download.lenovo.com/servers_pdf/how_to_create_usb_os_installation_media.pdf
- Shared network based on management network

  Note: Ensure that the Ethernet connector for system management is active and can connect to the specified IP address.

  If the shared network is connected, you can prepare the operating system installation files through Lenovo XClarity Controller.

Installing an operating system manually

In the OS Installation interface, select **Manual Install**. The following interface is displayed.

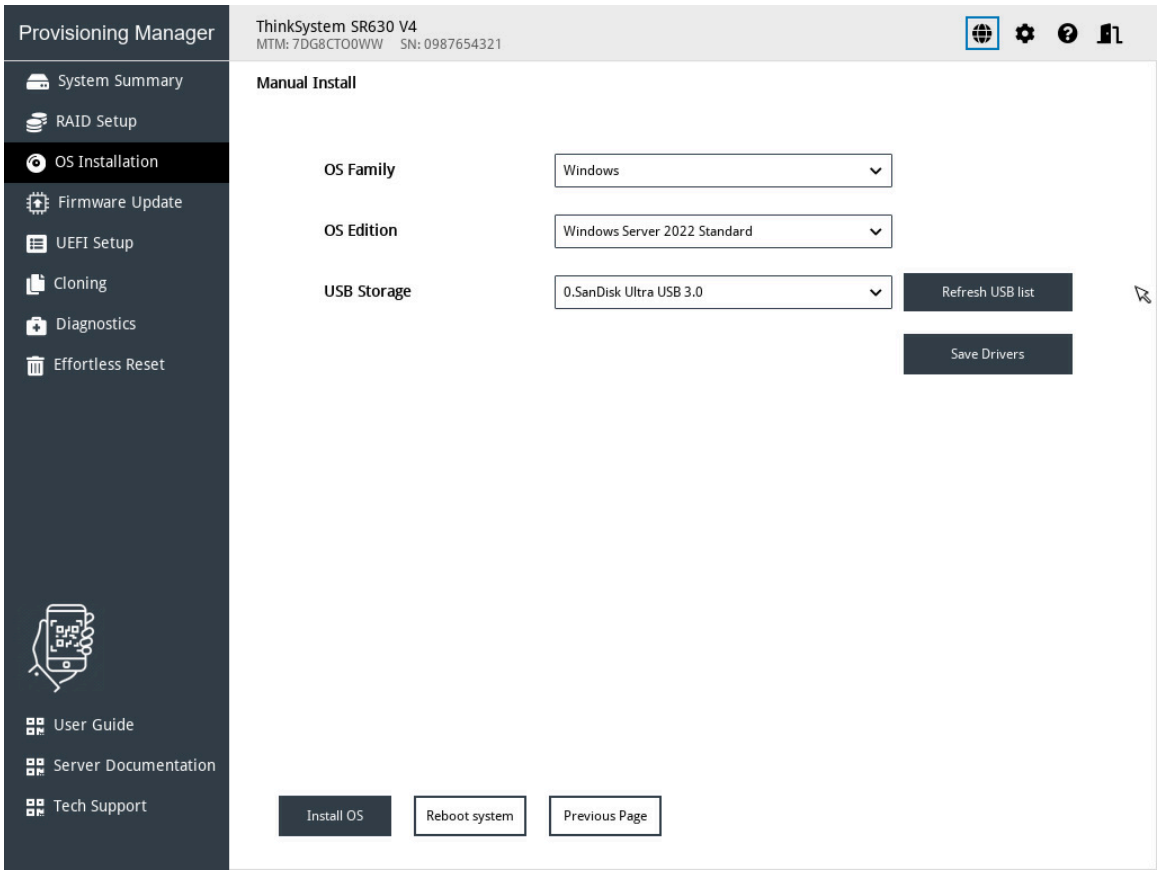


Figure 22. Manual Install interface

Do the following to install an operating system manually:

1. Select the operating system you want to install, select a location to save the drivers, and click **Save Drivers**.

   Note: If no USB storage drive is detected, the **Save Drivers** button is dimmed.
2. Click **Install OS** and click **Yes** when a confirmation window pops up. The server will boot from the operating system medium and the operating system installation process starts.

   Note: To make other configurations, select **Reboot system** to restart the server.
3. Install the operating system manually. To get instructions on how to install a specific operating system manually, do the following:
   a. Go to https://datacentersupport.lenovo.com and navigate to the support page for your server.
   b. Click **Documentation**.
   c. Select an operating system and the installation instructions will be displayed.
4. After the operating system installation process is completed, install the drivers saved in step 1 by yourself.

Firmware Update

Click the **Firmware Update** tab in the left pane to enter the Firmware Update interface. You can update the UEFI firmware, Lenovo XClarity Controller, LXPM V5, Windows drivers, and Linux drivers for your server in the Firmware Update interface. To download the update packages, go to: https://datacentersupport.lenovo.com.

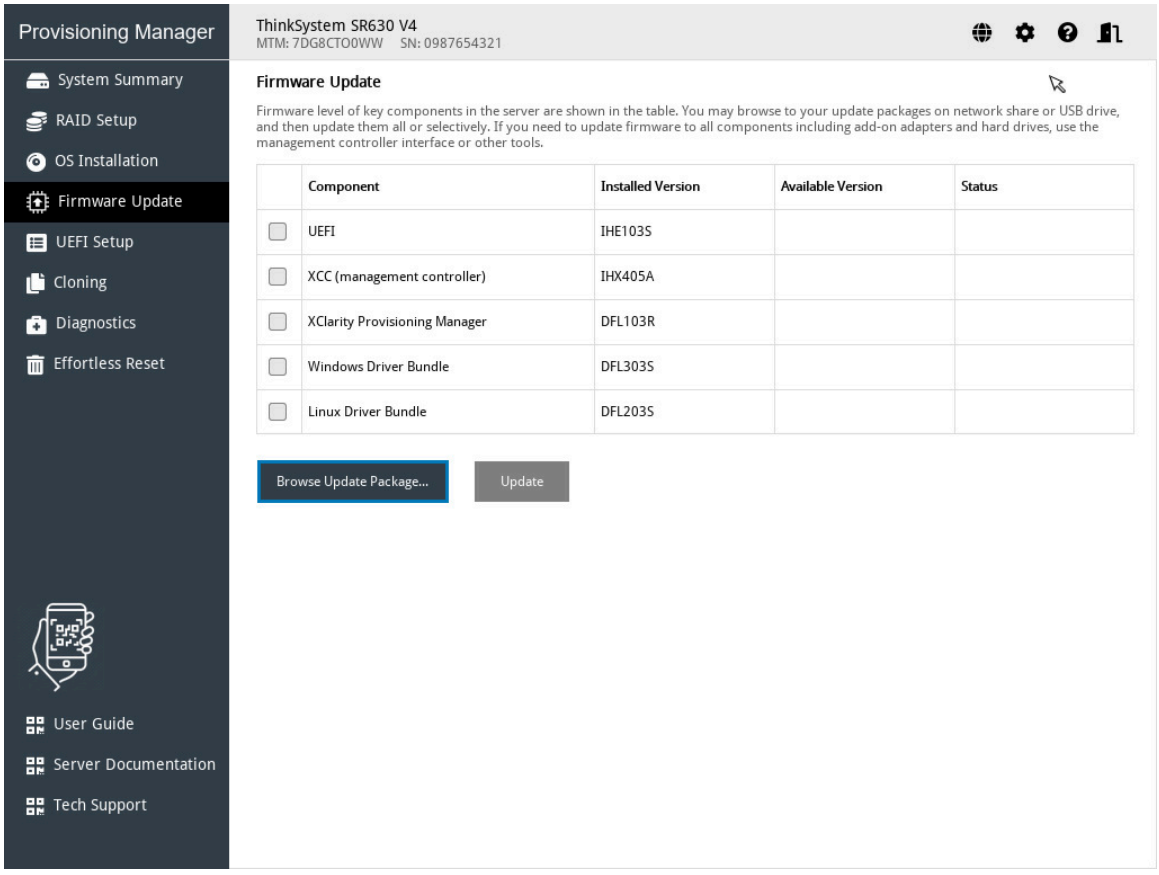


Figure 23. Firmware Update interface

To update firmware, do the following:

1. If the update package is stored on a USB storage drive, insert the USB storage drive into the server. If the update package is stored in a shared network folder, ensure that you have configured the network settings. For instructions on how to configure the network settings, refer to "Configuring network settings" on page 6.
2. Click **Browse Update Package...**. The Select File window is displayed.
3. Select the corresponding update package file and click **OK**. The check box for the item you want to update will be enabled and the version information will be displayed in the **Available Version** column.

   Notes:
   - If the available version is later than the current version, the check box will be selected automatically.
   - If the selected package is not for your server, an error message will be displayed. The check box will not be enabled and the version information will not be displayed.
4. Select the items you want to update.

   Notes:
   - If the available version is earlier than or the same as the current version, a confirmation window will be displayed. Click **Yes** to continue or click **No** to exit.
   - If the package for the selected item is not compatible with your server, or does not meet the system configuration requirements, an error message will be displayed, and the check box will not be selected.
5. Click **Update**. The update process takes several minutes. When the **Status** for all the items are shown as **Success**, the update process is completed.

   Notes:
   - If you are updating UEFI firmware or Lenovo XClarity Controller, the server will be restarted automatically.
   - If you are updating LXPM V5, a confirmation window will be displayed. Click **Yes** to restart the server or click **No** to cancel.

UEFI Setup

Click the **UEFI Setup** tab in the left pane to enter the UEFI Setup interface. In the UEFI Setup interface, you can view and change the UEFI settings of your server.

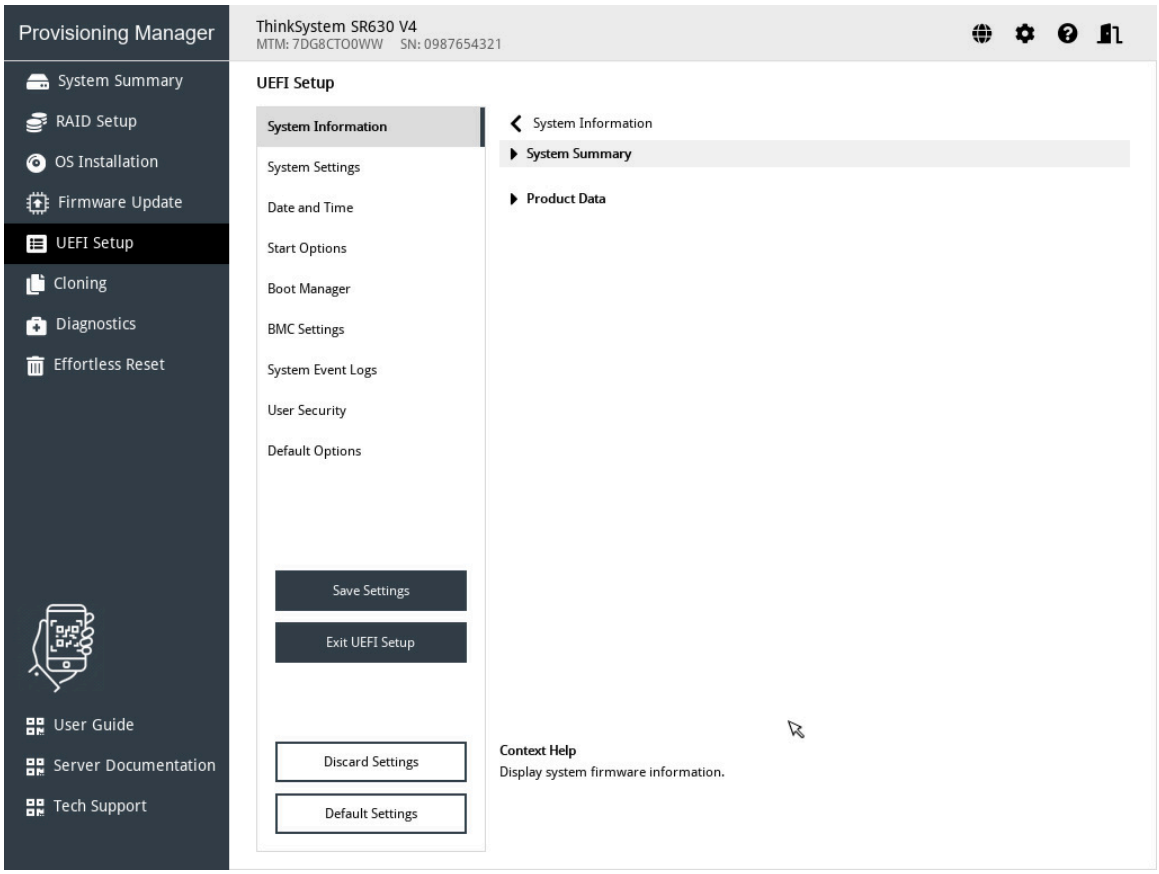


Figure 24. UEFI Setup interface

The UEFI Setup interface consists of the following subinterfaces. Click the tab in the left pane to display the corresponding subinterface in the right pane.

Note: Depending on the UEFI version of your server, some subinterface information might differ slightly from the following.

- **System Information**: View basic information about your server, such as system identification data, processor speed, DIMM information, and firmware version.
- **System Settings**: View and change various server settings.
- **Date and Time**: Set the date and time of the server.
- **Start Options**: Select an option to restart your server from it.
- **Boot Manager**: View and change the server boot options, such as the boot sequence, boot priority for various devices, and boot mode.
- **BMC Settings**: View and set BMC (Lenovo XClarity Controller) configuration parameters.
- **System Event Logs**: View and clear the system event logs.
- **User Security**: Set or modify passwords.

For detailed information, refer to the integrated help system. Click on the top right corner of an interface and click **Help** to view the help information for each interface. For more information about UFEI, refer to UEFI manual for ThinkSystem server.

Cloning

Click the **Cloning** tab in the left pane to enter the Cloning interface. In the Cloning interface, you can clone settings in one server to other similarly configured Lenovo servers. The Cloning interface includes the following two sections:

- **Export**: Used to export UEFI, RAID, and BMC settings for the current server to response files respectively and save the response files to a USB storage drive or a shared network folder.
- **Import**: Used to import UEFI, RAID, BMC, and operating system installation settings from response files.

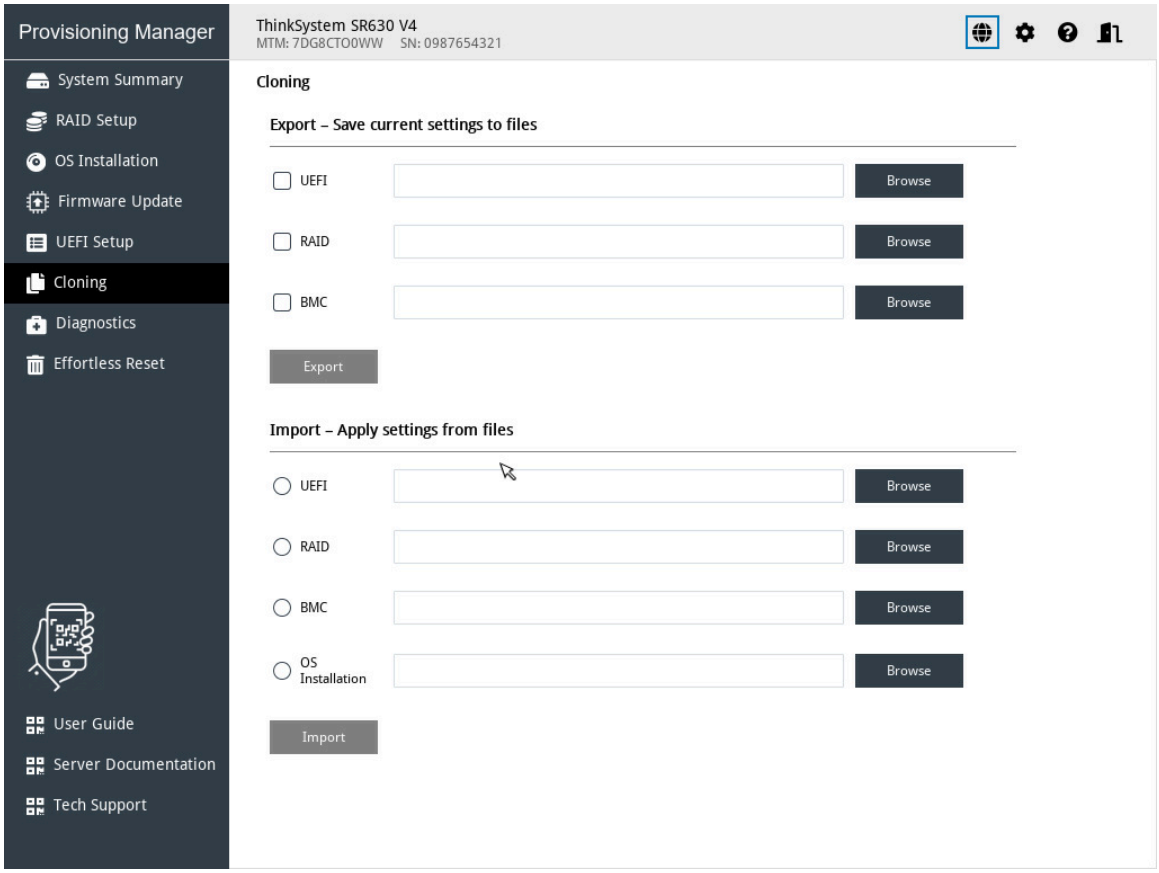


Figure 25. Cloning interface

Exporting response files

To export UEFI, RAID, or BMC settings to response files, do the following:

1. Attach a USB storage drive to the server or connect your server to a shared network. For instructions on how to connect to a shared network, refer to "Configuring network settings" on page 6.

   Note: The USB storage drive should include an FAT32 partition.
2. In the Export section, click the **Browse** for the item you want to export. The Save Response File window is displayed.
3. Select the location to save the response file and input a file name.
4. Click **Save** to return to the Cloning interface. The check box for the item you want to export will be selected automatically.
5. If necessary, repeat step 2 to step 4 to select other items you want to export.
6. Click **Export** to start the exporting process and wait for several minutes until the exporting process is completed.

To export operating system installation settings to a response file, refer to “Exporting an operating-system-installation response file” on page 28.

Importing response files

Prerequisites

- Before importing a UEFI response file, ensure that the UEFI version for the target server and the source server is the same.
- Before importing a BMC response file, ensure that the BMC version for the target server and the source server is the same.
- Before importing a RAID response file, ensure that the target server and the source server have same RAID configuration.
- Before importing an operating-system-installation response file, ensure that the target server and the source server have the same RAID adapter installed, and the capacity of the disk drive under the RAID adapter for the target server is greater than the partition size in the response file.

To import UEFI, RAID, BMC, or operating system installation settings saved in response files to your server, do the following:

1. If the response file is stored on a USB storage drive, insert the USB storage drive into the server. If the response file is stored in a shared network folder, ensure that you have configured the network settings. For instructions on how to configure the network settings, refer to “Configuring network settings” on page 6.
2. In the Import section, click the **Browse**. The Select File window is displayed.
3. Select the corresponding response file. The selected file name is displayed in the **File Name** field.
4. Click **OK** to return to the Cloning interface. The item you want to import will be selected automatically.
5. If you are importing a UEFI, RAID, or BMC response file, click **Import** to start the importing process. Wait for several minutes until the importing process is completed.

   If you are importing an operating-system-installation response file, click **Import**, the Installation Summary page appears. The settings in the operating-system-installation response file are listed in this page. You can edit some settings according to your need. Then, click **Next** to start the operating system installation process. Wait until the installation is completed.

Diagnostics

Click the **Diagnostics** tab in the left pane to enter the Diagnostics interface. In the Diagnostics interface, you can run diagnostics and collect service data.

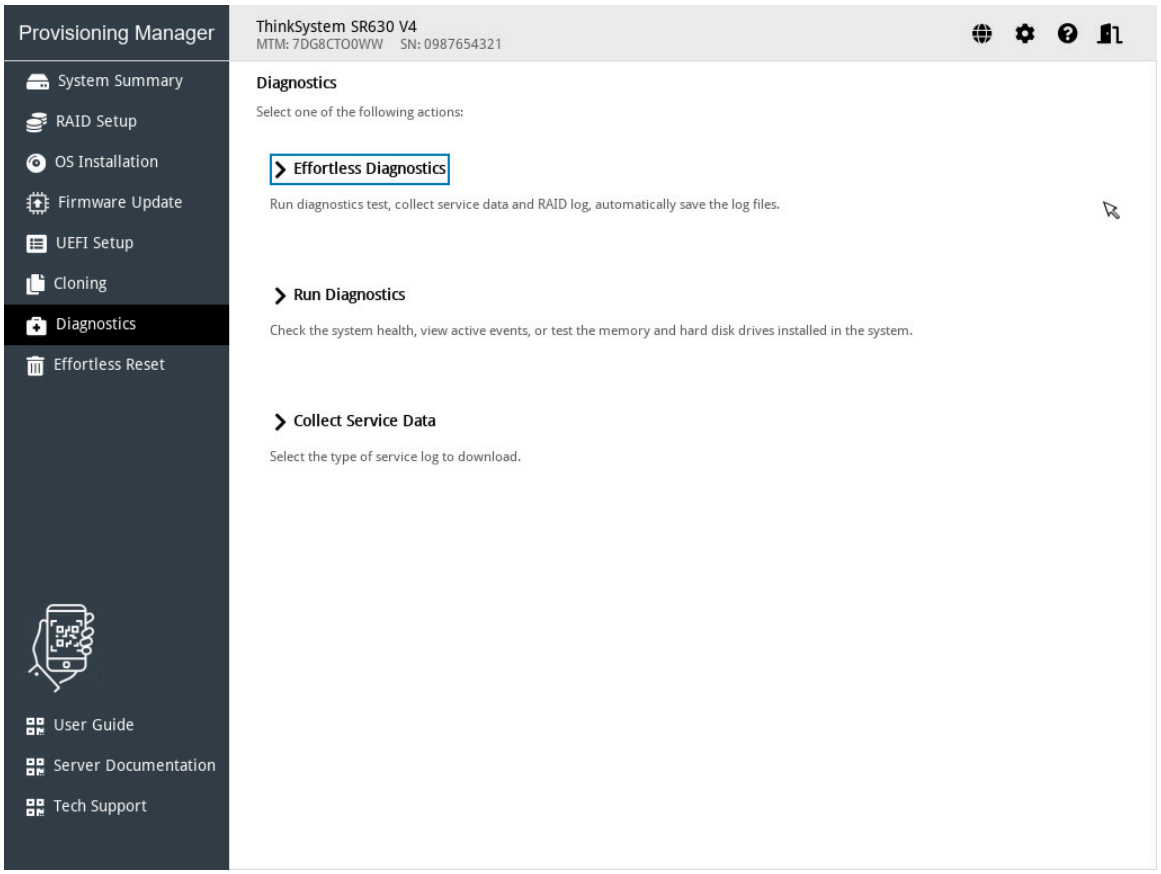


Figure 26. Diagnostics interface

There are three types of operation for your selection:
- **Effortless Diagnostic**: Run system diagnostic and collect all system log in one package.
- **Run Diagnostics**: View health status of server components, check active events, run memory test, disk drive test, and collect RAID logs.
- **Collect Service Data**: Collect service data manually.

Effortless diagnostic

To run system diagnostic and collect all system log in one package, perform effortless diagnostic.

To perform effortless diagnostic, do the following:
1. Attach a USB storage drive to the server or connect your server to a shared network. For instructions on how to connect to a shared network, refer to “Configuring network settings” on page 6.
2. In the Diagnostics interface, select and click **Effortless Diagnostic**. The Select device window is displayed.
3. In the Select device window, select a location to save the log and click **OK** to perform effortless diagnostic. The process takes several minutes.
4. When the diagnostics process is completed, the Confirmation window will be displayed. Click **Save**, then the log will be saved in the USB storage drive or the shared network. Provide the file to the Lenovo service personnel for problem determination.

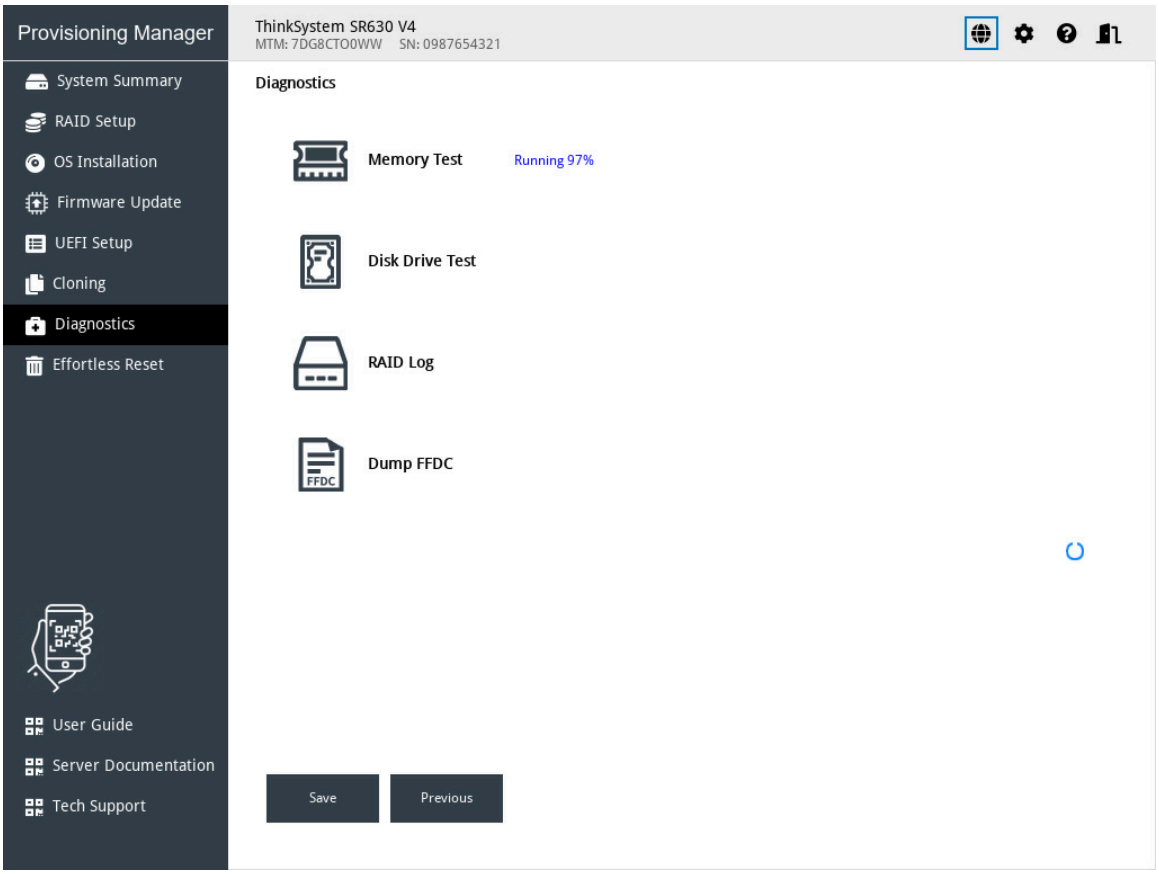


Figure 27. Effortless diagnostic

Running diagnostics

To view health status of server components, check active events, run memory test, disk drive test, and collect RAID logs, perform the “Run Diagnostics” function.

In the Diagnostics interface, select and click **Run Diagnostics**. The following four tabs are displayed in the left pane:

- **Hardware Health**: View the health status of each server component and check the active events if any one of the components has a problem.
- **Memory Test**: Run the memory test.
- **Disk Drive Test**: Run the disk drive test.
- **RAID Log**: Collect the logs for the selected RAID adapters.

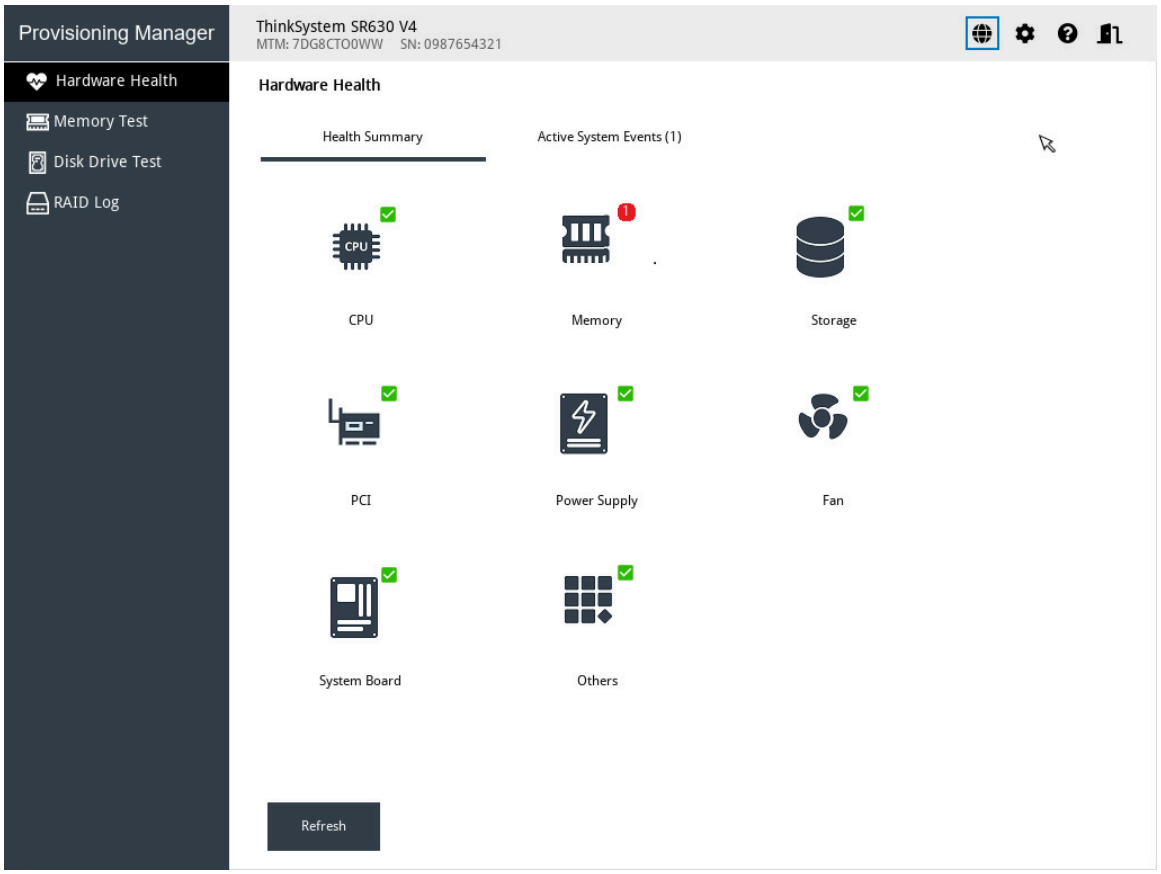


Figure 28. Hardware health interface

In the Hardware Health interface, you can do the following:

- View the health of major system components.
- Click the system component to view active events related to the component.
- Click **Active System Events** to view all active events.

To exit this interface and return to the Diagnostics interface, click , and then click **OK** in the Exit window.

Running memory test

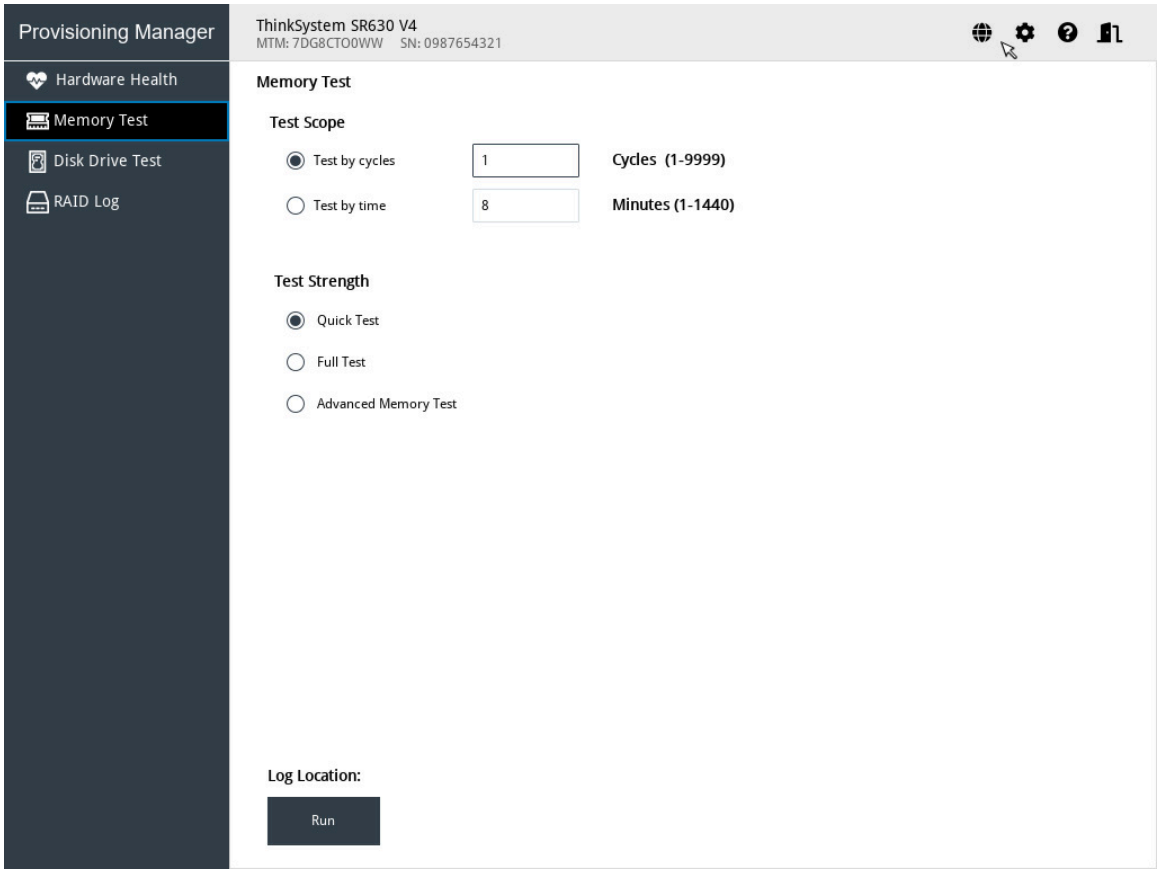


Figure 29. Memory Test interface

To run memory test, do the following:

1. To save the test result, attach a USB storage drive to the server or connect the server to a shared network. For instructions on connecting to a shared network, refer to “Configuring network settings” on page 6.
2. Click the **Memory Test** tab.

3. Select one of the following test options, and click **Run** to start testing.

Memory Test Types	Function	Memory Test Settings	Log format	Log save location	Notes
Quick Test	The default test type, which only runs the WriteRead test pattern.	Support	`MemLog_%date%.txt`	• USB flash drive • Web-site	• The mouse pointer is not active during the test process. • After the test process is completed, the test result will be displayed. • Press **Esc** to stop the test.
Full Test	Runs all test patterns and takes a long time to finish.	Support			
Advanced Memory Test	Runs complicated data test patterns for memory during UEFI POST. The test time depends on the DIMM configuration. The system will be restarted when running the test, and a dialog will be displayed on the Memory Test page after the test. Users can save the logs.	Not support	`ADVMem-Log_%date%.txt`	• USB flash drive	/

4. To save the test result, click **Save** after the process is completed.

   Note: The test result will be saved in the `MemLog_%date%.txt` file in the USB storage drive or the shared network folder. Compared with the test result displayed on the interface, the file contains more details.

Running disk drive test

To run disk drive test, do the following:

1. If you want to save the test result, attach a USB storage drive to the server or connect your server to a shared network. For instructions on how to connect to a shared network, refer to "Configuring network settings" on page 6.
2. Click the **Disk Drive Test** tab.
3. Select the test options according to your needs, and click **Run** to start testing.

   Notes:
   - **Short Self Test** is selected as the test type by default.
   - The mouse pointer is not active during the testing process.
   - If you are running test for NVMe SSDs, no matter you select **Short Self Test** or **Long Self Test**, the test item only includes the Self-Monitoring, Analysis, and Reporting Technology (SMART) flag status.
   - You can press Esc to stop the test.
4. If you want to save the test result after the testing process is completed, click **Save**.

   Notes:
   - The test result will be saved in a test_hdd.txt file in the USB storage drive or the shared network folder. The file includes more details than the test result displayed on the interface.
   - If two M.2 drives are configured as a RAID array, the drives are not supported in the disk drive test. If you want to use disk drive test function to test the M.2 drives, do not configure them as a RAID array.
5. To exit this interface and return to the Diagnostics interface, click  , and then click **Yes** in the Exit window.

Collecting RAID logs

To collect RAID logs, do the following:

1. If you want to save the logs, attach a USB storage drive to the server or connect your server to a shared network. For instructions on how to connect to a shared network, refer to “Configuring network settings” on page 6.
2. Click the **RAID Log** tab.
3. Select the RAID adapter that you want to collect the logs, and click **Run** to start the collection.

   Notes:
   - The mouse pointer is not active during the collecting process.
   - Only the Broadcom HardsWare RAID Adapter series support the log collection function. M.2/RSTe/NVMe RAID Controller does not support this function because the adapter cannot save the raid log.
4. To exit this interface and return to the Diagnostics interface, click , and then click **Yes** in the Exit window.

Collecting service data

To collect service data manually, perform the “Collect Service Data” function.

To collect service data, do the following:
1. Attach a USB storage drive to the server or connect your server to a shared network. For instructions on how to connect to a shared network, refer to “Configuring network settings” on page 6.
2. In the Diagnostics page, select **Collect Service Data**, and do one of the following. The process will start.
   - To collect the server data, select **Service Data Log**.
   - To collect the debug log, select **Debug Log**.
3. When the process is completed, the Select the Device window is displayed.
4. On the Select the Device window, select the storage device to save the data or log, and click **OK**. The file will be saved to the USB storage drive or the shared network folder. Provide the file to the Lenovo Service for the problem determination.

Type of data	File name	Example
Service Data Log	`ServiceData_YYYYMMDD-HHMMSS.zip`	`ServiceData_20210511-033106.zip`
Debug Log	`MTM_SN_xcc3_DebugLog_YYMMDD-HHMMSS.tar.zst`	`7DG8CTOOWW_0987654321_xcc3_DebugLog_210511-033112.tar.zst`

Note: If the USB storage drive is not available in the list, click the refresh button to display it.

Effortless Reset

In the Effortless Reset interface, you can permanently erase all data on storage devices, clear all system logs, and reset the whole system to factory default, including credentials and networking.

Prerequisites

Before performing effortless reset, disable the security drive.

CAUTION:
Effortless reset will cause data loss, back up your data before performing effortless reset.

To perform effortless reset, do the following:
1. Click the **Effortless Reset** tab in the left pane to enter into the Effortless Reset interface.
2. Input XCC/BMC user name and password, and click **OK**.

   Note: Do not delete the default administrative account. Otherwise, the following error message might be displayed:
   ```
   Unable to authenticate to the Effortless Reset page with XCC account, you
   must create a valid administrative account using the management controller
   ```

web interface.
To solve this problem, create a new administrator account. Refer to https://pubs.lenovo.com/xcc-amd/NN1ia_c_useraccounts.

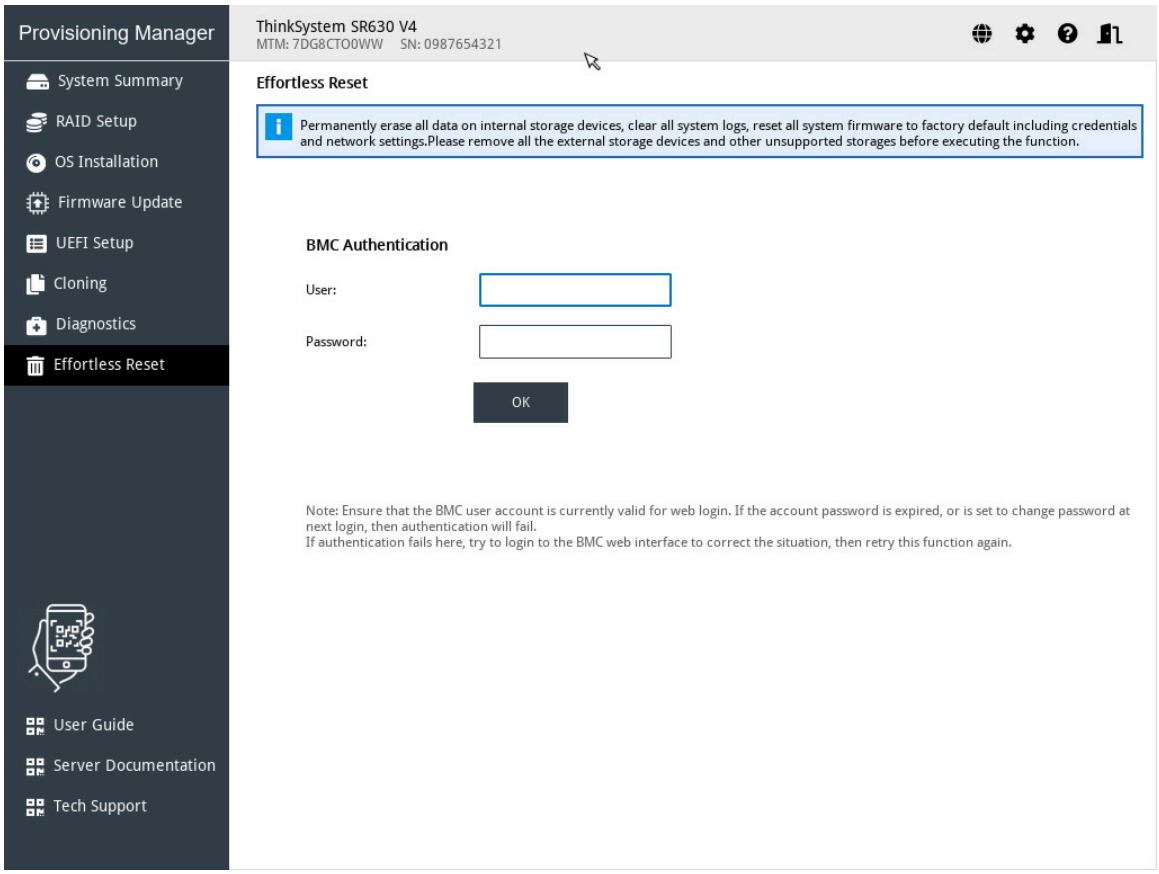


Figure 30. Input user name and password

3. Select one or more of the following, input **YES** to confirm the reset action, and click **Start**.
   - To erase the data on all RAID volumes and all disk devices (including HDD, SSD, and SED), select **Permanently erase all data on storage devices**.
   - To clear all system logs, including LSI RAID Event Log and System Event Log (SEL), select **Clear all system logs**.
   - To reset the credentials and networking of UEFI, BMC, TPM, and CMOS to factory default settings, select **Reset all system to factory default, including credentials and network setting**.

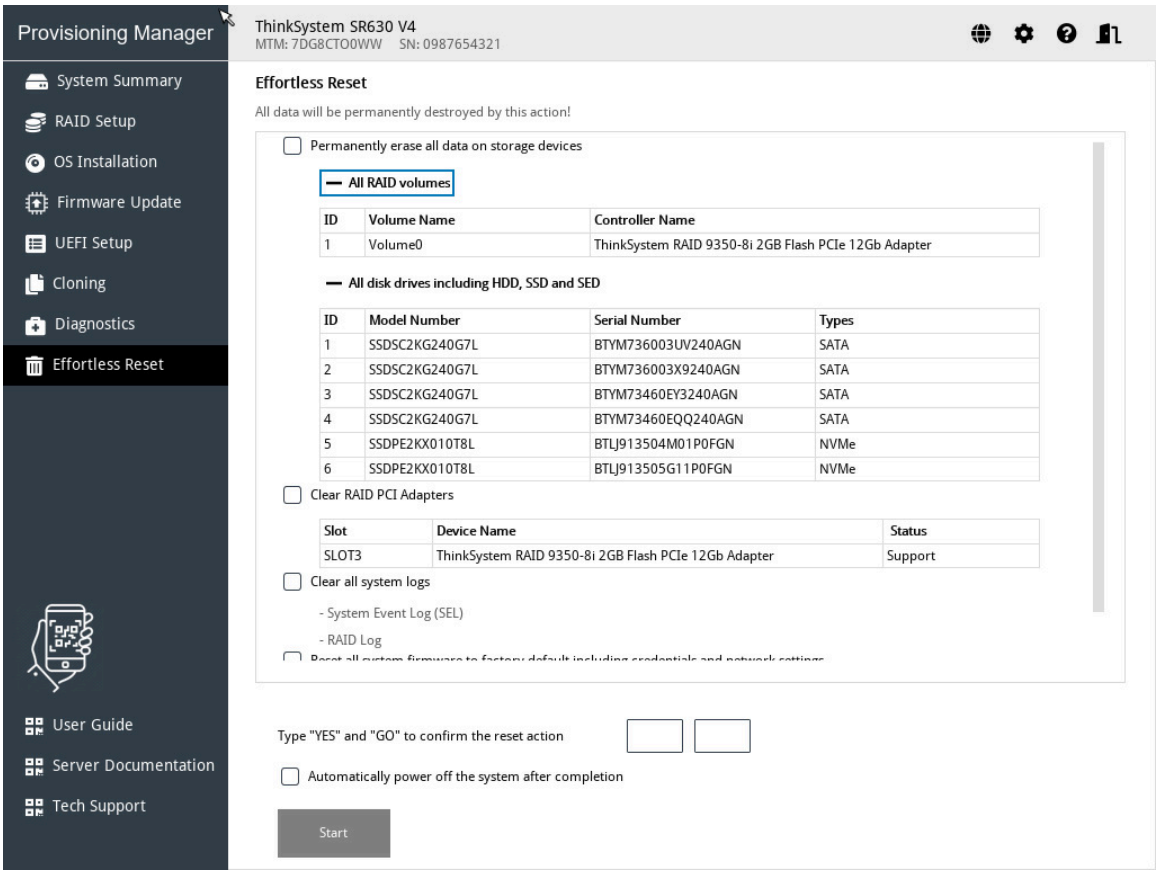


Figure 31. Select item to be deleted

4. When the following page is displayed, wait until the whole progress is completed.

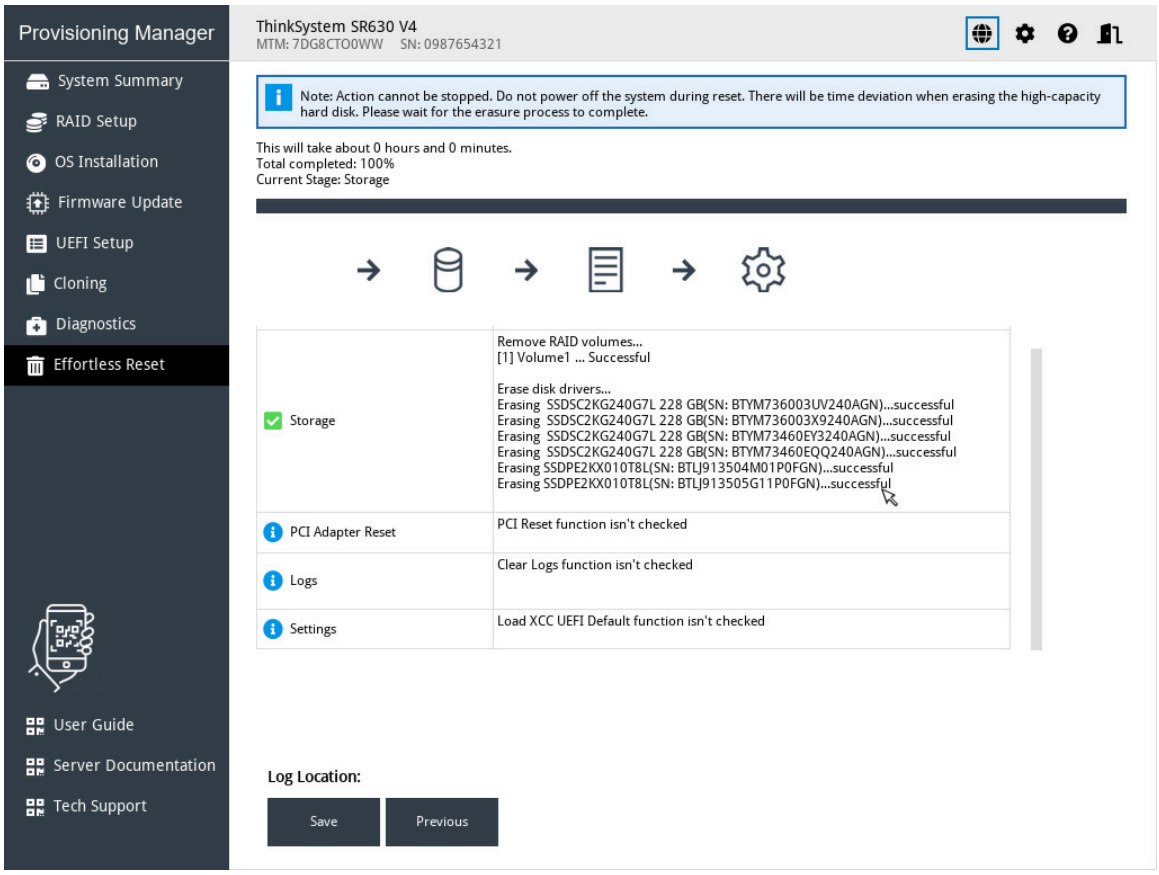


Figure 32. Effortless reset progress

Chapter 3. Troubleshooting

This chapter provides information about basic troubleshooting methods to help you solve problems that might occur while using LXPM V5.

If you cannot diagnose and solve a problem by using the information in this chapter, go to https://datacentersupport.lenovo.com for additional troubleshooting resources. You also can get help and information by telephone through the Customer Support Center. The most up-to-date telephone list for Lenovo Support is always available on the Web site at:
https://datacentersupport.lenovo.com/supportphonelist

The following table lists typical symptoms you might experience and the suggested actions.

Symptom	Action
Unable to authenticate to the **Effortless Reset** page with XCC account after deleting the default administrative account.	Create a new administrator account. Refer to https://pubs.lenovo.com/xcc-amd/NN1ia_c_useraccounts.
The process for installing an operating system continuously loops.	Make more space available on the hard disk drive.
LXPM V5 cannot start the operating system medium.	Do one of the following: • Ensure that the disc has no problem. • Ensure that your server can connect to the shared network correctly. • Ensure that the USB installation medium is created correctly. Refer to: https://download.lenovo.com/servers_pdf/how_to_create_usb_os_installation_media.pdf
No drive is found in **OS Installation** → **Guided Install** → **Drive Selection**.	Ensure that you have configured a RAID adapter for the server in the RAID Setup interface. For instructions on how to configure a RAID adapter, refer to “RAID Setup” on page 9.

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