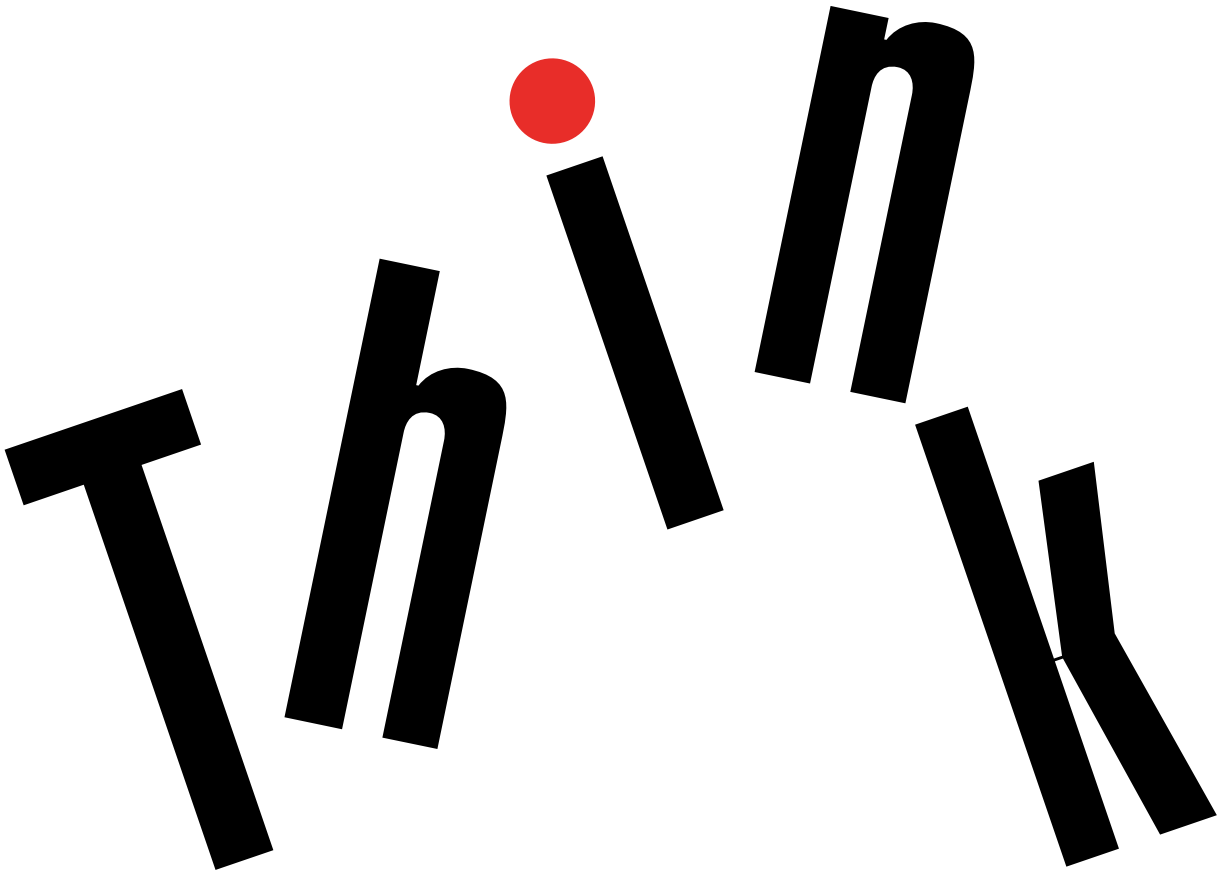
Lenovo

ThinkServer®

ThinkServer TD350
Operating System Installation Guide



Note: Before using this information and the product it supports, be sure to read and understand the safety information provided on the Lenovo Web site at:
https://support.lenovo.com/documents/LNVO-DOCS

Seventeenth Edition (October 2018)

© Copyright Lenovo 2014, 2018.

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

Contents

© Copyright Lenovo 2014, 2018

© Copyright Lenovo 2014, 2018

Chapter 1. Introduction

This document provides instructions on how to install an operating system on the Lenovo® ThinkServer® TD350 server.

The supported operating systems vary by the configuration on your server. The following table provides a list on the supported operating systems for your server.

Supported operating systems	IDE	AHCI	SATA RAID	Add-On RAID	Haswell	Broad-well
Microsoft® Windows Server® 2008 R2 Datacenter Edition with Service Pack 1 Microsoft Windows Server 2008 R2 Enterprise Edition with Service Pack 1 Microsoft Windows Server 2008 R2 Foundation Edition with Service Pack 1 Microsoft Windows Server 2008 R2 Standard Edition with Service Pack 1	Yes	Yes	Yes	Yes	Yes	No
Microsoft Windows® Small Business Server 2011 Essentials	Yes	Yes	Yes	Yes	Yes	No
Microsoft Windows Small Business Server 2011 Premium Add-on	Yes	Yes	Yes	Yes	Yes	No
Microsoft Windows Small Business Server 2011 Standard Edition	Yes	Yes	Yes	Yes	Yes	No
Microsoft Windows Server 2012 Datacenter Edition Microsoft Windows Server 2012 Foundation Edition Microsoft Windows Server 2012 Standard Edition	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Server 2012 Essentials	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Server 2012 R2 Datacenter Edition Microsoft Windows Server 2012 R2 Foundation Edition Microsoft Windows Server 2012 R2 Standard Edition	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Server 2012 R2 Essentials	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Server 2016 Datacenter Edition Microsoft Windows Server 2016 Standard Edition	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Server 2016 Essentials	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Server Version 1709	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows Storage Server 2012 Standard Edition Microsoft Windows Storage Server 2012 R2 Standard Edition	Yes	Yes	Yes	Yes	Yes	Yes

© Copyright Lenovo 2014, 2018

Supported operating systems	IDE	AHCI	SATA RAID	Add-On RAID	Haswell	Broad-well
Microsoft Windows Multipoint® Server 2012 Premium Edition Microsoft Windows Multipoint Server 2012 Standard Edition	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows 8 Microsoft Windows 8 Professional Edition	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft Windows 8.1 Microsoft Windows 8.1 Professional Edition	Yes	Yes	Yes	Yes	Yes	Yes
Hyper-V® Server 2008 R2 with Service Pack 1	Yes	Yes	No	Yes	Yes	No
Hyper-V Server 2012 Hyper-V Server 2012 R2	Yes	Yes	No	Yes	Yes	Yes
Hyper-V Server 2016	Yes	Yes	No	Yes	Yes	Yes
SUSE Linux® Enterprise Server 11 with Service Pack 3	Yes	Yes	Yes	Yes	Yes	No
SUSE Linux Enterprise Server 11 with Service Pack 4	Yes	Yes	Yes	Yes	Yes	No
SUSE Linux Enterprise Server 12	Yes	Yes	Yes	Yes	Yes	No
SUSE Linux Enterprise Server 12.1	Yes	Yes	Yes	Yes	Yes	Yes
SUSE Linux Enterprise Server 12.2	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat® Enterprise Linux® 6.5	Yes	Yes	Yes	Yes	Yes	No
Red Hat Enterprise Linux 6.6	Yes	Yes	Yes	Yes	Yes	No
Red Hat Enterprise Linux 6.7	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 6.8	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 6.9	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 6.10	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 7	Yes	Yes	Yes	Yes	Yes	No
Red Hat Enterprise Linux 7.1	Yes	Yes	Yes	Yes	Yes	No
Red Hat Enterprise Linux 7.2	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 7.3	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 7.4	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 7.5	Yes	Yes	Yes	Yes	Yes	Yes
Red Hat Enterprise Linux 7.6	Yes	Yes	Yes	Yes	Yes	Yes
VMware® ESXi 5.1 Update 2 P5	Yes	Yes	No	Yes	Yes	No
VMware ESXi 5.1 Update 3	Yes	Yes	No	Yes	Yes	No
VMware ESXi 5.5 Update 2	Yes	Yes	No	Yes	Yes	No
VMware ESXi 5.5 Update 3	Yes	Yes	No	Yes	Yes	Yes

Supported operating systems	IDE	AHCI	SATA RAID	Add-On RAID	Haswell	Broad-well
VMware ESXi 6.0	Yes	Yes	No	Yes	Yes	No
VMware ESXi 6.0 Update 1	Yes	Yes	No	Yes	Yes	Yes
VMware ESXi 6.0 Update 2	Yes	Yes	No	Yes	Yes	Yes
VMware ESXi 6.0 Update 3	Yes	Yes	No	Yes	Yes	Yes
VMware ESXi 6.5	Yes	Yes	No	Yes	Yes	Yes
VMware ESXi 6.5 Update 1	Yes	Yes	No	Yes	Yes	Yes
VMware ESXi 6.5 Update 2	Yes	Yes	No	Yes	Yes	Yes
VMware ESXi 6.7	Yes	Yes	No	Yes	Yes	Yes
Citrix XenServe 6.5	Yes	Yes	No	Yes	Yes	No
Citrix XenServe 6.5.1	Yes	Yes	No	Yes	Yes	Yes

Note: The Hyper-V Server 2012 operating system cannot be installed on the SD card or USB storage device that does not have the fixed_disk property. It is recommended by Microsoft that you install the Hyper-V Server 2012 operating system on the following storage devices:

- Kingston DataTraveler Ultimate
- Super Talent Express RC8
- Western Digital My Passport Enterprise

For detailed information, go to:
http://technet.microsoft.com/en-us/library/jj733589.aspx

Chapter 2. Installing an operating system in legacy mode

This chapter provides information about installing operating systems in legacy mode.

Before installing an operating system in legacy mode

This topic contains the following items:

Preparing the driver

Before installing an operating system in legacy mode, download your desired driver from the Lenovo Web site at http://www.lenovo.com/drivers. Then, copy the driver to a USB storage device.

If the operating system is installed on a storage area network (SAN), download the driver for the host bus adapter (HBA) or converged network adapter (CNA) that is connected to the SAN. Then, copy the driver to a USB storage device.

Notes:

- You can load driver files using a USB storage device or a disc. The steps in this document are based on the scenario that you use a USB storage device to load driver files. If the USB storage device fails to load driver files, try using a disc. If you are installing an SUSE operating system, you are advised to use a disc to load .iso driver files.
- Depending on the configuration, you might install the operating system on a SAN or a hard disk drive. For Microsoft Windows operating systems, the two installation procedures are the same.
- Set the optical drive that you want to use as the first startup device. Depending on the server model, an external optical drive might be required.

Configuring the BIOS setting

Before installing an operating system in legacy mode, configure the BIOS setting by doing the following:

1. Start the Setup Utility program.
2. On the **Boot Manager** menu, select **Miscellaneous Boot Settings** and press Enter.
3. On the **Storage OpROM policy** menu, select **Legacy only**.

Installing the Microsoft Windows Server 2008 R2 operating system with Service Pack 1

This topic provides instructions on installing the following operating systems:

- Microsoft Windows Server 2008 R2 Datacenter Edition with Service Pack 1 (x64)
- Microsoft Windows Server 2008 R2 Enterprise Edition with Service Pack 1 (x64)
- Microsoft Windows Server 2008 R2 Foundations Edition with Service Pack 1 (x64)
- Microsoft Windows Server 2008 R2 Standard Edition with Service Pack 1 (x64)

To install the Microsoft Windows Server 2008 R2 operating system with Service Pack 1, do the following:

© Copyright Lenovo 2014, 2018

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Enter your language and other preferences window is displayed, configure the language and other options as you need and then click **Next**.
4. Click **Install now**.
5. Select the operating system that you want to install. Then, click **Next**.

   Note: If you are installing the Microsoft Windows Server 2008 R2 Foundations Edition with Service Pack 1, skip this step.
6. Read the license terms and select **I accept the license terms**. Then, click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: (Advanced)** is selected in this step.
8. Do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: For server models with the AHCI configuration, ensure that you install AHCI drivers after operating system installation.
9. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
10. Choose the hard disk drive to install the operating system, and then click **New**.
11. Type the amount of space (in MB), and then click **Apply**. Click **OK** if prompted.
12. Select the drive partition on which you want to install the operating system, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
13. Change your password when prompted.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.
14. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Microsoft Windows Small Business Server 2011 Essentials operating system

To install the Microsoft Windows Small Business Server 2011 Essentials operating system, do the following:

Note: Before installing this operating system, connect your server to the network.

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.

2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. Wait several minutes for the system to load the files.
3. In the Installing Windows window, select **New Installation**.
4. Depending on the configuration, do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Installing Windows window, connect the USB storage device that contains the driver to your server. Then, click **Load drivers** to go to the folder where the driver is stored.
     b. Click **OK** and select **I understand that if I click install, all files and folders on your primary hard driver will be deleted**.
     c. Click **Install** to start the operating system installation. The Install Windows window is displayed. Wait for a moment.
   - If the server configuration is set as IDE or AHCI, select **I understand that if I click install, all files and folders on your primary hard driver will be deleted**. Then, click **Install** to start the operating system installation. The Install Windows window is displayed. Wait for a moment.

     Notes:

     – For server models with the AHCI configuration, ensure that you install AHCI drivers after operating system installation.

   Note: Drive partition is not supported.
5. When the message `Errors occurred during installation` is displayed, connect the USB storage device that contains the driver for the Ethernet card to your server. Press Shift+F10, type the command `devmgmt.msc`, and then press Enter.
6. In the Device Manager window, click **other devices**, and then right-click **Ethernet Controller**.
7. Click **Update Driver Software → Browse my computer for driver software**.
8. Click **Browse** to go to the folder where the driver is stored, and then click **OK** and click **Next**.
9. In the Update Driver Software-Intel... Connection window, click **Close**. Go back to the command window and close it.
10. Go back to the Errors occurred during installation window, and click **Restart** to restart your server.
11. When the Windows Small Business Server 2011 window is displayed, configure the language and other options as you need, and then click **Next**.
12. In the Verify the date and time settings window, configure the date and time. Then, click **Next**.
13. Read the license terms and select **I accept the license**. Then, click **Next**.
14. Type your product key and then click **Next**.
15. Personalize the server by typing the user name, and then click **Next**.
16. In the Provide your administrator information (account 1 of 2) window, type your user name and password. Then, click **Next**.

    Note: The password must contain at least eight characters and consist of upper case letters, lower case letters, and numbers.
17. In the Provide your administrator information (account 2 of 2) window, type your user name and password, and then click **Next**.

    Note: The password must contain at least eight characters and consist of upper case letters, lower case letters, and numbers.
18. In the Keep your server up-to-date automatically window, configure the settings as you need. Your server restarts several times.

19. When prompted, click **Close**. The installation is completed.

Installing the Microsoft Windows Small Business Server 2011 Premium Add-on operating system

To install the Microsoft Windows Small Business Server 2011 Premium Add-on operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. In the Installing Windows window, configure the language and other options as you need and then click **Next**.
4. Click **Install now**.
5. Select the operating system that you want to install, and then click **Next**.
6. Read the license terms and select **I accept the license terms**. Then, click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom (Advanced)** is selected in this step.
8. Depending on the configuration, do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: For server models with the AHCI configuration, ensure that you install AHCI drivers after operating system installation.
9. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
10. Choose the hard disk drive to install the operating system, and then click **New**.
11. Type the amount of space (in MB), and then click **Apply**.
12. In the Install Windows window, click **OK**.
13. Go back to the Where do you want to install Windows? window. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
14. Change your password when prompted.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.
15. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Microsoft Windows Small Business Server 2011 Standard operating system

To install the Microsoft Windows Small Business Server 2011 Standard operating system, do the following:

Note: Before you install this operating system, connect your server to the network.

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. In the Installing Windows window, configure the language and other options as you need and then click **Next**.
4. Click **Install now**.
5. Read the license terms and select **I accept the license terms**. Then, click **Next**.
6. Select the type of installation as you need. The following steps are based on the scenario that **Custom (Advanced)** is selected in this step.
7. Depending on the configuration, do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: For server models with the AHCI configuration, ensure that you install AHCI drivers after operating system installation.
8. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
9. Choose the hard disk drive to install the operating system, and then click **New**.
10. Type the amount of space (in MB), and then click **Apply**.
11. In the Install Windows window, click **OK**.
12. Go back to the Where do you want to install Windows? window. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Notes:
    - Your server restarts several times during the installation.
    - The drive partition must be greater than 80 GB. It is recommended that the drive partition is greater than 120 GB.
13. In the Continue Installation window, select **Clean Install**. Then, click **Next**.
14. Click **Open Date and Time to verify the clock and time zone settings** to set your date and time. Then, click **OK**. Go back to the Verify the clock and time zone settings window and click **Next**.

    Note: If the server can identify the Ethernet card driver, go to step 19.

15. When the A network adapter was not found window opens, connect the USB storage device that contains the driver for the Ethernet card to your server. Then, press Shift+F10, input the command `devmgmt.msc`, and press Enter.
16. In the Device Manager window, click **other devices**, and then right-click **Ethernet Controller**.
17. Click **Update Driver Software → Browse my computer for driver software**.
18. Go to the folder where the driver is stored, and then click **Next**.
19. In the Update Driver Software-Intel... Connection window, click **Close**. Go back to the command window and close it.
20. Go back to the A network adapter was not found window, and click **Back** to return to the Verify the clock and time zone settings window. Then, click **Next**.
21. In the Server network configuration window, configure the network settings as you need. Then, click **Next**.
22. In the Get important updates window, select the update method as you need. The following steps are based on the scenario that **Do not get the most recent installation updates** is selected in this step.
23. In the Connecting your server window, configure the company information as you need. Click **Next**.
24. Personalize the server and network information as you need. Click **Next**.
25. In the Add a network administrator account window, set your user name and password. Then, click **Next**.

    Note: The password must contain at least eight characters and consist of upper case letters, lower case letters, and numbers.
26. In the That is all the information needed window, click **Next** to restart the server. When the Installation finished window is displayed, the operating system installation is completed.

Installing the Microsoft Windows Server 2012 operating system

This topic provides instructions on how to install the following operating systems:

- Microsoft Windows Server 2012 Datacenter Edition
- Microsoft Windows Server 2012 Foundation Edition
- Microsoft Windows Server 2012 Standard Edition

To install the Microsoft Windows Server 2012 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Select the Windows operating system edition that you want to install. Then, click **Next**. The following steps are based on the scenario that **Windows Server 2012 Standard (Server with a GUI)** is selected in this step.

   Note: Skip this step if you are installing the Windows Server 2012 Foundation Edition.
7. Read the license terms and select **I accept the license terms**. Click **Next**.

8. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
9. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: For server models with the AHCI configuration, ensure that you install AHCI drivers after operating system installation.
10. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
11. Choose the hard disk drive to install the operating system, and then click **New**.
12. Type the amount of space (in MB), and then click **Apply**.
13. In the Windows Setup window, click **OK**.
14. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
15. When the Settings window is displayed, set an administrator password and click **Finish**. Then, follow the instructions on the screen to log in to the operating system when prompted.

Installing the Microsoft Windows Server 2012 Essentials operating system

Note: Before installing this operating system, connect your server to the network.

To install the Windows Server 2012 Essentials operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Read the license terms and select **I accept the license terms**. Then, click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.

b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.

c. Click **OK**. The Select the driver to be installed window is displayed.

d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.

- If the server configuration is set as IDE or AHCI, go to next step.

  Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.

9. In the Where do you want to install Windows? window, click **Drive options (advanced)**. Then, click **New**.
10. Type the amount of space (in MB), and then click **Apply**.
11. In the Windows Setup window, click **OK**.
12. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Notes:

    - Your server restarts several times during the installation.
    - If the message `Errors123 occurred during installation` is displayed, manually install the Ethernet card driver by doing the following:

      a. Connect the USB storage device that contains the driver for the Ethernet card to your server.

      b. Go to Device Manager, and then right-click **Ethernet Controller**.

      c. Click **Update Driver Software → Browse my computer for driver software**.

      d. Click **Browse** to go to the folder where the driver is stored, and then click **Next**.

      e. In the Windows has successfully updated your driver software window, click **Close**.
13. Configure the date and time as you need, and then click **Next**.
14. Choose the type of installation as you need. The following steps are based on the scenario that **Clean install** is selected.
15. Personalize the server by typing the computer name and then click **Next**.
16. In the Provide your administrator information (account 1 of 2) window, type your user name and password, and then click **Next**.

    Note: The password must contain at least eight characters and consist of upper case letters, lower case letters, and numbers.
17. In the Provide your administrator information (account 2 of 2) window, type your user name and password, and then click **Next**.

    Note: The password must contain at least eight characters and consist of upper case letters, lower case letters, and numbers.
18. In the Keep your server up-to-date automatically window, configure the settings as you need. Your server restarts several times.
19. When prompted, click **Close**. The installation is completed.

Installing the Microsoft Windows Server 2012 R2 operating system

This topic provides instructions on how to install the following operating systems:

- Microsoft Windows Server 2012 R2 Datacenter Edition
- Microsoft Windows Server 2012 R2 Foundation Edition

- Microsoft Windows Server 2012 R2 Standard Edition

To install the Microsoft Windows Server 2012 R2 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012 R2 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.

   Note: Skip this step if you are installing Microsoft Windows Server 2012 R2 Datacenter Edition or Microsoft Windows Server 2012 R2 Standard Edition.
6. Select the Windows operation system edition that you want to install. Then click **Next**. The following steps are based on the scenario that **Windows Server 2012 R2 Standard (Server with a GUI)** is selected in this step.
7. Read the license terms and select **I accept the license terms**. Then click **Next**.
8. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
9. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.
10. In the Where do you want to install Windows? window, click **Drive options (advanced)**. Then, click **New**.
11. Type the amount of space (in MB), and then click **Apply**. The Windows Setup window is displayed.
12. Click **OK**.
13. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
14. When the Settings window is displayed, set an administrator password and click **Finish**. Then, follow the instructions on the screen to sign in when prompted.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.

Installing the Microsoft Windows Server 2012 R2 Essentials operating system

To install the Windows Server 2012 R2 Essentials operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012 R2 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Read the license terms and select **I accept the license terms**. Then click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.
9. In the Where do you want to install Windows? window, click **Drive options (advanced)**. Then, click **New**.
10. Type the amount of space (in MB), and then click **Apply**. The Windows Setup window is displayed.
11. Click **OK**.
12. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
13. When the Settings window is displayed, set an administrator password and click **Finish**. Then, follow the instructions on the screen to sign in when prompted.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.

Installing the Microsoft Windows Server 2016 operating system

This topic provides instructions on how to install the following operating systems:

- Microsoft Windows Server 2016 Standard Edition
- Microsoft Windows Server 2016 Datacenter Edition

To install the Microsoft Windows Server 2016 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from cd or dvd` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. In the Windows Server 2016 window, select the language and other options. Then, click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Select the operating system you want to install, and then click **Next**.
7. Read the license terms and select **I accept the license terms**. Then, click **Next**.
8. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
9. In the “Where do you want to install Windows?” window, choose the storage device to install the operating system, and then click **New**.
10. Type the amount of space, and then click **Apply**.
11. In the Windows Setup window, click **OK**.
12. Ensure that the drive partition is correct, and then click **Next**. The installation begins. Your server restarts several times during the installation.
13. In Settings window, type your password and click **Finish**.
14. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Microsoft Windows Server 2016 Essentials operating system

To install the Microsoft Windows Server 2016 Essentials operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from cd or dvd` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. In the Windows Server 2016 window, select the language and other options. Then, click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Read the license terms and select **I accept the license terms**. Then, click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. In the “Where do you want to install Windows?” window, choose the storage device to install the operating system, and then click **New**.
9. Type the amount of space, and then click **Apply**.
10. In the Windows Setup window, click **OK**.
11. Ensure that the drive partition is correct, and then click **Next**. The installation begins. Your server restarts several times during the installation.
12. In Settings window, type your password and click **Finish**.
13. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Windows Server SAC

This topic provides instructions on how to install the following operating system:

- Windows Server Version 1709

To install the Windows Server operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD...` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. The message `Loading files...` will be displayed. Wait several minutes for the system to load the files.
3. In the Windows Server window, configure the language and other options and then click **Next**. Select the language as you need and then click **Next**.
4. Click **Install now**.
5. The “setup is starting ”window is displayed.
6. In the “Select the operating system you want to install” window, select the type of installation as you need. The following steps are based on the scenario that **Windows Server Standard** is selected in this step, and then click **Next**.
7. Read the license terms and select **I accept the license terms**. Then, click **Next**.
8. In the “Where do you want to install Windows?” window, depending on the SATA configuration on your server, do one of the following:
   - If your SATA configuration is set as **RAID** (both **onboard SATA RAID** and **Add-on RAID**): go to step 9.
   - If your SATA configuration is set as **AHCI**: go to step 9. Be sure to install the AHCI driver after the operating system installation is completed, see “Installing the driver for the SATA AHCI” on page 101.
9. In the “Where do you want to install Windows?” window, click **New**. Type the amount of space (in MB), and then click **Apply**.
10. In the Windows Setup window, click **OK**, and then click **Next**. The installation begins.

    Note: After the installation, your server restarts. Then the operating system loading window is displayed for configuration for several minutes, and then the server restarts again.
11. In the CMD manager window, click **OK**. Follow the instructions on the screen to change the password, and then press Enter to log in to the operating system.

Installing the Microsoft Windows Storage Server 2012 Standard operating system

To install the Microsoft Windows Storage Server 2012 Standard operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.

5. Select the Windows operating system edition that you want to install. Then, click **Next**. The following steps are based on the scenario that **Windows Storage Server 2012 Standard Evaluation** is selected in this step.
6. Read the license terms and select **I accept the license terms**. Click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.
9. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
10. Choose the hard disk drive to install the operating system, and then click **New**.
11. Type the amount of space (in MB), and then click **Apply**.
12. In the Windows Setup window, click **OK**.
13. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: The server restarts several times during the installation.
14. When the Settings window is displayed, set an administrator password and click **Finish**. When prompted, follow the instructions on the screen to log in to the operating system.

Installing the Microsoft Windows Storage Server 2012 R2 Standard operating system

To install the Microsoft Windows Storage Server 2012 R2 Standard operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. When the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012 R2 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.

   Note: Type your product key if prompted and then click **Next**. The product key information is available on the Microsoft Certificate of Authenticity label or product packaging.
5. Read the license terms and select **I accept the license terms**. Click **Next**.

6. In the Which type of installation do you want? window, select the type of installation as you need. Then, click **Next**. The following steps are based on the scenario that **Custom: Install the newer version of Storage server only (advanced)** is selected in this step.
7. In the Where do you want to install Windows? window, depending on the SATA configuration on your server, do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. Connect the USB storage device that contains the driver to your server and click **Load Driver**.
     b. Click **Browse** to locate the required driver and then click **OK**.
     c. In the "Select the driver to be installed" window, select **Hide drivers that are not compatible with hardware on this computer**, select the driver that you want to install, and then click **Next** to install the driver.
   - If the server configuration is set as IDE, go to next step.
   - If the server configuration is set as AHCI, go to next step. Ensure that you install the AHCI driver after the operating system installation is completed.
8. In the Where do you want to install Windows? window, click **Drive options (advanced) → New**.
9. Type the amount of space (in MB), and then click **Apply**.
10. In the Windows Storage Server Setup window, click **OK**.
11. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: The server restarts several times during the installation.
12. When the Settings window is displayed, set an administrator password and click **Finish**. When prompted, follow the instructions on the screen to log in to the operating system.

Installing the Microsoft Windows Multipoint Server 2012 operating system

This topic provides instructions on installing the following operating systems:

- Microsoft Windows Multipoint Server Premium 2012
- Microsoft Windows Multipoint Server Standard 2012

Note: A hub is required for the operating system installation. Ensure that the keyboard and mouse are connected to the server using the hub.

To install the operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. When the message `Press any key to boot from cd or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows Server 2012... window is displayed, configure the language and other options as you need, click **Next**.
4. Click **Install now**.

   Note: Type your product key if prompted and then click **Next**. The product key information is available on the Microsoft Certificate of Authenticity label or product packaging
5. Read the license terms and select **I accept the license terms**. Then, click **Next**.
6. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (advanced)** is selected in this step.

7. In the Where do you want to install Windows? window, depending on the SATA configuration on your server, do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. Connect the USB storage device that contains the driver to your server and click **Load Driver**.
     b. Click **Browse** to locate the required driver and then click **OK**.
     c. In the Select the driver to be installed window, select **Hide drivers that are not compatible with hardware on this computer**, select the driver that you want to install, and then click **Next** to install the driver.
   - If the server configuration is set as IDE, go to next step.
   - If the server configuration is set as AHCI, go to next step. Ensure that you install the AHCI driver after the operating system installation is completed.
8. In the "Where do you want to install Windows?" window, click **Drive options (advanced) → New**.
9. Type the amount of space (in MB), and then click **Apply**.
10. In the Windows Storage Server Setup window, click **OK**.
11. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: The server restarts several times during the installation.
12. When the Settings window is displayed, click **Next**.
13. When the Windows Update window is displayed, click **Next**.
14. Change your password when prompted, and then click **Finish**.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.
15. When the message `MultiPoint Server Configuration Error` is displayed, press any key. The user name will be configured as "Administrator" after your server restarts. Follow the instructions on the screen to log in to the operating system.

Installing the Microsoft Windows 8 operating system

This topic provides instructions on how to install the following operating systems:

- Microsoft Windows 8 (x64 and x86)
- Microsoft Windows 8 Professional Edition (x64 and x86)

To install the Microsoft Windows 8 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows 8 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Read the license terms and select **I accept the license terms**. Click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:

a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
c. Click **OK**. The Select the driver to be installed window is displayed.
d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.

- If the server configuration is set as IDE or AHCI, go to next step.

  Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.

9. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
10. Choose the hard disk drive to install the operating system, and then click **New**.
11. Type the amount of space (in MB), and then click **Apply**.
12. In the Windows Setup window, click **OK**.
13. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: The server restarts several times during the installation.
14. Personalize the server by typing the user name, and then click **Next**.
15. In the Settings window, configure the settings as you need.
16. In the Sign in to your PC window, configure the settings as you need. Then, click **Finish** and follow the instructions on the screen to log in to the operating system.

Installing the Microsoft Windows 8.1 operating system

This topic provides instructions on how to install the following operating systems:

- Microsoft Windows 8.1 (x64 and x86)
- Microsoft Windows 8.1 Professional Edition (x64 and x86)

To install the Microsoft Windows 8.1 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Windows 8.1 window is displayed, configure the language and other options as you need, and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. Read the license terms and select **I accept the license terms**. Click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. Depending on the configuration, do the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.

b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.

c. Click **OK**. The Select the driver to be installed window is displayed.

d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.

- If the server configuration is set as IDE or AHCI, go to next step.

  Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.

9. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
10. Choose the hard disk drive to install the operating system, and then click **New**.
11. Type the amount of space (in MB), and then click **Apply**.
12. In the Windows Setup window, click **OK**.
13. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: The server restarts several times during the installation.
14. Personalize the server by typing the user name, and then click **Next**.
15. In the Settings window, configure the settings as you need.
16. In the Your account window, configure the settings as you need. Then, click **Finish** and follow the instructions on the screen to log in to the operating system.

Installing the Hyper-V Server 2008 R2 operating system with Service Pack 1

To install the Hyper-V Server 2008 R2 operating system with Service Pack 1, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Enter your language and other preferences window is displayed, configure the language and other options as you need and then click **Next**.
4. Click **Install now**.
5. Read the license terms and select **I accept the license terms**. Then, click **Next**.
6. Select the type of installation as you need. The following steps are based on the scenario that **Custom: (Advanced)** is selected in this step.
7. Do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.

     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.

     c. Click **OK**. The Select the driver to be installed window is displayed.

     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.

8. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
9. Choose the hard disk drive to install the operating system, and then click **New**.
10. Type the amount of space (in MB), and then click **Apply**. Click **OK** if prompted.
11. Select the drive partition on which you want to install the operating system, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
12. Change your password when prompted.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.
13. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Hyper-V Server 2012 operating system

To install the Hyper-V Server 2012 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Microsoft Hyper-V Server 2012 window is displayed, configure the language and other options as you need and then click **Next**.
4. Click **Install now**.
5. Read the license terms and select **I accept the license terms**. Then, click **Next**.
6. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install the newer version of Hyper-V Server only (Advanced)** is selected in this step.
7. Do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.
8. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
9. Choose the hard disk drive to install the operating system, and then click **New**.
10. Type the amount of space (in MB), and then click **Apply**. Click **OK** if prompted.
11. Select the drive partition on which you want to install the operating system, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.

12. If the Press Ctrl+Alt+Delete to sign in window is displayed, press Ctrl+Alt+Delete. If the Microsoft Hyper-V Server 2012 window is displayed, click **Administrator**.
13. Follow the instructions on the screen to change the password and then log in to the operating system.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.

Installing the Hyper-V Server 2012 R2 operating system

To install the Hyper-V Server 2012 R2 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. When the Microsoft Hyper-V Server 2012 R2 window is displayed, configure the language and other options as you need and then click **Next**.
4. Click **Install now**.
5. Read the license terms and select **I accept the license terms**. Then, click **Next**.
6. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install the newer version of Hyper-V Server only (Advanced)** is selected in this step.
7. Do one of the following:
   - If the server configuration is set as RAID, do the following:
     a. In the Where do you want to install Windows? window, connect the USB storage device that contains the driver to your server and then click **Load Driver**.
     b. When the Load Driver window is displayed, click **Browse** to go to the folder where the driver is stored.
     c. Click **OK**. The Select the driver to be installed window is displayed.
     d. Select **Hide drivers that aren't compatible with the hardware on this computer**, and then select the driver that you want to install on your server. Click **Next**.
   - If the server configuration is set as IDE or AHCI, go to next step.

     Note: If the server configuration is set as AHCI, ensure that you install AHCI drivers after operating system installation.
8. In the Where do you want to install Windows? window, click **Drive options (advanced)**.
9. Choose the hard disk drive to install the operating system, and then click **New**.
10. Type the amount of space (in MB), and then click **Apply**. Click **OK** if prompted.
11. Select the drive partition on which you want to install the operating system, and then click **Next**. The installation begins.

    Note: Your server restarts several times during the installation.
12. If the The user's password must be changed before signing in window is displayed, click **OK**.
13. Follow the instructions on the screen to change the password and then log in to the operating system.

    Note: The password must be a combination of upper case letters, lower case letters, and numbers.

Installing the Hyper-V Server 2016 operating system

This topic provides instructions on how to install the Hyper-V Server 2016 operating system.

To install the Hyper-V Server 2016 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD...` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. The message `Loading files...` will be displayed. Wait several minutes for the system to load the files.
3. In the “Microsoft Hyper-V Server 2016” window, configure the language and other options and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**. The product key information is available on the Microsoft Certificate of Authenticity label or product packaging.
6. Read the applicable notices and license terms and select **I accept the license terms**. Then click **Next**.
7. Select the type of installation you need. The following steps are based on the scenario that **Custom: Install the newer version of Hyper-V Server only (advanced)** is selected in this step.
8. In the “Where do you want to install Hyper-V Server?” window, choose the storage device to install the operating system, and then click **New**.
9. Type the amount of space (in MB), and then click **Apply**.
10. In the “Microsoft Hyper-V Server Setup” window, click **OK**.
11. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: Your server will restart several times during the installation.
12. When the message “The user’s password must be changed before signing” is displayed, click **OK**.
13. When the “Administrator” window is displayed, follow the instructions on the screen to change the password.
14. When the message `Your password has been changed` is displayed, click **OK** to log in to the operating system.

Installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 3

This topic provides instructions on how to install the SUSE Linux Enterprise Server 11 operating system with Service Pack 3 (x86 and x64).

Before you start the operating system installation, do the following:

1. Download the driver for RAID from the Lenovo Web site to your server. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at http://www.lenovo.com/drivers. Unzip the driver file if necessary. The extension of the driver file is .img usually.
2. Save the driver file to the root directory, and then type the following commands:
   ```
   cd/root
   mkdir img
   mount -oloop *.img
   ```
3. A folder named as 01 or 02 is created. Copy the folder to the root directory of a USB storage device.

To install the SUSE Linux Enterprise Server 11 operating system with Service Pack 3, do the following:

1. For server models with the RAID configuration, connect the USB storage device that contains the driver to your server. For server models with other configurations, go to next step.
2. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.

3. Depending on the configuration, do one of the following:
   - If the server configuration is set as onboard RAID, in the welcome window, select **Installation** and press F6. Then, select **Yes** and type `brokenmodules=ahci`. When the Driver Updated added windows is displayed, click **OK**. When the Please choose the Driver Update medium window is displayed, click **Back**.
   - If the server configuration is set as add-on RAID, in the welcome window, select **Installation** and press Enter.
   - If the operating system is installed on a SAN through an Internet Small Computer System Interface (iSCSI) card, in the welcome window, select **Installation** and press F6. Then, type `withiscsi=1`, select **Yes**, and press Enter. When the Please choose the Driver Update medium window is displayed, select the folder where the drive is stored, and click **Yes**. Click **Back** and select the network device, and then click **OK**. The Automatic configuration via DHCP window is displayed. The following steps are based on the scenario that **Yes** is selected in this window.
   - If the operating system is installed on a SAN through a fibre channel over Ethernet (FCoE) card, in the welcome window, select **Installation**, press F6, and select **Yes**. When the Please choose the Driver Update medium window is displayed, select the folder where the drive is stored, and click **Yes**. When the Please choose the Driver Update medium window is displayed again, click **Back**.
   - If the server configuration is set as AHCI or IDE, in the welcome window, select **Installation** and press Enter.
4. Configure the language, read the license terms, and select **I Agree to the License Terms**. Then, click **Next**.
5. In the Media Check window, click **Next**.

   Note: If the operating system is installed on a SAN through an iSCSI card, click **Configuration ISCSI Disks** to check if the iSCSI configuration information is correct. Then, click **OK** go back to the Disk Activation window and click **Next**.
6. In the Installation Mode window, click **New Installation**, and then click **Next**.
7. Verify your region and time zone, and then click **Next**.
8. In the Server Base Scenario window, select **Physical Machine (also for Fully Virtualized Guests)** and then click **Next**.
9. When the Installation Settings window is displayed, create a drive partition as you need. The following steps are based on the scenario that a 20 GB root partition, a 1 GB boot partition, and a 1 GB swap partition are created.

   Notes:
   - If the operating system is installed on a SAN, ensure that you select the drive on the SAN in the following steps.
   - Ensure that the boot partition uses the first 1 TB drive partition.
   - To create a drive partition, do the following:
     a. Click **Partitioning** and select **Custom Partitioning (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks → sda** in the **System view** area, and then click **Add**.
     c. In the **New Partition Type** window, select **Primary Partition** and click **Next**.
     d. In the **New Partition Size** window, select **Custom Size** and type 20GB in the **Size** area, and then click **Next**.
     e. In the **Format partition** area, select **Ext3** from the **File System** drop-down list box.
     f. In the **Mounting partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box. Then, click **Finish**. The root partition is created.

g. Go back to the Expert Partitioner window. Select **Hard Disks → sda** in the **System view** area, and then click **Add**.

h. In the **New Partition Type** window, select **Primary Partition** and click **Next**.

i. In the **New Partition Size** window, select **Custom Size** and type 1GB in the **Size** area, and then click **Next**.

j. In the **Format partition** area, select **Ext3** from the **File System** drop-down list box.

k. In the **Mounting partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box. Then, click **Finish**. The boot partition is created.

l. Go back to the Expert Partitioner window. Select **Hard Disks → sda** in the **System view** area, and then click **Add**.

m. In the **New Partition Type** window, select **Primary Partition** and click **Next**.

n. In the **New Partition Size** window, select **Custom Size** and type 1GB in the **Size** area, and then click **Next**.

- In the **Format partition** area, select **Swap** from the **File System** drop-down list box. In the **Mounting partition** area, the item becomes to **Swap** automatically in the **Mount Point** drop-down list box. Then, click **Finish**. The swap partition is created.

10. Go back to the Expert Partitioner window. Ensure that the drive partition is correct and click **Accept**.
11. In the Installation Settings window, click **Software** to select your desired software programs, and then click **OK**. If the YaST window is displayed, click **Accept**.
12. Click **Install** to install the software programs that you have selected.

    Note: If the warning window is displayed, configure the settings as you need, and then click **OK** and **TryAgain**. If the YaST window is displayed, click **Accept**. Then go back to the Installation Settings window and click **Install**. If the YaST2 window is displayed, click **Install**.
13. The setup process continues after the server restarts. Set your root user password and click **Next**. If the YaST2 window is displayed, click **Yes**.

    Note: The password must contain at least six characters and consist of upper case letters, lower case letters, and numbers.
14. Set your host name and domain name. Then, click **Next**.
15. Configure your network in the Network Configuration window. Then, click **Next**.
16. In the Test Internet Connection window, configure the settings as you need. Then, click **Next**. The following steps are based on the scenario that **No. Skip This Test** is selected in this step.
17. In the Network Services Configuration window, click **Next**.
18. In the User Authentication Method window, configure the settings as you need. Then, click **Next**. The following steps are based on the scenario that **Local (/etc/passwd)** is selected in this step.
19. In the New LDAP User window, configure the settings as you need. Then, click **Next**.
20. In the Release Notes window, click **Next**.
21. In the Hardware Configuration window, click **Next**.
22. In the Installation Completed window, click **Finish**.

    Note: If the YaST window is displayed, click **Continue**.
23. Follow the instructions on the screen to log in to the operating system.

Installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 4

This topic provides instructions on installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 4 (x64 and x86).

To install the SUSE Linux Enterprise Server 11 operating system with Service Pack 4, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the “SUSE Linux Enterprise Server Welcome” window, depending on the SATA configuration on your server, do one of the following:
   - If your SATA configuration is set as onboard RAID, select **Installation**. Then press E to enter editing mode. Modify the start parameter from `linuxefi /boot/x86_64/loader/linux` to `linuxefi /boot/x86_64/loader/linux brokenmosules=ahci`. Then, press F10.
   - If your SATA configuration is set as Add–on RAID, select **Installation** and then press Enter.
   - If the operating system is to be installed on SAN through ISCIS/FCOE, do the following:
     a. Select **Installation**.
     b. Press E to enter editing mode. Then modify the start parameter from `linuxefi/boot/x86_64/loader/linux` to `linuxefi /boot/x86_64/loader/linux driverupdate=1`.
     c. Press F10. In the “Pls choose the Driver Update medium” window, locate the disk in which the drive is located, and then click **OK**.
     d. Select **Back** to finish loading the driver.
   - If your SATA configuration is set as non-RAID, select **Installation**, and then press Enter.
3. In the Welcome window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
4. In the Media Check window, click **Next** to go ahead.
5. In the Installation Mode window, select **New Installation**, and then click **Next**.
6. Verify your region and time zone, and then click **Accept → Next**.
7. In the Server Base Scenario window, select **Physical Machine(Also for Fully Virtualized Guests)** and then click **Next**.
8. When the Installation Settings window is displayed, create a drive partition you need.
   - Manually create a root partition (/)

     To create a root partition, do the following:
     a. Click **Partitioning** and select **Custom Partition (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view** and select the drive (for example, **sda**) for installing the operating system. Then, click **Add**.
     c. In the New Partition Type window, select **Primary Partition** and click **Next**.
     d. In the New Partitions Size window, select **Custom Size**.
     e. Type the amount of space in the **Custom Size** field and then click **Next**.
     f. In the **Formatting partition** area, select **Ext3** from the **File system** drop-down list box.
     g. In the **Mounting partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
     h. Click **Finish**.
   - Manually create a boot partition (/boot)

To create a boot partition, do the following:

a. In the Expert Partitioner window, select **Hard Disks** from **System view** and select the drive (for example, **sda**) for installing the operating system. Then, click **Add**.

b. In the New Partition Type window, select **Primary Partition** and click **Next**.

c. In the New Partitions Size window, select **Custom Size**.

d. Type the amount of space in the **Custom Size** field and then click **Next**.

e. In the **Formatting Options** area, select **Ex3** from the **File System** drop-down list box.

f. In the **Mounting partition** area, select **/boot** from the **Mount Point** drop-down list box.

g. Click **Finish**.

- Manually create a swap partition

  To create a swap partition, do the following:

  a. In the Expert Partitioner window, select **Hard Disks** from **System view** and select the drive (for example, **sda**) for installing the operating system. Then, click **Add**.

  b. In the New Partition Type, select **Primary Partition**.

  c. In the New Partition Size window, select **Custom Size**.

  d. Type the amount of space in the **Custom Size** field and then click **Next**.

  e. In the **Formatting Options** area, select **Swap** from the **File system** drop-down list box.

  f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.

  g. Click **Finish**.

Go to the Expert Partitioner window, verify that the created root partition, boot partition, or swap partition is correct and click **Accept**.

9. In the Installation Settings window, click **Software** to select your desired software programs, and then click **OK**. If the YaST window is displayed, click **Accept**.
10. Click **Install** to install the software programs that you have selected.

    Notes:

    - If a Warning window is displayed, select an option you desire. The following steps are based on the scenario that **Ignore this conflict of ...** is selected. Do the following:

      a. Click **OK-TryAgain**.

      b. In the YaST window, click **Accept**.

      c. In the Installation Settings window, click **Install** to begin the installation.

    - If the YaST2 window is displayed, click **Install** to begin the installation.
11. If the Confirm Installation window is displayed, click **Install**. When the installation process is completed, the server restarts automatically.
12. The setup process continues after the server restarts. Set the root user password and then select **Next**. When the YaST2 window is displayed, click **Yes**.

    Note: The password must contain at least six characters and consist of upper case letters, lower case letters, and numbers.
13. Set your host name and domain name in the Hostname and Domain Name window. Then, click **Next**.
14. In the Network Configuration window, configure your network and then click **Next**.
15. If the Test Internet Connection window is displayed, you can choose to test the Internet connection or skip the test. Then click **Next**.
16. In the Network Services Configuration window, click **Next**.

17. In the User Authentication Method window, select a user authentication method, for example, **Local (/etc/passwd)**, and then click **Next**.
18. In the New Local User window, configure the settings and then click **Next** → **Yes**.
19. In the Release Notes window, click **Next**.
20. In the Hardware Configuration window, click **Next**.
21. In the Installation Completed window, click **Finish**.

    Note: If the YaST2 window is displayed, click **Continue**.
22. Follow the instructions on the screen to log in to the operating system.

Installing the SUSE Linux Enterprise Server 12 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12 operating system (x64).

Before you start the operating system installation, do the following to prepare the driver for RAID:

- Onboard RAID:
  1. Download the driver for RAID from the Lenovo Web site. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at http://www.lenovo.com/drivers. Unzip the driver file if necessary. The extension of the driver file is .img usually, for example, `/sles12/DUDs/megasr-16.02.2014.1126-1-sles12-x86_64.img`.
  2. Run the following commands to copy the .img file structure and content to a USB storage device:
     ```
     "mount -o loop *.image tmp_dir_1"
     "mount /dev/usb_drive_partition tmp_dir_2"
     "cp -a tmp_dir_1/* tmp_dir_2"
     ```
- Add-on RAID:

  Download the driver for RAID from the Lenovo Web site, and copy the .iso file to a USB storage device.

Note: Insert the USB storage device into your server before you install the operating system.

To install the SUSE Linux Enterprise Server 12 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the “SUSE Linux Enterprise Server Welcome” window, depending on the SATA configuration on your serve, do one of the following:
   - If your SATA configuration is set as onboard RAID, do the following:
     a. Select **Installation** and press F6.
     b. Select **Yes** and input `brokenmodules=ahci` after Boot Options.
     c. When “Driver Update added” is displayed, select **OK**.
     d. If the “Please choose the Driver Update medium” window is displayed, click **Back**.
   - If your SATA configuration is set as Add-on RAID, do the following:
     a. Select **Installation** and press F6.
     b. Select **Yes** and press Enter.
     c. After the driver is loaded, press Enter. If the “Please choose the Driver Update medium” window is displayed, select **Back**.
   - If your SATA configuration is set as AHCI or IDE, select **Installation**, and then press Enter.
   - If the operating system is to be installed on SAN, do the following:

a. Select **Installation** and press F6.

b. Select **Yes** and press Enter.

c. After the driver is loaded, press Enter. If the “Please choose the Driver Update medium” window is displayed, select **Back**.

3. In the Language, Keyboard and License Agreement window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.

   Note: In the License Agreement window, click **OK** if a prompt dialog box is displayed.

4. If the Network Settings window is displayed, configure the network settings and click **Next**.

   Notes: If the operating system is to be installed on the SAN through an iSCSI card, the Disk Activation window is displayed. Do the following:

   a. Click **Configuration ISCSI Disks**.

   b. Ensure that the iSCSI configuration information is correct and then click **OK**.

   c. Click **Next**.

5. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step.

6. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.

7. In the Suggested Partitioning window, use the suggested partition and click **Next**. If you want to create a drive partition, do one of the following:

   - Manually create a root partition (/)

     a. Click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.

     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.

     c. In the New Partition Type window, select **Primary Partition**.

     d. In the New Partitions Size window, select **Custom Size**.

     e. Type the amount of space (for example, 20 GB) in the **Custom Size** field and then click **Next**.

     f. Select **Operating System** from **Role**.

     g. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.

     h. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.

     i. Click **Finish**.

   - Manually create a boot partition (/boot)

     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.

     b. In the New Partition Type window, select **Primary Partition**.

     c. In the New Partitions Size window, select **Custom Size**.

     d. Type the amount of space (for example, 1 GB) in the **Custom Size** field and then click **Next**.

     e. Select **Operating System** from **Role**.

     f. In the **Formatting Options** area, select **BtrFS** from the **File System** drop-down list box.

     g. In the **Mounting partition** area, select **/boot** from the **Mount Point** drop-down list box.

     h. Click **Finish**.

   - Manually create a swap partition

a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.

b. In the New Partition Type window, select **Primary Partition**.

c. In the New Partitions Size window, select **Custom Size**.

d. Type the amount of space (for example, 1 GB) in the **Custom Size** field and click **Next**.

e. Select **Swap** from **Role** and click **Next**.

f. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.

g. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.

h. Click **Finish**.

Go to the Expert Partitioner window, the created root partition, boot partition, or swap partition is displayed. Ensure that the created partition is correct and click **Accept**. If "Really use this setup?" is displayed, select **Yes**. Then, click **Next**.

8. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If "Do you want to continue with your selection (local time)?" is displayed, click **Continue**.

9. In the Create New User window, set a user name and password, and then click **Next**.
10. In the "Password for the System Administrator–root" window, set a root password and click **Next**.
11. In the Installation Settings window, click **Software** to select software applications to be installed.

    For example, if you want to install all software, do the following:

    a. Click **Software**.

    b. In the Software Selection and System Tasks window, right-click any software application and choose **All in This List-Install**.

    c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

Installing the SUSE Linux Enterprise Server 12.1 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12.1 operating system (x64).

To install the SUSE Linux Enterprise Server 12.1 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Language, Keyboard and License Agreement window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
3. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step.
4. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
5. In the Suggested Partitioning window, use the suggested partition and click **Next**. If you want to create a drive partition, do one of the following:

   - Manually create a root partition (*/*)

     a. Click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.

     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.

     c. In the New Partition Type window, select **Primary Partition**.

d. In the New Partitions Size window, select **Custom Size**.
e. Type the amount of space (for example, 20 GB) in the **Custom Size** field and then click **Next**.
f. Select **Operating System** from **Role**.
g. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.
h. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
i. Click **Finish**.

- Manually create a boot partition (/boot)
  a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
  b. In the New Partition Type window, select **Primary Partition**.
  c. In the New Partitions Size window, select **Custom Size**.
  d. Type the amount of space (for example, 1 GB) in the **Custom Size** field and then click **Next**.
  e. Select **Operating System** from **Role**.
  f. In the **Formatting Options** area, select **BtrFS** from the **File System** drop-down list box.
  g. In the **Mounting partition** area, select **/boot** from the **Mount Point** drop-down list box.
  h. Click **Finish**.
- Manually create a swap partition
  a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
  b. In the New Partition Type window, select **Primary Partition**.
  c. In the New Partitions Size window, select **Custom Size**.
  d. Type the amount of space (for example, 1 GB) in the **Custom Size** field and click **Next**.
  e. Select **Swap** from **Role** and click **Next**.
  f. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.
  g. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.
  h. Click **Finish**.

  Go to the Expert Partitioner window. The created root partition, boot partition, or swap partition is displayed in the window. Ensure that the created partition is correct and click **Accept**. If “Really use this setup?” is displayed, select **Yes**. Then, click **Next**.

6. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If “Do you want to continue with your selection (local time)?” is displayed, click **Continue**.

7. In the Create New User window, set a user name and password, and then click **Next**.

   Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

8. In the “Password for the System Administrator–root” window, set a root password and click **Next**.

   Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

9. In the Installation Settings window, click **Software** to select software applications to be installed.

   For example, if you want to install all software, do the following:

   a. Click **Software**.

b. In the Software Selection and System Tasks window, right-click any software application and choose **All in This List-Install**.

c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

10. In the System will reboot now window, click **OK** or wait. After the system is restarted, the installation is finished.

Installing the SUSE Linux Enterprise Server 12.2 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12.2 operating system (x64).

To install the SUSE Linux Enterprise Server 12.2 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. Select **Installation** and configure the network settings. The following steps are based on the scenario that **No** is selected in this step.
3. Click **OK**. In the "Language, Keyboard and License Agreement" window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
4. In the Network Settings window, configure the network settings and click **Next**. The following steps are based on the scenario that default options are selected in this step.
5. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step. Select **OK** in the Warning window.
6. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
7. In the System Role window, select **Default System** and then select **Next**.
8. In the Suggested Partitioning window, use the suggested partitioning method and click **Next**. If you want to create a drive partition, do one of the following:
   - Manually create a root partition (/)
     a. Click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**. Select the default partition type, then click **Next**.
     c. In the New Partitions Size window, select **Custom Size**.
     d. Type the amount of space (for example, 80 GB) in the **Custom Size** field and then click **Next**.
     e. Select **Operating System** from **Role**.
     f. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.
     g. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
     h. Click **Finish**.
   - Manually create a boot partition (/boot)
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**. Select the default partition type, then click **Next**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and then click **Next**.
     d. Select **Operating System** from **Role**.
     e. In the **Formatting Options** area, select **Ext4** from the **File System** drop-down list box.

f. In the **Mounting partition** area, select **/boot** from the **Mount Point** drop-down list box.

g. Click **Finish**.

- Manually create a swap partition

  a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**. Select the default partition type, then click **Next**.

  b. In the New Partitions Size window, select **Custom Size**.

  c. Type the amount of space (for example, 2 GB) in the **Custom Size** field.

  d. Select **Swap** from **Role** and click **Next**.

  e. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.

  f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.

  g. Click **Finish**.

  Go to the Expert Partitioner window. The created root partition, boot partition, or swap partition is displayed in the window. Ensure that the created partition is correct and click **Accept**. Then, click **Next**.

9. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If “Do you want to continue with your selection (local time)?” is displayed, click **Continue**.

10. In the Create New User window, set a user name and password, and then click **Next**.

    Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

11. In the “Password for the System Administrator–root” window, set a root password and click **Next**.

    Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

12. In the Installation Settings window, click **Software** to select software applications to be installed.

    For example, if you want to install all software, do the following:

    a. Click **Software**.

    b. In the Software Selection and System Tasks window, select any software application and then right-click. Choose **All in This List-Install**.

    c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

Installing the SUSE Linux Enterprise Server 12.3 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12.3 operating system (x64).

To install the SUSE Linux Enterprise Server 12.3 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. When the SUSE Welcome window is displayed, select **Installation** and press Enter.
3. In the “Language, Keyboard and License Agreement” window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
4. In the Network Settings window, select the network card to be used and click **Next**. The following steps are based on the scenario that default options are selected in this step.

5. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step. If the “Really skip the registration now?” window is displayed, select **Yes**.

   Note: If the Warning window is displayed, click **OK**.

6. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
7. In the System Role window, select **Default System** and then click **Next**.
8. In the Suggested Partitioning window, use the suggested partitioning method and click **Next**. If you want to create a drive partition, do one of the following:
   - Manually create a root partition (/)
     a. In the Suggested Partitioning window, click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     c. In the New Partitions Size window, select **Custom Size**.
     d. Type the amount of space (for example, 80 GB) in the **Custom Size** field and then click **Next**.
     e. Select **Operating System** from **Role**.
     f. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.
     g. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
     h. Click **Finish**.
   - Manually create a boot partition (/boot)
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and then click **Next**.
     d. Select **Operating System** from **Role**.
     e. In the **Formatting Options** area, select **Ext4** from the **File System** drop-down list box.
     f. In the **Mounting partition** area, select **/boot** from the **Mount Point** drop-down list box.
     g. Click **Finish**.
   - Manually create a swap partition
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and click **Next**.
     d. Select **Swap** from **Role** and click **Next**.
     e. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.
     f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.
     g. Click **Finish**.

     Go to the Expert Partitioner window. The created swap partition and root partition are displayed in the window. Ensure that the created partitions are correct and click **Accept**.

     Note: If the “Really use this setup?” window is displayed, click **Yes**.
9. In the Clock and Time Zone window, set the time zone and time and click **Next**.

For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If the “Do you want to continue with your selection (local time)?” window is displayed, click **Continue**.

10. In the Create New User window, set a user name and password, and then click **Next**.

    Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

11. In the “Password for the System Administrator–root” window, set a root password and click **Next**.

    Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

12. In the Installation Settings window, click **Software** to select software applications to be installed.

    For example, if you want to install all software, do the following:

    a. Click **Software**.

    b. In the Software Selection and System Tasks window, select any software application and then right-click. Choose **All in This List-Install**.

    c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

    d. In the “System will reboot now” window, click **OK** or restart the server to finish.

Installing the Red Hat Enterprise Linux 6.5 operating system

This topic provides instructions on how to install the Red Hat Enterprise Linux 6.5 operating system (x86 and x64).

Note: If the server configuration is set as **OB SATA RAID** or **Add on RAID**, connect the USB storage device to your server before the operating system installation. Then, install RAID drivers after operating system installation.

To install the Red Hat Enterprise Linux 6.5 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. Depending on the SATA configuration on your server, do one of the following:
   - If the SATA configuration is set to **IDE**, **AHCI**, or **Add on RAID**, go to step 3.
   - If the SATA configuration is set to **OB SATA RAID**, do the following to upgrade your driver:
     a. When “RHEL installation welcome screen” is displayed, press Tab.
     b. Enter a space and type `linux dd blacklist=ahci nodmraid`, and then press Enter.
     c. In the “Do you have a driver disk?” window, select **Yes**.
     d. In the Driver Disk Source window, go to the folder where the driver is stored and then click **OK**.
     e. When the Driver Disk Source window is displayed again, click **OK**.
     f. In the Select driver disk image window, select your desired driver and then click **OK**.
     g. When “Do you wish to load any more driver disks?” is displayed, select **NO**.
3. In the Disc Found window, select **Skip**, and then press Enter.

   Note: If the operating system is installed on a SAN through an iSCSI card, the Network Device window is displayed. Select the correct Ethernet device and click **OK**. Then, configure the network settings as you need. The following steps are based on the scenario that you select **Enable Ipv4 support → Dynamic IP configuration (DHCP)**.
4. In the RED HAT window, click **Next**.

5. Select the language that you want to use during the installation process and click **Next**.
6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices for the installation and then click **Next**. The following steps are based on the scenario that **Basic Storage Devices** is selected in this step.

   Notes:

   - If the Storage Device Warning window is displayed, select **Yes, discard any data**. If a message prompts that at least one operating system installation has been detected on your system, configure the setting as you need. Then, click **Next**. The following steps are based on the scenario that you select **Fresh installation**.
   - If the operating system is installed on a SAN through an iSCSI card, select **Specialized Storage Devices** and click **Next**. Then, select **SAN** in the **Other SAN Devices** area and click **Next**.
   - If the operating system is installed on a SAN through a FCoE card, select **Specialized Storage Devices** and click **Next**. Then, select SAN in the **Basic Devices** area and click **Next**.
8. Type a name for your server. Then, click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then, click **Next**.
10. Personalize the server by typing the root password for the root user account. Then, click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. By default, a partition is already selected for you to install the operating system. If you want to create a partition manually, select the option as you need and then click **Next**.

    Note: The following steps are based on the scenario that **Create Custom Layout** is selected in this step.
12. In the Please Select A Device window, create a partition as you need and then click **Next**. The following steps are based on the scenario that a 20 GB root partition, a 1024 MB boot partition, and a 1024 MB swap partition are created.

    - To create a drive partition, do the following:
      a. Click **Create** and select **Standard Partitioning**. Click **Create**.
      b. In the Add Partition window, select the forward slash **/** from the **Mount Point** drop-down list box.
      c. Select **Ext4** from the **File System Type** drop-down list box.
      d. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      e. In the **Size (MB)** area, type `20000` and then click **OK**. The root partition is created.
      f. Go back to the partition window. Click **Create** and select **Standard Partitioning**. Click **Create**.
      g. In the Add Partition window, select the forward slash **/boot** from the **Mount Point** drop-down list box.
      h. Select **Ext4** from the **File System Type** drop-down list box.
      i. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      j. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.
      k. Go back to the partition window. Click **Create** and select **Standard Partitioning**. Click **Create**.
      l. In the Add Partition window, select the forward slash **swap** from the **Mount Point** drop-down list box.
      m. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.

n. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.

o. Go back to the partition window. Ensure that the drive partition is correct and then click **Next**.

Note: If the Format Warnings window is displayed, click **Format**.

13. In the Writing storage configuration to disk window, click **Write changes to disk**.
14. In the Boot loader operating system list window, click **Next**.
15. The default installation is a basic server installation. You can customize your server by selecting different software from the software list or adding additional repositories that you want to use for the software installation. The following steps are based on the scenario that **Customize now** is selected in this step. Then, click **Next**.

    Note: If the Warning window is displayed, configure the settings as you need. The following steps are based on the scenario that you select **Continue**.
16. After the installation is completed, click **Reboot** to restart your server.
17. The installation continues after the server restarts. In the Welcome window, click **Forward**.
18. Click **Yes, I agree to the License Agreement** and then click **Forward**.
19. In the Set Up Software Updates window, configure the settings as you need, and then click **Forward**.
20. In the Finish Updates Setup window, click **Forward**.
21. Set your user name and password and then click **Forward**.
22. Set your time and date and then click **Forward**.
23. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Yes** and **OK**.
24. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.6 operating system

This topic provides instructions on how to install the Red Hat Enterprise Linux 6.6 operating system (x64 and x86).

Note: If the server configuration is set as **OB SATA RAID**, connect the USB storage device to your server before the operating system installation. Then, install RAID drivers after operating system installation.

To install the Red Hat Enterprise Linux 6.6 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. Depending on the SATA configuration on your server, do one of the following:
   - If the SATA configuration is set to **IDE**, **AHCI**, or **Add on RAID**, go to step 3.
   - If the SATA configuration is set to **OB SATA RAID**, do the following to upgrade your driver:
     a. When “RHEL installation welcome screen” is displayed, press Tab.
     b. Enter a space and type `linux dd blacklist=ahci nodmraid`, and then press Enter.
     c. In the “Do you have a driver disk?” window, select **Yes**.
     d. In the Driver Disk Source window, go to the folder where the driver is stored and then click **OK**.
     e. When the Driver Disk Source window is displayed again, click **OK**.
     f. In the Select driver disk image window, select your desired driver and then click **OK**.
     g. When “Do you wish to load any more driver disks?” is displayed, select **NO**.

3. In the Disc Found window, select **Skip**, and then press Enter.
4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices for the installation and then click **Next**. The following steps are based on the scenario that **Basic Storage Devices** is selected in this step.

   Notes:

   - If the Storage Device Warning window is displayed, select **Yes, discard any data**. If a message prompts that at least one operating system installation has been detected on your system, configure the setting as you need. Then, click **Next**. The following steps are based on the scenario that you select **Fresh installation**.
   - If the operating system is installed on a SAN through an ISCSI card, select **Specialized Storage Devices** and click **Next**. Then, select **SAN** in the **Other SAN Devices** area and click **Next**.
   - If the operating system is installed on a SAN through a FCOE card, select **Specialized Storage Devices** and click **Next**. Then, select SAN in the **Basic Devices** area and click **Next**.
8. Type a name for your server. Then, click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then, click **Next**.
10. Personalize the server by typing the root password for the root user account. Then, click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. By default, a partition is already selected for you to install the operating system. If you want to create a partition manually, select the option as you need and then click **Next**.

    Note: The following steps are based on the scenario that **Create Custom Layout** is selected in this step.
12. In the Please Select A Device window, create a partition as you need and then click **Next**. The following steps are based on the scenario that a 20 GB root partition, a 1024 MB boot partition, and a 1024 MB swap partition are created.

    - To create a drive partition, do the following:
      a. Click **Create** and select **Standard Partitioning**. Click **Create**.
      b. In the Add Partition window, select the forward slash **/** from the **Mount Point** drop-down list box.
      c. Select **Ext4** from the **File System Type** drop-down list box.
      d. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      e. In the **Size (MB)** area, type `20000` and then click **OK**. The root partition is created.
      f. Go back to the partition window. Click **Create** and select **Standard Partitioning**. Click **Create**.
      g. In the Add Partition window, select the forward slash **/boot** from the **Mount Point** drop-down list box.
      h. Select **Ext4** from the **File System Type** drop-down list box.
      i. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      j. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.
      k. Go back to the partition window. Click **Create** and select **Standard Partitioning**. Click **Create**.
      l. In the Add Partition window, select the forward slash **swap** from the **Mount Point** drop-down list box.

m. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
n. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.
o. Go back to the partition window. Ensure that the drive partition is correct and then click **Next**.

Note: If the Format Warnings window is displayed, click **Format**.

13. In the Writing storage configuration to disk window, click **Write changes to disk**.
14. In the Boot loader operating system list window, click **Next**.
15. The default installation is a basic server installation. You can customize your server by selecting different software from the software list or adding additional repositories that you want to use for the software installation. The following steps are based on the scenario that **Customize now** is selected in this step. Then, click **Next**.

Note: If the Warning window is displayed, configure the settings as you need. The following steps are based on the scenario that you select **Continue**.

16. After the installation is completed, click **Reboot** to restart your server.
17. The installation continues after the server restarts. In the Welcome window, click **Forward**.
18. Click **Yes, I agree to the License Agreement** and then click **Forward**.
19. In the Set Up Software Updates window, configure the settings as you need, and then click **Forward**.
20. In the Finish Updates Setup window, click **Forward**.
21. Set your user name and password and then click **Forward**.
22. Set your time and date and then click **Forward**.
23. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

Note: When prompted to restart the server, click **Yes** and **OK**.

24. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.7 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 6.7 operating system (x64 and x86).

To install the Red Hat Enterprise Linux 6.7 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. Depending on the SATA configuration on your server, do one of the following:
   - If the SATA configuration is set to **IDE**, **AHCI**, or **Add on RAID**, go to step 3.
   - If the SATA configuration is set to **OB SATA RAID**, do the following to upgrade your driver:
     a. When “RHEL installation welcome screen” is displayed, press Tab.
     b. Enter a space and type `linux dd blacklist=ahci nodmraid`, and then press Enter.
     c. In the “Do you have a driver disk?” window, select **Yes**.
     d. In the Driver Disk Source window, go to the folder where the driver is stored and then click **OK**.
     e. When the Driver Disk Source window is displayed again, click **OK**.
     f. In the Select driver disk image window, select your desired driver and then click **OK**.
     g. When “Do you wish to load any more driver disks?” is displayed, select **NO**.

3. When the Disk Found window is displayed, select **Skip** and then press Enter.
4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select a keyboard layout for the system and click **Next**.
7. Select the type of devices you need for the installation, and then click **Next**.

   Note: If the Storage Device Warning window is displayed, click **Yes, discard any data**. If "At least one existing installation has been detected on your system. What would you like to do?" is displayed, select an option and then click **Next**.
8. Type a name for your server. Then, click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then, click **Next**.
10. Type the root password for the root user account. Then, click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. In the Which type of the installation would you like window, select your desired option and click **Next**. The following steps are based on the scenario that **Create Custom Layout** is selected in this step.
12. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition (/), do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a boot partition (/boot)

      To create a boot partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **/boot** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a swap partition

      To create a swap partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **swap** from the **File System Type** drop-down list box.
      d. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

    Go back to the Partitioner window, verify that the created root partition, boot partition, or swap partition is correct and click **Next**.
13. If the Format Warnings window is displayed, click **Format** to format the hard disk drive.

14. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
15. In the “Boot loader operating system list” window, click **Next**.
16. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Note: If a warning window is displayed, select the option of your choice and then continue with the installation.
17. After the installation is completed, click **Reboot** to restart your server.
18. The installation continues after the server restarts. In the Welcome window, click **Forward**.
19. In the License Information window, select **Yes, I agree to the License Agreement**, and then click **Forward**.
20. In the Set Up Software Updates window, select an option and click **Forward**. The following steps are based on the scenario that **No, I prefer to register at a later time** is selected. If “Are you sure?” is displayed, click **Register Later**.
21. In the Finish Updates Setup window, click **Forward**.
22. Set your user name and password and then click **Forward**.
23. Set your time and date and then click **Forward**.
24. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Yes**.
25. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.8 operating system

This topic provides instructions on how to install the Red Hat Enterprise Linux 6.8 operating system (x64 and x86).

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the Disk Found window, click **Skip**.

    Note: If the operating system is installed on the SAN card through iSCSI, the Networking Device window is displayed. Select the desired **Ethernet device**, and then click **OK**. In the Configure TCP/IP window, select the option according to the network environment. The following steps are based on the scenario that **Enable Ipv4 support->Dynamic IP configuration (DHCP)** is selected.
3. In the RED HAT window, click **Next**.
4. Select the language that you want to use during the installation process and click **Next**.
5. Select the appropriate keyboard layout for the system and click **Next**.
6. Select the type of devices that are involved in the installation, and then click **Next**.

    Note: If the Storage Device Warning window is displayed, click **Yes, discard any data**. If the message displays as “At least one existing installation has been detected on your system. What would you like to do?”, select the option as you desired and then click **Next**.
7. Type a name for your server. Then click **Next**.
8. Specify your time zone by selecting the nearest city in your time zone. Then click **Next**.
9. Personalize the server by typing the root password for the root user account. Then click **Next**.

Note: If a message prompts you that the password is weak, click **Use Anyway**.

10. In the “Which type of the installation would you like?” window, select your desired option. The following steps are based on the scenario that **Create Custom Layout** is selected in this step and click **Next**.
11. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition, do the following:

      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a boot partition (**/boot**)

      To create a boot partition, do the following:

      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **/boot** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a swap partition

      To create a swap partition, do the following:

      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **swap** from the **File System Type** drop-down list box.
      d. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

    Go back to the Partitioner window, the created root partition, boot partition, and swap partition are displayed. Click **Next**. The drive partition is finished.
12. In the Format Warnings window, click **Format** to format the hard disk drive.
13. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
14. In the “Boot loader operating system list” window, click **Next**.
15. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Note: When a warning window is displayed, select the option of your choice and then continue with the installation.
16. After the installation is completed, click **Reboot** to restart your server.
17. The installation continues after the server restarts. In the Welcome window, click **Forward**.
18. In the License Information window, select **Yes, I agree to the License Agreement**, and then click **Forward**.

19. In the Set Up Software Updates window, configure the settings you need, and then click **Forward**. If “Are you sure?” window is displayed, click **Register later**.
20. In the Finish Updates Setup window, click **Forward**.
21. Set your user name and password and then click **Forward**.
22. Set your time and date and then click **Forward**.
23. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Continue** or **Yes**.
24. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.9 operating system

This topic provides instructions on how to install the following operating systems:

- RedHat Enterprise Linux 6.9 (x86)
- RedHat Enterprise Linux 6.9 (x64)

To install the Red Hat Enterprise Linux 6.9 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. The Welcome to Red Hat Enterprise Linux 6.9 ! window is displayed. Click **Install system with basic video driver**.
3. In the Disk Found window, click **Skip**and press Enter.

   Note: If the operating system is installed on the SAN card through iSCSI, the Networking Device window is displayed. Select the desired **Ethernet device**, and then click **OK**. In the Configure TCP/IP window, select the option according to the network environment. The following steps are based on the scenario that **Enable Ipv4 support->Dynamic IP configuration (DHCP)** is selected.
4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices that are involved in the installation, and then click **Next**.

   Note: If the Storage Device Warning window is displayed, click **Yes, discard any data**. If the message displays as “At least one existing installation has been detected on your system. What would you like to do?”, select the option as you desired and then click **Next**.
8. Type a name for your server. Then click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then click **Next**.
10. Personalize the server by typing the root password for the root user account. Then click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. In the “Which type of the installation would you like?” window, select your desired option. The following steps are based on the scenario that **Create Custom Layout** is selected in this step and click **Next**.
12. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition, do the following:

      a. Click **Create**. The Create Storage window is displayed.

b. Select **Standard Partition** and then click **Create**.
c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
d. Select **Ext4** from the **File System Type** drop-down list box.
e. In the Allowable Drives window, select the hard disk drive on which you want to install the operating system.
f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

- Manually create a boot partition (**/boot** in legacy mode) or (**/boot/efi** in UEFI mode)

  To create a boot partition, do the following:

  a. Click **Create**. The Create Storage window is displayed.
  b. Select **Standard Partition** and then click **Create**.
  c. In the Add Partition window, select **/boot/efi** (or select **/boot** in Legacy mode) from the **Mount Point** drop-down list box.
  d. Select **EFI System Partition** (or select **Ext4** in Legacy mode) from the **File System Type** drop-down list box.
  e. In the Allowable Drives window, select the storage device on which you want to install the operating system.
  f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

- Manually create a swap partition

  To create a swap partition, do the following:

  a. Click **Create**. The Create Storage window is displayed.
  b. Select **Standard Partition** and then click **Create**.
  c. In the Add Partition window, select **swap** from the **File System Type** drop-down list box.
  d. In the Allowable Drives window, select the hard disk drive on which you want to install the operating system.
  e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

  Go back to the Partitioner window, the created root partition, boot partition, and swap partition are displayed. Click **Next**. The drive partition is finished.

13. In the Format Warnings window, click **Format** to format the hard disk drive.
14. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
15. In the “Boot loader operating system list” window, click **Next**.
16. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Note: When a warning window is displayed, select the option of your choice and then continue with the installation.
17. After the installation is completed, click **Reboot** to restart your server.

Installing the Red Hat Enterprise Linux 6.10 operating system

This topic provides instructions on how to install the following operating systems:

- RedHat Enterprise Linux 6.10 (x86)
- RedHat Enterprise Linux 6.10 (x64)

To install the Red Hat Enterprise Linux 6.10 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. The Welcome to Red Hat Enterprise Linux 6.10! window is displayed. Click **Install system with basic video driver**.
3. In the Disk Found window, click **Skip** and press Enter.

   Note: If the operating system is installed on the SAN card through iSCSI, the Networking Device window is displayed. Select the desired **Ethernet device**, and then click **OK**. In the Configure TCP/IP window, select the option according to the network environment. The following steps are based on the scenario that **Enable Ipv4 support->Dynamic IP configuration (DHCP)** is selected.
4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices that are involved in the installation, and then click **Next**.

   Note: If the Storage Device Warning window is displayed, click **Yes, discard any data**. If the message displays as “At least one existing installation has been detected on your system. What would you like to do?”, select the option as you desired and then click **Next**.
8. Type a name for your server. Then click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then click **Next**.
10. Personalize the server by typing the root password for the root user account. Then click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. In the “Which type of the installation would you like?” window, select your desired option. The following steps are based on the scenario that **Create Custom Layout** is selected in this step and click **Next**.
12. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, select the hard disk drive on which you want to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a boot partition (**/boot** in legacy mode) or (**/boot/efi** in UEFI mode)

      To create a boot partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **/boot** in legacy mode or select **/boot/efi** in UEFI mode from the **Mount Point** drop-down list box.
      d. Select **Ext4** in legacy mode or select **EFI System Partition** in UEFI mode from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, select the storage device on which you want to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

- Manually create a swap partition

  To create a swap partition, do the following:

  a. Click **Create**. The Create Storage window is displayed.

  b. Select **Standard Partition** and then click **Create**.

  c. In the Add Partition window, select **Swap** from the **File System Type** drop-down list box.

  d. In the Allowable Drives window, select the hard disk drive on which you want to install the operating system.

  e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

  Go back to the Partitioner window, the created root partition, boot partition, and swap partition are displayed. Click **Next**. The drive partition is finished.

13. In the Format Warnings window, click **Format** to format the hard disk drive.
14. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
15. In the “Boot loader operating system list” window, click **Next**.
16. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Notes:

    - If a warning window is displayed, select the option of your choice and then continue with the installation.
    - If you install the operating system in the UEFI mode, ensure that the `tboot-1.7.4-1.el6.x86_64 - Performs a verified launch using Intel TXT` package is not selected.
17. After the installation is completed, click **Reboot** to restart your server.

Installing the Red Hat Enterprise Linux 7 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7 operating system (x64).

To install the Red Hat Enterprise Linux 7 operating system, do the following:

1. Download the drivers from the Lenovo Web site. Unzip the drivers if necessary. Then, copy the drivers to a USB storage device or burn the drivers to a disc.

   Note: If your server comes with an onboard RAID card, download the README files for the drivers from the Lenovo Web site and follow the instructions to install the drivers.
2. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
3. Select **Install Red Hat Enterprise Linux 7.0** and press Enter.
4. If the operating system is to be installed on a SAN card, do the following to load the drivers:

   a. Select **Install Red Hat Enterprise Linux 7.0** and press Tab.

   b. Type `linux DD`, and then press Enter.

   c. When the “Driver disk device selection” window is displayed, connect the USB storage device that contains the drivers or the optical drive that contains the driver disc to your server. Then type `1` or `2` as you need and press Enter.

   d. In the “Select drivers to install” window, select the drivers and then press Enter.

   e. Type `C` and the driver loading process begins.
5. Select the language that you want to use during the installation process and click **Continue**.

6. Configure the date, time, language, and keyboard layout for the system.
7. In the INSTALLATION SUMMARY window, click **SOFTWARE SELECTION**, and then select the software that you want to install.

   Note: The following steps are based on the scenario that you select **Server with GUI**, select all of the options on the right pane, and click **Done**.
8. In the INSTALLATION SUMMARY window, click **INSTALLATION DESTINATION**.
9. Select the drive partition on which you want to install the operating system. Then, click **Done**. If you want to create a partition manually, do the following:
   a. Select **I will configure partitioning** and then click **Done**. Do one of the following to create a partition and click **Done**.
      - Manually create a root partition (/)

        To create a root partition, do the following:
        1) In the Manual Partitionning window, click **+** in the bottom left corner.
        2) In the ADD A NEW MOUNT POINT window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
        3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add a new mount point**.
      - Manually create a boot partition (/boot/efi)

        To create a boot partition, do the following:
        1) In the Manual Partitionning window, click **+** in the bottom left corner.
        2) In the ADD A NEW MOUNT POINT window, select **/boot** (or **/boot/efi** for the UEFI mode) from the **Mount Point** drop-down list box.
        3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add a new mount point**.
      - Manually create a swap partition

        To create a swap partition, do the following:
        1) In the Manual Partitionning window, click **+** in the bottom left corner.
        2) In the ADD A NEW MOUNT POINT window, select **swap** from the **Mount Point** drop-down list box.
        3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add a new mount point**.
   b. In the SUMMARY OF CHANGES window, select **Accept Changes**.
10. In the INSTALLATION SUMMARY window, click **Begin Installation**. The installation process begins.
11. In the CONFIGURATION window, click **ROOT PASSWORD** to set the root password. Then, click **Reboot**.
12. In the INITIAL SETUP window, click **LICENSE INFORMATION**.
13. In the LICENSE INFORMATION window, select **I accept the license agreement** and click **Done**.
14. In the INITIAL SETUP window, click **Finish Configuration**.
15. In the Kdump window, click **Forward**.
16. In the “Subscription Management Registration” window, select **No, I prefer to register at a later time** and click **Finish**.
17. Configure the language and click **Next → Next**.
18. Set your user name and the password (if needed) and click **Next**.

19. Select the location as you need and click **Next**.
20. Select **Start using Red Hat Enterprise Linux Server** to log in to the operating system.

    Note: The local account is used by default when logging in to the operating system for the first time. Log out and then log in to Root.

Installing the Red Hat Enterprise Linux 7.1 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.1 (x64) operating system.

To install the Red Hat Enterprise Linux 7.1 (x64) operating system, do the following:

1. Download the drivers from the Lenovo Web site at http://www.lenovo.com/drivers. Unzip the drivers if necessary. Then, copy the drivers to a USB storage device or burn the drivers to a disc.

   Note: If your server comes with an onboard RAID card, download the readme files for the drivers from the Lenovo Web site and follow the instructions to install the drivers.
2. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
3. Depending on your server configuration, do one of the following:
   - If your SATA configuration is set to Add-on RAID, AHCI, or IDE, select **Install Red Hat Enterprise Linux 7.1** and press Enter.
   - If your SATA configuration is set to onboard RAID, select **Install Red Hat Enterprise Linux 7.1** and press Tab. Type `inst.dd modprobe.blacklist=ahci` and follow the installation wizard to install drivers.
   - If the operating system is to be installed on a SAN card, do the following to load the drivers:
     a. Select **Install Red Hat Enterprise Linux 7.1** and press Tab.
     b. Type `linux DD` and press Enter.
     c. When the “Driver disk device selection” window is displayed, connect the USB storage device that contains the drivers or the optical drive that contains the driver disc to your server. Then type `1` or `2` as you need and press Enter.
     d. In the “Select drivers to install” window, select the drivers and then press Enter.
     e. Type `C` and the driver loading process begins.
4. Select the language that you want to use during the installation process and click **Continue**.
5. Configure the date, time, language, and keyboard layout for the system.
6. In the INSTALLATION SUMMARY window, click **SOFTWARE SELECTION**, and then select the software that you want to install.

   Note: The following steps are based on the scenario that you select **Server with GUI**, select all of the options on the right pane, and click **Done**.
7. In the INSTALLATION SUMMARY window, click **INSTALLATION DESTINATION**.
8. Select the drive partition on which you want to install the operating system. Then, click **Done**. If you want to create a partition manually, do the following:
   a. Select **I will configure partitioning** and then click **Done**. Do one of the following to create a partition:
      - Manually create a root partition (/)

        To create a root partition, do the following:
        1) In the Manual Partitioning window, click **+** in the bottom left corner.
        2) In the ADD A NEW MOUNT POINT window, select the forward slash **(/)** from the **Mount Point** drop-down list box.

3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add mount point**.

- Manually create a boot partition (/boot)

  To create a boot partition, do the following:

  1) In the Manual Partitioning window, click **+** in the bottom left corner.
  2) In the ADD A NEW MOUNT POINT window, select **/boot** from the **Mount Point** drop-down list box.
  3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add mount point**.

- Manually create a swap partition

  To create a swap partition, do the following:

  1) In the Manual Partitioning window, click **+** in the bottom left corner.
  2) In the ADD A NEW MOUNT POINT window, select **swap** from the **Mount Point** drop-down list box.
  3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add mount point**.

b. Ensure that the drive partition you created is correct and click **Done**.

c. In the SUMMARY OF CHANGES window, select **Accept Changes**.

9. In the INSTALLATION SUMMARY window, click **Begin Installation**. The installation process begins.
10. In the CONFIGURATION window, click **ROOT PASSWORD** to set the root password. Then, click **Reboot**.
11. In the INITIAL SETUP window, click **LICENSE INFORMATION**.
12. In the LICENSE INFORMATION window, select **I accept the license agreement** and click **Done**.
13. In the INITIAL SETUP window, click **Finish Configuration**.
14. In the Kdump window, click **Forward**.
15. In the “Subscription Management Registration” window, select **No, I prefer to register at a later time** and click **Finish**.
16. Configure the language and click **Next → Next**.
17. Set your user name and the password (if needed) and click **Next**.
18. Select the location as you need and click **Next**.
19. Select **Start using Red Hat Enterprise Linux Server** to log in to the operating system.

    Note: The local account is used by default when logging in to the operating system for the first time. Log out and then log in to Root.

Installing the Red Hat Enterprise Linux 7.2 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.2 (x64) operating system.

To install the Red Hat Enterprise Linux 7.2 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.2** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.

4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a hard disk drive from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the **Manual Partitioning** window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (/) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a boot partition (/boot)
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.

   Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.
8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. In the Configuration window, click **Root Password** to set the root password.
10. When file copying is completed, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Time Zone window, set the time zone and click **Next**.
17. In the About You window, set the user name and click **Next**.
18. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
19. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.3 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.3 (x64) operating system.

To install the Red Hat Enterprise Linux 7.3 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.3** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the **Manual Partitioning** window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.
   - Manually create a boot partition (/boot)
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.

   Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.
8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.

9. In the Configuration window, click **Root Password** to set the root password.
10. When file copying is completed, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Time Zone window, set the time zone and click **Next**.
17. In the About You window, set the user name and click **Next**.
18. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
19. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.4 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.4 (x64) operating system.

To install the Red Hat Enterprise Linux 7.4 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.4** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the Manual Partitioning window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.

- Manually create a boot partition (**/boot** in legacy mode) or (**/boot/efi** in UEFI mode)
  a. In the Manual Partitioning window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select **/boot** (or select **/boot/efi** in UEFI mode) from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.
- Manually create a swap partition
  a. In the Manual Partitioning window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.

Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.

8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. During the installation, in the Configuration window, click **Root Password** to set the root password and then click **Done**.
10. When the installation is completed, in the Configuration window, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Privacy window, set the location services as you are desired and click **Next**.
17. In the Time Zone window, set the time zone and click **Next**.
18. In the Online Accounts window, select your desired online account.

    Note: Online Accounts is optional. Click **Skip** if you do not want to select an online account.
19. In the About You window, set the user name and click **Next**.
20. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
21. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.5 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.5 (x64) operating system.

To install the Red Hat Enterprise Linux 7.5 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.5** and press Enter.

3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the Manual Partitioning window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.
   - Manually create a boot partition (**/boot**)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.

   Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.
8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. During the installation, in the Configuration window, click **Root Password** to set the root password and then click **Done**.
10. When the installation is completed, in the Configuration window, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Privacy window, set the location services as you are desired and click **Next**.
17. In the Time Zone window, set the time zone and click **Next**.

18. In the Online Accounts window, select your desired online account.

    Note: Online Accounts is optional. Click **Skip** if you do not want to select an online account.
19. In the About You window, set the user name and click **Next**.
20. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
21. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.6 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.6 (x64) operating system.

To install the Red Hat Enterprise Linux 7.6 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.6** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the Manual Partitioning window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.
   - Manually create a boot partition (**/boot/efi**)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot/efi** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition

a. In the Manual Partitioning window, click **+** in the bottom left corner.
b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
d. Click **Add mount point**.

Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.

8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. During the installation, in the Configuration window, click **Root Password** to set the root password and then click **Done**.
10. When the installation is completed, in the Configuration window, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Privacy window, set the location services as you are desired and click **Next**.
17. In the Time Zone window, set the time zone and click **Next**.
18. In the Online Accounts window, select your desired online account.

    Note: Online Accounts is optional. Click **Skip** if you do not want to select an online account.
19. In the About You window, set the user name and click **Next**.
20. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
21. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Citrix Xen Server operating system

This topic provides instructions on how to install the following operating systems:

- Citrix Xen Server 6.5.0
- Citrix Xen Server 6.5.1

Note: There is no independent installation package for the Citrix Xen Server 6.5.1 operating system. If needed, upgrade the Citrix Xen Server 6.5.0 to Citrix Xen Server 6.5.1 using the Xencenter.

Before installing the operating system, do the following:

- Check and ensure that the network connection works.
- Configure the BIOS setting. Refer to “Configuring the BIOS setting” on page 5.

To install the Citrix Xen Server 6.5.0 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the Welcome to XenServer window, press Enter.

3. In the Select Keymap window, select a keyboard layout and press Enter.
4. In the Welcome to XenServer Setup window, select **OK** and press Enter.
5. In the End User License Agreement window, select **Accept EULA** and press Enter.
6. Select the hard disk drive that you want to use for virtual machine storage, select **OK**, and press Enter.
7. In the Select Installation Source window, specify the installation source, select **OK**, and press Enter.
8. In the Supplemental Packs window, select options you need and press Enter.
9. In the Verify Installation Source window, select **Verify installation source** to check all the installation media or select **Skip verification** to skip the check. Then select **OK** and press Enter.
10. In the Set Password window, set your password, select **OK**, and press Enter.
11. In the Networking window, select an Ethernet adapter, select **OK**, and press Enter.
12. Configure the IP address, select **OK**, and press Enter.
13. In the Hostname and DNS Configuration window, configure the settings, select **OK**, and press Enter.
14. In the Select Time Zone window, select your time zone, select **OK**, and press Enter.
15. In the System Time window, select **Using NTP** to set the time through Network Time Protocol (NTP) or select **Manual time entry** to type the time information at the end of the installation. Then select **OK** and press Enter.
16. In the Confirm Installation window, select **Install XenServer** and press Enter to start the installation.
17. In the New Media window, select **Skip** and press Enter.
18. In the Set Local Time window, set the local time, select **OK**, and press Enter.
19. When the installation completes, a notification window is displayed. Select **OK** and press Enter to restart your server.

To upgrade the Citrix Xen Server 6.5.0 to Citrix Xen Server 6.5.1, do the following:

1. Download the upgrade package (`XS65ESP1.xsupdate`) from the Citrix Web site.
2. Start the Citrix Xencenter, and choose **Install Update** from **Tools**.
3. In the Before You Start window, click **Next**.
4. In the Select Update window, click **Add**.
5. In the Choose Update File window, select the upgrade package you have downloaded and click **Open**.
6. In the Select Update window, click **Next**.
7. In the Select Servers window, select the required server and click **Next**.
8. In the Prechecks window, check the failed items and resolve problems as prompted. If needed, click **Resolve All** to enable the Xencenter to automatically fix all failed items.
9. In the Update Mode, select an upgrade mode and click **Install Update** to start the upgrade.

   Note: If you click **Cancel** in this step, all updates and the upgrade file on the server will be deleted.
10. Click **Finish** to complete the upgrade.

Installing the VMware hypervisor

This topic provides instructions on how to install the following operating systems:

- VMware ESXi 5.1 P5
- VMware ESXi 5.5 Update 2
- VMware ESXi 6.0
- VMware ESXi 6.0 Update 1

- VMware ESXi 6.0 Update 2
- VMware ESXi 6.0 Update 3
- VMware ESXi 6.5
- VMware ESXi 6.5 Update 1
- VMware ESXi 6.5 Update 2
- VMware ESXi 6.7

Note: If the operating system is to be installed on SAN, download the instructional file *How to Create a Customized VMWare ESXi ISO Image* from http://support.lenovo.com/us/en/products/servers/thinkserver-rack-servers/thinkserver-rd650/documents/HT100820?tabName=Solutions. Then, follow the instructions to prepare the ISO file.

To install the VMware ESXi operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive. Wait several minutes for the system to load the files.
2. When the “Welcome to the VMware ESXi ... Installation” window is displayed, press Enter.
3. When the “End User License Agreement (EULA)” window is displayed, press F11.
4. When the “Select a Disk to Install or Upgrade” window is displayed, press Enter.
5. Select a keyboard layout as you need, and then press Enter.
6. Set the password as you need, and then press Enter.

   Notes:

   - For VMware ESXi 5.1 P5, the password must contain at least seven characters. If you do not want to set the password, press Enter.
   - For VMware ESXi 6.7, the password must contain at least seven characters with numbers, upper-case and lower-case letters, and symbols.
7. When the Confirm Install window is displayed, press F11. The installation process starts.
8. When the Installation Complete window is displayed, press Enter. The server restarts. The operating system is installed successfully.

Chapter 3. Installing an operating system in UEFI mode

This chapter provides information about installing operating systems in UEFI mode.

Before installing an operating system in UEFI mode

This topic contains the following items:

Preparing the driver

Before installing an operating system in UEFI mode, download your desired driver from the Lenovo Web site at http://www.lenovo.com/drivers. Then, copy the driver to a USB storage device.

If the operating system is installed on a storage area network (SAN), download the driver for the host bus adapter (HBA) or converged network adapter (CNA) that is connected to the SAN. Then, copy the driver to a USB storage device.

Notes:

- You can load driver files using a USB storage device or a disc. The steps in this document are based on the scenario that you use a USB storage device to load driver files. If the USB storage device fails to load driver files, try using a disc. If you are installing an SUSE operating system, you are advised to use a disc to load .iso driver files.
- Depending on the configuration, you might install the operating system on a SAN or a hard disk drive. For Microsoft Windows operating systems, the two installation procedures are the same.
- Set the UEFI drive as the first startup device.

Configuring the BIOS setting

Before installing an operating system in UEFI mode, configure the BIOS setting by doing the following:

1. Start the Setup Utility program.
2. On the **Boot Manager** menu, select **Miscellaneous Boot Settings** and press Enter.
3. On the **Storage OpROM policy** menu, select **UEFI only**.

Installing the Microsoft Windows Server 2008 R2 operating system with Service Pack 1

This topic provides information about installing the following operating systems:

- Microsoft Windows Server 2008 R2 Datacenter Edition with Service Pack 1 (x64)
- Microsoft Windows Server 2008 R2 Enterprise Edition with Service Pack 1 (x64)
- Microsoft Windows Server 2008 R2 Foundations Edition with Service Pack 1 (x64)
- Microsoft Windows Server 2008 R2 Standard Edition with Service Pack 1 (x64)

For instructions on how to install the Microsoft Windows Server 2008 R2 operating system with Service Pack 1, see "Installing the Microsoft Windows Server 2008 R2 operating system with Service Pack 1" on page 5.

© Copyright Lenovo 2014, 2018

Installing the Microsoft Windows Small Business Server 2011 Essentials operating system

To install the Microsoft Windows Small Business Server 2011 Essentials operating system, see “Installing the Microsoft Windows Small Business Server 2011 Essentials operating system” on page 6.

Installing the Microsoft Windows Small Business Server 2011 Standard operating system

To install the Microsoft Windows Small Business Server 2011 Standard operating system, see “Installing the Microsoft Windows Small Business Server 2011 Standard operating system” on page 9.

Installing the Microsoft Windows Small Business Server 2011 Premium Add-on operating system

To install the Microsoft Windows Small Business Server 2011 Premium Add-on operating system, see “Installing the Microsoft Windows Small Business Server 2011 Premium Add-on operating system” on page 8.

Installing the Microsoft Windows Server 2012 operating system

This topic provides information about installing the following operating systems:

- Microsoft Windows Server 2012 Datacenter Edition
- Microsoft Windows Server 2012 Foundation Edition
- Microsoft Windows Server 2012 Standard Edition

To install the Microsoft Windows Server 2012 operating system, see “Installing the Microsoft Windows Server 2012 operating system” on page 10.

Installing the Microsoft Windows Server 2012 Essentials operating system

To install the Windows Server 2012 Essentials operating system, see “Installing the Microsoft Windows Server 2012 Essentials operating system” on page 11.

Installing the Microsoft Windows Server 2012 R2 operating system

This topic provides information about installing the following operating systems:

- Microsoft Windows Server 2012 R2 Datacenter Edition
- Microsoft Windows Server 2012 R2 Foundation Edition
- Microsoft Windows Server 2012 R2 Standard Edition

To install the Microsoft Windows Server 2012 R2 operating system, see “Installing the Microsoft Windows Server 2012 R2 operating system” on page 12.

Installing the Microsoft Windows Server 2012 R2 Essentials operating system

To install the Microsoft Windows Server 2012 R2 Essentials operating system, see “Installing the Microsoft Windows Server 2012 R2 Essentials operating system” on page 14.

Installing the Microsoft Windows Server 2016 operating system

This topic provides instructions on how to install the following operating systems:

- Microsoft Windows Server 2016 Standard Edition
- Microsoft Windows Server 2016 Datacenter Edition

To install the Microsoft Windows Server 2016 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from cd or dvd` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. In the Windows Server 2016 window, select the language and other options. Then, click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.
6. In the Select the operating system you want to install window, select your desired operating system. The following steps are based on the scenario that **Windows Server 2016 Standard (Desktop Experience)** is selected in this step. Click **Next**.
7. Read the license terms and select **I accept the license terms**. Then, click **Next**.
8. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
9. In the “Where do you want to install Windows?” window, choose the storage device to install the operating system, and then click **New**.
10. Type the amount of space, and then click **Apply**.
11. In the Windows Setup window, click **OK**.
12. Ensure that the drive partition is correct, and then click **Next**. The installation begins.
13. In Settings window, type your password and click **Finish**.
14. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Microsoft Windows Server 2016 Essentials operating system

To install the Microsoft Windows Server 2016 Essentials operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. If the message `Press any key to boot from cd or dvd` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. Wait several minutes for the system to load the files.
3. In the Windows Server 2016 window, select the language and other options. Then, click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**.

6. Read the license terms and select **I accept the license terms**. Then, click **Next**.
7. Select the type of installation as you need. The following steps are based on the scenario that **Custom: Install Windows only (Advanced)** is selected in this step.
8. In the “Where do you want to install Windows?” window, choose the storage device to install the operating system, and then click **New**.
9. Type the amount of space, and then click **Apply**.
10. In the Windows Setup window, click **OK**.
11. Ensure that the drive partition is correct, and then click **Next**. The installation begins. Your server restarts several times during the installation.
12. In Settings window, type your password and click **Finish**.
13. Follow the instructions on the screen to log in to the operating system when prompted.

Installing the Windows Server SAC

To install the Windows Server operating system, see “Installing the Windows Server SAC” on page 16.

Installing the Microsoft Windows Storage Server 2012 Standard operating system

To install the Microsoft Windows Storage Server 2012 Standard operating system, see “Installing the Microsoft Windows Storage Server 2012 Standard operating system” on page 16.

Installing the Microsoft Windows Storage Server 2012 R2 Standard operating system

To install the Microsoft Windows Storage Server 2012 R2 Standard operating system, see “Installing the Microsoft Windows Storage Server 2012 R2 Standard operating system” on page 17.

Installing the Microsoft Windows Multipoint Server 2012 operating system

To install the Microsoft Windows Multipoint Server 2012 operating system, see “Installing the Microsoft Windows Multipoint Server 2012 operating system” on page 18.

Installing the Microsoft Windows 8 operating system

This topic provides information about installing the Microsoft Windows 8 operating systems (x64).

To install the Microsoft Windows 8 operating system (x64), see “Installing the Microsoft Windows 8 operating system” on page 19.

Installing the Microsoft Windows 8.1 operating system

This topic provides information about installing the Microsoft Windows 8.1 operating systems (x64).

To install the Microsoft Windows 8.1 operating systems (x64), see “Installing the Microsoft Windows 8.1 operating system” on page 20.

Installing the Hyper-V Server 2008 R2 operating system

To install the Hyper-V Server 2008 R2 operating system, see “Installing the Hyper-V Server 2008 R2 operating system with Service Pack 1” on page 21.

Installing the Hyper-V Server 2012 operating system

To install the Hyper-V Server 2012 operating system, see “Installing the Hyper-V Server 2012 operating system” on page 22.

Installing the Hyper-V Server 2012 R2 operating system

To install the Hyper-V Server 2012 R2 operating system, see “Installing the Hyper-V Server 2012 R2 operating system” on page 23.

Installing the Hyper-V Server 2016 operating system

This topic provides instructions on how to install the Hyper-V Server 2016 operating system.

To install the Hyper-V Server 2016 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. If the message `Press any key to boot from CD or DVD...` is displayed, press any key. If the message `Windows Setup [EMS Enabled]` is displayed, press Enter. The message `Loading files...` will be displayed. Wait several minutes for the system to load the files.
3. In the “Microsoft Hyper-V Server 2016” window, configure the language and other options and then click **Next**.
4. Click **Install now**.
5. Type your product key and then click **Next**. The product key information is available on the Microsoft Certificate of Authenticity label or product packaging.
6. Read the applicable notices and license terms and select **I accept the license terms**. Then click **Next**.
7. Select the type of installation you need. The following steps are based on the scenario that **Custom: Install the newer version of Hyper-V Server only (advanced)** is selected in this step.
8. In the “Where do you want to install Hyper-V Server?” window, choose the storage device to install the operating system, and then click **New**.
9. Type the amount of space (in MB), and then click **Apply**.
10. In the “Microsoft Hyper-V Server Setup” window, click **OK**.
11. Ensure that the drive partition is correct, and then click **Next**. The installation begins.

    Note: Your server will restart several times during the installation.
12. When the message “The user’s password must be changed before signing” is displayed, click **OK**.
13. When the “Administrator” window is displayed, follow the instructions on the screen to change the password.
14. When the message `Your password has been changed` is displayed, click **OK** to log in to the operating system.

Installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 3

This topic provides instructions on installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 3 (x64).

Before you start the operating system installation, do the following:

1. Download the driver for RAID from the Lenovo Web site to your server. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at http://www.lenovo.com/drivers. Unzip the driver file if necessary. The extension of the driver file is .img usually.
2. Save the driver file to the root directory, and then type the following commands:
   ```
   cd/root
   mkdir img
   mount -oloop *.img
   ```
3. A folder named as 01 or 02 is created. Copy the folder to the root directory of a USB storage device.

To install the SUSE Linux Enterprise Server 11 operating system with Service Pack 3 (x64), do the following:

1. If the server configuration is set as RAID, connect the USB storage device that contains the driver to your server. For other configurations, go to next step.
2. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
3. Depending on the configuration, do one of the following:
   - If the server configuration is set as onboard RAID, in the welcome window, select **Installation** and press E. Type `brokenmodules=ahci` at the end of `linuxefi /boot/x86_64/loader/linux`. Then, press Enter.
   - If the server configuration is set as add-on RAID, in the welcome window, select **Installation** and press Enter.
   - If the operating system is installed on a SAN through an iSCSI card or a FCoE card, in the welcome window, select **Installation** and press E. Type `driverupdate=1` at the end of `linuxefi /boot/x86_64/loader/linux`. Then, press F10. When the Please choose the Driver Update medium window is displayed, select the folder where the drive is stored, and click **OK**. When the Please choose the Driver Update medium window is displayed again, click **Back**.
   - If the server configuration is set as AHCI or IDE, in the welcome window, select **Installation** and press Enter.
4. Configure the language, read the license terms, and select **I Agree to the License Terms**. Then, click **Next**.
5. In the Media Check window, click **Next**.

   Note: If the operating system is installed on a SAN through an iSCSI card, click **Configuration ISCSI Disks** to check if the iSCSI configuration information is correct. Then, click **OK** go back to the Disk Activation window and click **Next**.
6. In the Installation Mode window, click **New Installation**, and then click **Next**.
7. Verify your region and time zone, and then click **Accept** and **Next**.
8. In the Server Base Scenario window, select **Physical Machine (also for Fully Virtualized Guests)** and then click **Next**.
9. When the Installation Settings window is displayed, create a drive partition as you need. The following steps are based on the scenario that a 20 GB root partition, a 1 GB boot partition, and a 1 GB swap partition are created.

Note: If the operating system is installed on a SAN, ensure that you select the drive on the SAN in the following steps.

- To create a drive partition, do the following:
  a. Click **Partitioning** and select **Custom Partitioning (for experts)**. Click **Next**.
  b. In the Expert Partitioner window, select **Hard Disks → sda** in the **System view** area, and then click **Add**.
  c. In the **New Partition Size** window, select **Custom Size** and type 20GB in the **Size** area, and then click **Next**.
  d. In the **Format partition** area, select **Ext3** from the **File System** drop-down list box.
  e. In the **Mounting partition** area, select the forward slash **/** from the **Mount Point** drop-down list box. Then, click **Finish**. The root partition is created.
  f. Go back to the Expert Partitioner window. Select **Hard Disks → sda** in the **System view** area, and then click **Add**.
  g. In the **New Partition Size** window, select **Custom Size** and type 1GB in the **Size** area, and then click **Next**.
  h. In the **Format partition** area, select **FAT** from the **File System** drop-down list box.
  i. In the **Mounting partition** area, select **/boot/efi** from the **Mount Point** drop-down list box. Then, click **Finish**. The boot partition is created.
  j. Go back to the Expert Partitioner window. Select **Hard Disks → sda** in the **System view** area, and then click **Add**.
  k. In the **New Partition Size** window, select **Custom Size** and type 1GB in the **Size** area, and then click **Next**.
- In the **Format partition** area, select **Swap** from the **File System** drop-down list box. In the **Mounting partition** area, the item becomes to **Swap** automatically in the **Mount Point** drop-down list box. Then, click **Finish**. The swap partition is created.

10. Go back to the Expert Partitioner window. Ensure that the drive partition is correct and click **Accept**.
11. In the Installation Settings window, click **Software** to select your desired software programs, and then click **OK**. If the YaST window is displayed, click **Accept**.
12. Click **Install** to install the software programs that you have selected.

    Note: If the warning window is displayed, configure the settings as you need, and then click **OK** and **TryAgain**. If the YaST window is displayed, click **Accept**. Then go back to the Installation Settings window and click **Install**. If the YaST2 window is displayed, click **Install**.
13. The setup process continues after the server restarts. Set your root user password and click **Next**. If the YaST2 window is displayed, click **Yes**.

    Note: The password must contain at least six characters and consist of upper case letters, lower case letters, and numbers.
14. Set your host name and domain name. Then, click **Next**.
15. Configure your network in the Network Configuration window. Then, click **Next**.
16. In the Test Internet Connection window, configure the settings as you need. Then, click **Next**. The following steps are based on the scenario that **No. Skip This Test** is selected in this step.
17. In the Network Services Configuration window, click **Next**.
18. In the User Authentication Method window, configure the settings as you need. Then, click **Next**. The following steps are based on the scenario that **Local (/etc/passwd)** is selected in this step.
19. In the New Local User window, configure the settings as you need. Then, click **Next**.
20. In the Release Notes window, click **Next**.

21. In the Hardware Configuration window, click **Next**.
22. In the Installation Completed window, click **Finish**.
23. Follow the instructions on the screen to log in to the operating system.

    Note: If the YaST window is displayed, click **Continue** or **Yes**.

Installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 4

This topic provides instructions on installing the SUSE Linux Enterprise Server 11 operating system with Service Pack 4 (x64).

To install the SUSE Linux Enterprise Server 11 operating system with Service Pack 4, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the "SUSE Linux Enterprise Server Welcome" window, depending on the SATA configuration on your server, do one of the following:
   - If your SATA configuration is set as onboard RAID, select **Installation**. Then press E to enter editing mode. Modify the start parameter from `linuxefi /boot/x86_64/loader/linux` to `linuxefi /boot/x86_64/loader/linux brokenmosules=ahci`. Then, press F10.
   - If your SATA configuration is set as Add–on RAID, select **Installation** and then press Enter.
   - If the operating system is to be installed on SAN through ISCIS/FCOE, do the following:
     a. Select **Installation**.
     b. Press E to enter editing mode. Then modify the start parameter from `linuxefi/boot/x86_64/loader/linux` to `linuxefi /boot/x86_64/loader/linux driverupdate=1`.
     c. Press F10. In the "Pls choose the Driver Update medium" window, locate the disk in which the drive is located, and then click **OK**.
     d. Select **Back** to finish loading the driver.
   - If your SATA configuration is set as non-RAID, select **Installation**, and then press Enter.
3. In the Welcome window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
4. In the Media Check window, click **Next** to go ahead.
5. In the Installation Mode window, select **New Installation**, and then click **Next**.
6. Verify your region and time zone, and then click **Accept → Next**.
7. In the Server Base Scenario window, select **Physical Machine(Also for Fully Virtualized Guests)** and then click **Next**.
8. When the Installation Settings window is displayed, create a drive partition you need.
   - Manually create a root partition (/)

     To create a root partition, do the following:
     a. Click **Partitioning** and select **Custom Partition (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view** and select the drive (for example, **sda**) for installing the operating system. Then, click **Add**.
     c. In the New Partitions Size window, select **Custom Size**.
     d. Type the amount of space in the **Custom Size** field and then click **Next**.
     e. In the **Formatting Options** area, select **Ext3** from the **File system** drop-down list box.

f. In the **Mounting partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.

g. Click **Finish**.

- Manually create a boot partition (/boot/efi)

  To create a boot partition, do the following:

  a. In the Expert Partitioner window, select **Hard Disks** from **System view** and select the drive (for example, **sda**) for installing the operating system. Then, click **Add**.

  b. In the New Partitions Size window, select **Custom Size**.

  c. Type the amount of space in the **Custom Size** field and then click **Next**.

  d. In the **Formatting Options** area, select **FAT** from the **File System** drop-down list box.

  e. In the **Mounting partition** area, select **/boot/efi** from the **Mount Point** drop-down list box.

  f. Click **Finish**.

- Manually create a swap partition

  To create a swap partition, do the following:

  a. In the Expert Partitioner window, select **Hard Disks** from **System view** and select the drive (for example, **sda**) for installing the operating system. Then, click **Add**.

  b. In the New Partitions Size window, select **Custom Size**.

  c. Type the amount of space in the **Custom Size** field.

  d. In the **Formatting Options** area, select **Swap** from the **File system** drop-down list box.

  e. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.

  f. Click **Finish**.

Go to the Expert Partitioner window, verify that the created root partition, boot partition, or swap partition is correct and click **Accept**.

9. In the Installation Settings window, click **Software** to select your desired software programs, and then click **OK**. If the YaST window is displayed, click **Accept**.
10. Click **Install** to install the software programs that you have selected.

    Notes:

    - If a Warning window is displayed, select the option you desire. The following steps are based on the scenario that **Ignore this conflict of ...** is selected. Do the following:

      a. Click **OK-TryAgain**.

      b. In the YaST window, click **Accept**.

      c. In the Installation Settings window, click **Install** to begin the installation.

    - If the YaST2 window is displayed, click **Install** to begin the installation.
11. If the Confirm Installation window is displayed, click **Install**. When the installation process is completed, the server restarts automatically.
12. The setup process continues after the server restarts. Set your root user password if needed. Then, select **Next**. When the YaST2 window is displayed, click **Yes**.

    Note: The password must contain at least six characters and consist of upper case letters, lower case letters, and numbers.
13. Set your host name and domain name in the Hostname and Domain Name window. Then, click **Next**.
14. In the Network Configuration window, configure your network and then click **Next**.

15. If the Test Internet Connection window is displayed, you can choose to test the Internet connection or skip the test. Then click **Next**.
16. In the Network Services Configuration window, click **Next**.
17. In the User Authentication Method window, select a user authentication method, for example, **Local (/etc/passwd)**. Then click **Next**.
18. In the New Local User window, configure the settings and then click **Next**.
19. In the Release Notes window, click **Next**.
20. In the Hardware Configuration window, click **Next**.
21. In the Installation Completed window, click **Finish**.

    Note: If the YaST2 window is displayed, click **Continue** or **Yes**.
22. Follow the instructions on the screen to log in to the operating system.

Installing the SUSE Linux Enterprise Server 12 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12 operating system (x64).

Before you start the operating system installation, do the following to prepare the driver for RAID:

- Onboard RAID:
  1. Download the driver for RAID from the Lenovo Web site. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at http://www.lenovo.com/drivers. Unzip the driver file if necessary. The extension of the driver file is .img usually, for example, `/sles12/DUDs/megasr-16.02.2014.1126-1-sles12-x86_64.img`.
  2. Run the following commands to copy the .img file structure and content to a USB storage device:
     ```
     "mount -o loop *.image tmp_dir_1"
     "mount /dev/usb_drive_partition tmp_dir_2"
     "cp -a tmp_dir_1/* tmp_dir_2"
     ```
- Add-on RAID:

  Download the driver for RAID from the Lenovo Web site, and copy the .iso file to a USB storage device.

Note: Insert the USB storage device into your server before you install the operating system.

To install the SUSE Linux Enterprise Server 12 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the “SUSE Linux Enterprise Server Welcome” window, depending on the SATA configuration on your serve, do one of the following:
   - If your SATA configuration is set as onboard RAID, do the following:
     a. Select **Installation**.
     b. Press E to enter editing mode. Then modify the start parameter from `linuxefi /boot/x86_64/loader/linux` to `linuxefi /boot/x86_64/loader/linux brokenmosules=ahci`.
     c. Press F10 to load the operating system.
   - If your SATA configuration is set as Add-on RAID, do the following:
     a. Select **Installation**.
     b. Press E to enter editing mode. Then input `dud=1` and press F10.
     c. After the driver is loaded, press Enter. If the “Please choose the Driver Update medium” window is displayed, select **Back**.

- If your SATA configuration is set as AHCI or IDE, select **Installation**, and then press Enter.
- If the operating system is to be installed on SAN, do the following:
  a. Select **Installation**.
  b. Press E to enter editing mode. Then input `dud=1` and press F10.
  c. After the driver is loaded, press Enter. If the “Please choose the Driver Update medium” window is displayed, select **Back**.

3. In the Language, Keyboard and License Agreement window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.

   Note: In the License Agreement window, click **OK** if a prompt dialog box is displayed.

4. If the Network Settings window is displayed, configure the network settings and click **Next**.

   Notes: If the operating system is to be installed on the SAN through an iSCSI card, the Disk Activation window is displayed. Do the following:

   a. Click **Configuration ISCSI Disks**.
   b. Ensure that the ISCSI configuration information is correct and then click **OK**.
   c. Click **Next**.

5. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step.
6. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
7. In the Suggested Partitioning window, use the suggested partitioning method and click **Next**. If you want to create a drive partition, do one of the following:
   - Manually create a root partition (/)
     a. Click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     c. In the New Partitions Size window, select **Custom Size**.
     d. Type the amount of space (for example, 80 GB) in the **Custom Size** field and then click **Next**.
     e. Select **Operating System** from **Role**.
     f. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.
     g. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
     h. Click **Finish**.
   - Manually create a boot partition (/boot/efi)
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and then click **Next**.
     d. Select **Operating System** from **Role**.
     e. In the **Formatting Options** area, select **FAT** from the **File System** drop-down list box.
     f. In the **Mounting partition** area, select **/boot/efi** from the **Mount Point** drop-down list box.
     g. Click **Finish**.
   - Manually create a swap partition

a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.

b. In the New Partitions Size window, select **Custom Size**.

c. Type the amount of space (for example, 2 GB) in the **Custom Size** field.

d. Select **Swap** from **Role** and click **Next**.

e. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.

f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.

g. Click **Finish**.

Go to the Expert Partitioner window, the created root partition, boot partition, or swap partition is displayed. Ensure that the created partition is correct and click **Accept**. Then, click **Next**.

8. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If "Do you want to continue with your selection (local time)?" is displayed, click **Continue**.

9. In the Create New User window, set a user name and password, and then click **Next**.
10. In the "Password for the System Administrator–root" window, set a root password and click **Next**.
11. In the Installation Settings window, click **Software** to select software applications to be installed.

    For example, if you want to install all software, do the following:

    a. Click **Software**.

    b. In the Software Selection and System Tasks window, right-click any software application and choose **All in This List-Install**.

    c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

Installing the SUSE Linux Enterprise Server 12.1 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12.1 operating system (x64).

To install the SUSE Linux Enterprise Server 12.1 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Language, Keyboard and License Agreement window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
3. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step.
4. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
5. In the Suggested Partitioning window, use the suggested partitioning method and click **Next**. If you want to create a drive partition, do one of the following:

   - Manually create a root partition (/)

     a. Click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.

     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.

     c. In the New Partitions Size window, select **Custom Size**.

     d. Type the amount of space (for example, 80 GB) in the **Custom Size** field and then click **Next**.

     e. Select **Operating System** from **Role**.

f. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.

g. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.

h. Click **Finish**.

- Manually create a boot partition (/boot/efi)
  a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
  b. In the New Partitions Size window, select **Custom Size**.
  c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and then click **Next**.
  d. Select **Operating System** from **Role**.
  e. In the **Formatting Options** area, select **FAT** from the **File System** drop-down list box.
  f. In the **Mounting partition** area, select **/boot/efi** from the **Mount Point** drop-down list box.
  g. Click **Finish**.
- Manually create a swap partition
  a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
  b. In the New Partitions Size window, select **Custom Size**.
  c. Type the amount of space (for example, 2 GB) in the **Custom Size** field.
  d. Select **Swap** from **Role** and click **Next**.
  e. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.
  f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.
  g. Click **Finish**.

  Go to the Expert Partitioner window. The created root partition, boot partition, or swap partition is displayed in the window. Ensure that the created partition is correct and click **Accept**. Then, click **Next**.

6. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If “Do you want to continue with your selection (local time)?” is displayed, click **Continue**.

7. In the Create New User window, set a user name and password, and then click **Next**.

   Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

8. In the “Password for the System Administrator–root” window, set a root password and click **Next**.

   Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

9. In the Installation Settings window, click **Software** to select software applications to be installed.

   For example, if you want to install all software, do the following:

   a. Click **Software**.
   b. In the Software Selection and System Tasks window, right-click any software application and choose **All in This List-Install**.
   c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

10. In the System will reboot now window, click **OK** or wait. After the system is restarted, the installation is finished.

Installing the SUSE Linux Enterprise Server 12.2 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12.2 operating system (x64).

To install the SUSE Linux Enterprise Server 12.2 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. Select **Installation** and configure the network settings. The following steps are based on the scenario that **No** is selected in this step.
3. Click **OK**. In the “Language, Keyboard and License Agreement” window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
4. In the Network Settings window, configure the network settings and click **Next**. The following steps are based on the scenario that default options are selected in this step.
5. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step. Select **OK** in the Warning window.
6. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
7. In the System Role window, select **Default System** and then select **Next**.
8. In the Suggested Partitioning window, use the suggested partitioning method and click **Next**. If you want to create a drive partition, do one of the following:
   - Manually create a root partition (/)
     a. Click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**. Select the default partition type, then click **Next**.
     c. In the New Partitions Size window, select **Custom Size**.
     d. Type the amount of space (for example, 80 GB) in the **Custom Size** field and then click **Next**.
     e. Select **Operating System** from **Role**.
     f. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.
     g. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
     h. Click **Finish**.
   - Manually create a boot partition (/boot/efi)
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**. Select the default partition type, then click **Next**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and then click **Next**.
     d. Select **Operating System** from **Role**.
     e. In the **Formatting Options** area, select **FAT** from the **File System** drop-down list box.
     f. In the **Mounting partition** area, select **/boot/efi** from the **Mount Point** drop-down list box.
     g. Click **Finish**.
   - Manually create a swap partition

a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**. Select the default partition type, then click **Next**.

b. In the New Partitions Size window, select **Custom Size**.

c. Type the amount of space (for example, 2 GB) in the **Custom Size** field.

d. Select **Swap** from **Role** and click **Next**.

e. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.

f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.

g. Click **Finish**.

Go to the Expert Partitioner window. The created root partition, boot partition, or swap partition is displayed in the window. Ensure that the created partition is correct and click **Accept**. Then, click **Next**.

9. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If "Do you want to continue with your selection (local time)?" is displayed, click **Continue**.

10. In the Create New User window, set a user name and password, and then click **Next**.

    Note: If the "Really use this password?" window is displayed, change the password according to your need or click **Yes** to keep the current password.

11. In the "Password for the System Administrator–root" window, set a root password and click **Next**.

    Note: If the "Really use this password?" window is displayed, change the password according to your need or click **Yes** to keep the current password.

12. In the Installation Settings window, click **Software** to select software applications to be installed.

    For example, if you want to install all software, do the following:

    a. Click **Software**.

    b. In the Software Selection and System Tasks window, select any software application and then right-click. Choose **All in This List-Install**.

    c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

Installing the SUSE Linux Enterprise Server 12.3 operating system

This topic provides instructions on installing the SUSE Linux Enterprise Server 12.3 operating system (x64).

To install the SUSE Linux Enterprise Server 12.3 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. When the SUSE Welcome window is displayed, select **Installation** and press Enter.
3. In the "Language, Keyboard and License Agreement" window, select your language and keyboard layout and then select **I Agree to the License Terms**. Click **Next**.
4. In the Network Settings window, select the network card to be used and click **Next**. The following steps are based on the scenario that default options are selected in this step.
5. In the Registration window, configure the information as prompted and click **Next**. The following steps are based on the scenario that **Skip Registration** is selected in this step. If the "Really skip the registration now?" window is displayed, select **Yes**.

   Note: If the Warning window is displayed, click **OK**.

6. In the Add On Product window, select add-ons to be installed and click **Next**. The following steps are based on the scenario that default options are selected in this step.
7. In the System Role window, select **Default System** and then click **Next**.
8. In the Suggested Partitioning window, use the suggested partitioning method and click **Next**. If you want to create a drive partition, do one of the following:
   - Manually create a root partition (/)
     a. In the Suggested Partitioning window, click **Create Partition Setup** and select **Custom Partitioning (for experts)**. Click **Next**.
     b. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     c. In the New Partitions Size window, select **Custom Size**.
     d. Type the amount of space (for example, 80 GB) in the **Custom Size** field and then click **Next**.
     e. Select **Operating System** from **Role**.
     f. In the **Formatting Options** area, select **BtrFS** from the **File system** drop-down list box.
     g. In the **Mount partition** area, select the forward slash **(/)** from the **Mount Point** drop-down list box.
     h. Click **Finish**.
   - Manually create a boot partition (/boot/efi)
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and then click **Next**.
     d. Select **Operating System** from **Role**.
     e. In the **Formatting Options** area, select **Ext4** from the **File System** drop-down list box.
     f. In the **Mounting partition** area, select **/boot/efi** from the **Mount Point** drop-down list box.
     g. Click **Finish**.
   - Manually create a swap partition
     a. In the Expert Partitioner window, select **Hard Disks** from **System view**. Then select the disk (for example, **sda**) for installing the operating system and click **Add**.
     b. In the New Partitions Size window, select **Custom Size**.
     c. Type the amount of space (for example, 2 GB) in the **Custom Size** field and click **Next**.
     d. Select **Swap** from **Role** and click **Next**.
     e. In the **Format partition** area, select **Swap** from the **File system** drop-down list box.
     f. In the **Mount partition** area, select **Swap** from the **Mount Point** drop-down list box.
     g. Click **Finish**.

     Go to the Expert Partitioner window. The created swap partition and root partition are displayed in the window. Ensure that the created partitions are correct and click **Accept**.

     Note: If the “Really use this setup?” window is displayed, click **Yes**.
9. In the Clock and Time Zone window, set the time zone and time and click **Next**.

   For example, set **Region** to **Asia** and set **TimeZone** to **Beijing**. Clear the **Hardware Clock Set to UTC** check box and set the time to local time. If the “Do you want to continue with your selection (local time)?” window is displayed, click **Continue**.
10. In the Create New User window, set a user name and password, and then click **Next**.

Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

11. In the “Password for the System Administrator–root” window, set a root password and click **Next**.

    Note: If the “Really use this password?” window is displayed, change the password according to your need or click **Yes** to keep the current password.

12. In the Installation Settings window, click **Software** to select software applications to be installed.

    For example, if you want to install all software, do the following:

    a. Click **Software**.

    b. In the Software Selection and System Tasks window, select any software application and then right-click. Choose **All in This List-Install**.

    c. Click **OK → Install**. If the Confirm Installation window is displayed, click **Install**.

    d. In the “System will reboot now” window, click **OK** or restart the server to finish.

Installing the Red Hat Enterprise Linux 6.5 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 6.5 operating system (x64).

Note: If the server configuration is set as RAID (**OB SATA RAID** or **Add on RAID**), connect the USB storage device to your server before the operating system installation. Then, install RAID drivers after operating system installation.

To install the Red Hat Enterprise Linux 6.5 operating system (x64), do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. Depending on the SATA configuration on your server, do one of the following:
   - If the SATA configuration is set to **IDE**, **AHCI**, or **Add on RAID**, go to step 3.
   - If the SATA configuration is set to **OB SATA RAID**, do the following to update your driver:
     a. When “Press any key to enter the menu” is displayed, press any key.
     b. In the GNU GRUB Version window, select **Red Hat Enterprise Linux 6.5**, and then press E.
     c. Select **Kernel/images/pxeboot/vmlinuz**, and then press E.
     d. Enter a space and type `linux dd blacklist=ahci`, and then press Enter.
     e. Press B to start your server.
     f. In the “Do you have a driver disk?” window, select **Yes**.
     g. In the Driver Disk Source window, go to the folder where the driver is stored and click **OK**.
     h. When the Driver Disk Source window is displayed again, click **OK**.
     i. In the Select driver disk image window, select your desired driver and then click **OK**.
     j. When “Do you wish to load any more driver disks?” is displayed, select **NO**.
3. In the Disc Found window, select **Skip**, and then press Enter.

   Note: If the operating system is installed on a SAN through an iSCSI card, the Network Device window is displayed. Select the correct Ethernet device and click **OK**. Then, configure the network settings as you need. The following steps are based on the scenario that you select **Enable Ipv4 support → Dynamic IP configuration (DHCP)**.

4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.

6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices for the installation and then click **Next**. The following steps are based on the scenario that **Basic Storage Devices** is selected in this step.

   Notes:

   - If the Storage Device Warning window is displayed, select **Yes, discard any data**. If a message prompts that at least one operating system installation has been detected on your system, configure the setting as you need. Then, click **Next**. The following steps are based on the scenario that you select **Fresh installation**.
   - If the operating system is installed on a SAN through an iSCSI card, select **Specialized Storage Devices** and click **Next**. Then, select **SAN** in the **Other SAN Devices** area and click **Next**.
   - If the operating system is installed on a SAN through a FCoE card, select **Specialized Storage Devices** and click **Next**. Then, select SAN in the **Basic Devices** area and click **Next**.
8. Type a name for your server. Then, click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then, click **Next**.
10. Personalize the server by typing the root password for the root user account. Then, click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. By default, a partition is already selected for you to install the operating system. If you want to create a partition manually, select the option as you need and then click **Next**.

    Note: The following steps are based on the scenario that **Create Custom Layout** is selected in this step.
12. In the Please Select A Device window, create a partition as you need and then click **Next**. The following steps are based on the scenario that a 20 GB root partition, a 1024 MB boot partition, and a 1024 MB swap partition are created.

    - To create a drive partition, do the following:
      a. Click **Create** and select **Standard Partition**. Click **Create**.
      b. In the Add Partition window, select the forward slash **/** from the **Mount Point** drop-down list box.
      c. Select **Ext4** from the **File System Type** drop-down list box.
      d. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      e. In the **Size (MB)** area, type `20000` and then click **OK**. The root partition is created.
      f. Go back to the partition window. Click **Create** and select **Standard Partition**. Click **Create**.
      g. In the Add Partition window, select the forward slash **/boot/efi** from the **Mount Point** drop-down list box.
      h. Select **EFI System Partition** from the **File System Type** drop-down list box.
      i. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      j. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.
      k. Go back to the partition window. Click **Create** and select **Standard Partition**. Click **Create**.
      l. In the Add Partition window, select the forward slash **swap** from the **Mount Point** drop-down list box.
      m. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.
      n. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.

o. Go back to the partition window. Ensure that the drive partition is correct and then click **Next**.

Note: If the Format Warnings window is displayed, click **Format**.

13. In the Writing storage configuration to disk window, click **Write changes to disk**.
14. In the Boot loader operating system list window, click **Next**.
15. The default installation is a basic server installation. You can customize your server by selecting different software from the software list or adding additional repositories that you want to use for the software installation. The following steps are based on the scenario that **Customize now** is selected in this step. Then, click **Next**.

    Notes:

    - If the Warning window is displayed, configure the settings as you need. The following steps are based on the scenario that you select **Continue**.
    - Do not select **tboot-1.7.4–1.el6.x86_64 - Performs a verified launch using Intel TXT** in the software list.
16. After the installation is completed, click **Reboot** to restart your server.
17. The installation continues after the server restarts. In the Welcome window, click **Forward**.
18. Click **Yes, I agree to the License Agreement** and then click **Forward**.
19. In the Set Up Software Updates window, configure the settings as you need, and then click **Forward**.
20. In the Finish Updates Setup window, click **Forward**.
21. Set your user name and password and then click **Forward**.
22. Set your time and date and then click **Forward**.
23. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Yes** and **OK**.
24. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.6 operating system

This topic provides instructions on how to install the Red Hat Enterprise Linux 6.6 (x64) operating system.

Note: If the server configuration is set as **OB SATA RAID**, connect the USB storage device to your server before the operating system installation. Then, install RAID drivers after operating system installation.

To install the Red Hat Enterprise Linux 6.6 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. Depending on the SATA configuration on your server, do one of the following:
   - If the SATA configuration is set to **IDE**, **AHCI**, or **Add on RAID**, go to step 3.
   - If the SATA configuration is set to **OB SATA RAID**, do the following to update your driver:
     a. When “Press any key to enter the menu” is displayed, press any key.
     b. In the GNU GRUB Version window, select **Red Hat Enterprise Linux 6.6**, and then press E.
     c. Select **Kernel/images/pxeboot/vmlinuz**, and then press E.
     d. Enter a space and type `linux dd blacklist=ahci`, and then press Enter.
     e. Press B to start your server.

f. In the “Do you have a driver disk?” window, select **Yes**.

g. In the Driver Disk Source window, go to the folder where the driver is stored and click **OK**.

h. When the Driver Disk Source window is displayed again, click **OK**.

i. In the Select driver disk image window, select your desired driver and then click **OK**.

j. When “Do you wish to load any more driver disks?” is displayed, select **NO**.

3. In the Disc Found window, select **Skip**, and then press Enter.

   Notes: If the operating system is install on a SAN through an ISCSI card, do the following:

   a. When the Networking Device window is displayed, select the correct Ethernet device and click **OK**.

   b. In the Configure TCP/IP window, select the network environment as you need. The follow steps are based on the scenario that you select **Enable Ipv4 support → Dynamic IP configuration (DHCP)**.

4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices for the installation and then click **Next**. The following steps are based on the scenario that **Basic Storage Devices** is selected in this step.

   Notes:

   - If the Storage Device Warning window is displayed, select **Yes, discard any data**. If a message prompts that at least one operating system installation has been detected on your system, configure the setting as you need. Then, click **Next**. The following steps are based on the scenario that you select **Fresh installation**.
   - If the operating system is installed on a SAN through an ISCSI card, select **Specialized Storage Devices** and click **Next**. Then, select **SAN** in the **Other SAN Devices** area and click **Next**.
   - If the operating system is installed on a SAN through a FCOE card, select **Specialized Storage Devices** and click **Next**. Then, select SAN in the **Basic Devices** area and click **Next**.

8. Type a name for your server. Then, click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then, click **Next**.
10. Personalize the server by typing the root password for the root user account. Then, click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.

11. By default, a partition is already selected for you to install the operating system. If you want to create a partition manually, select the option as you need and then click **Next**.

    Note: The following steps are based on the scenario that **Create Custom Layout** is selected in this step.

12. In the Please Select A Device window, create a partition as you need and then click **Next**. The following steps are based on the scenario that a 20 GB root partition, a 1024 MB boot/efi partition, and a 1024 MB swap partition are created.

    - To create a drive partition, do the following:

      a. Click **Create** and select **Standard Partitioning**. Click **Create**.

      b. In the Add Partition window, select the forward slash **/** from the **Mount Point** drop-down list box.

      c. Select **Ext4** from the **File System Type** drop-down list box.

      d. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.

      e. In the **Size (MB)** area, type `20000` and then click **OK**. The root partition is created.

f. Go back to the partition window. Click **Create** and select **Standard Partitioning**. Click **Create**.

g. In the Add Partition window, select the forward slash **/boot/efi** from the **Mount Point** drop-down list box.

h. Select **EFI System Partition** from the **File System Type** drop-down list box.

i. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.

j. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.

k. Go back to the partition window. Click **Create** and select **Standard Partitioning**. Click **Create**.

l. In the Add Partition window, select the forward slash **swap** from the **Mount Point** drop-down list box.

m. In the **Allowable Drives** area, select the hard disk drive for operating system installation. The following steps are based on the scenario that **sda** is selected in this step.

n. In the **Size (MB)** area, type `1024` and then click **OK**. The boot partition is created.

o. Go back to the partition window. Ensure that the drive partition is correct and then click **Next**.

Note: If the Format Warnings window is displayed, click **Format**.

13. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
14. In the “Boot loader operating system list” window, click **Next**.
15. The default installation is a basic server installation. You can customize your server by selecting different software from the software list or adding additional repositories that you want to use for the software installation. The following steps are based on the scenario that **Customize now** is selected in this step. Then, click **Next**.

    Notes:

    - If the Warning window is displayed, configure the settings as you need. The following steps are based on the scenario that you select **Continue**.
    - Do not select **tboot-1.7.4-1.el6.x86_64 - Performs a verified launch using Intel TXT** in the software list.

16. After the installation is completed, click **Reboot** to restart your server.
17. The installation continues after the server restarts. In the Welcome window, click **Forward**.
18. Click **Yes, I agree to the License Agreement** and then click **Forward**.
19. In the Set Up Software Updates window, configure the settings as you need, and then click **Forward**.
20. In the Finish Updates Setup window, click **Forward**.
21. Set your user name and password and then click **Forward**.
22. Set your time and date and then click **Forward**.
23. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Yes** and **OK**.

24. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.7 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 6.7 operating system (x64).

To install the Red Hat Enterprise Linux 6.7 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the “RedHat Enterprise Linux 6.7 Welcome” window, do one of the following depending on your server configuration:
   - If the SATA configuration is set to **IDE**, **AHCI**, or **Add on RAID**, go to step 3.
   - If the SATA configuration is set to **OB SATA RAID**, do the following:
     a. When “Press any key to enter the menu” is displayed, press any key to continue.
     b. When the GNU GRUB Version window is displayed, select **Red Hat Enterprise Linux 6.7** and press E.
     c. Select **Kernel/images/preboot/vmlinuz** and press E.
     d. Enter a space and type `linux dd blacklist=ahci nodmraid` and press Enter. Then press B to start your server.
     e. In the “Do you have a driver disk?” window, select **Yes**.
     f. In the Driver Disk Source window, go to the folder where the driver is stored and click **OK**.
     g. When the Driver Disk Source window is displayed again, click **OK**.
     h. In the Select driver disk image window, select your desired driver and then click **OK**.
     i. In the “Do you wish to load any more driver disks” window, click **No**.
3. In the Disc Found window, click **Skip**.

   Note: If you install the operating system on a SAN through an iSCSI card, the Networking Device window will be displayed. Select a correct Ethernet device and click **OK**. In the **Configure TCP/IP** window, select options based on your network, for example, select **Enable Ipv4 support → Dynamic IP configuration (DHCP)**.
4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select a keyboard layout for the system and click **Next**.
7. Select the type of devices you need for the installation. For example, select **Basic Storage Devices** and then click **Next**.

   Notes:
   - If the Storage Device Warning window is displayed, click **Yes, discard any data**. If “At least one existing installation has been detected on your system. What would you like to do?” is displayed, select an option (for example, **Fresh installation**) and then click **Next**.
   - If the operating system is installed on a SAN through an iSCSI card, select **Specialized Storage Devices** and click **Next**. When “Please select the drives you’d like to install the operating system on” is displayed, select remote SAN in the **Other SAN Devices** area and click **Next**.
   - If the operating system is installed on a SAN through an FCoE card, select **Specialized Storage Devices** and click **Next**. When “Please select the drives you’d like to install the operating system on” is displayed, select SAN in the **Basic Devices** area and click **Next**.
8. Type a name for your server. Then, click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then, click **Next**.
10. Type the root password for the root user account. Then, click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. In the “Which type of the installation would you like?” window, select your desired option. The following steps are based on the scenario that **Create Custom Layout** is selected in this step and click **Next**.

12. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a boot partition (/boot/efi)

      To create a boot partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **/boot/efi** from the **Mount Point** drop-down list box.
      d. Select **EFI System Partition** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a swap partition

      To create a swap partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select **swap** from the **File System Type** drop-down list box.
      d. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

    Go back to the Partitioner window, verify that the created root partition, boot partition, or swap partition is correct and click **Next**.
13. If the Format Warnings window, click **Format** to format the hard disk drive.
14. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
15. In the “Boot loader operating system list” window, click **Next**.
16. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Notes:
    - If a warning window is displayed, select the option of your choice and then continue with the installation.
    - Ensure that the package **tboot-1.7.4-1.el6.X86_64 - Performs a verified launch using Intel TXT** is not selected.
17. After the installation is completed, click **Reboot** to restart your server.
18. The installation continues after the server restarts. In the Welcome window, click **Forward**.
19. In the License Information window, select **Yes, I agree to the License Agreement**, and then click **Forward**.

20. In the Set Up Software Updates window, select an option and click **Forward**. The following steps are based on the scenario that **No, I prefer to register at a later time** is selected. If “Are you sure?” window is displayed, click **Register later**.
21. In the Finish Updates Setup window, click **Forward**.
22. Set your user name and password and then click **Forward**.
23. Set your time and date and then click **Forward**.
24. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Yes**.
25. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.8 operating system

This topic provides instructions on how to install the Red Hat Enterprise Linux 6.8 operating system (x64).

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the Disk Found window, click **Skip**.

   Note: If the operating system is installed on the SAN card through iSCSI, the Networking Device window is displayed. Select the desired **Ethernet device**, and then click **OK**. In the Configure TCP/IP window, select the option according to the network environment. The following steps are based on the scenario that **Enable Ipv4 support->Dynamic IP configuration (DHCP)** is selected.
3. In the RED HAT window, click **Next**.
4. Select the language that you want to use during the installation process and click **Next**.
5. Select the appropriate keyboard layout for the system and click **Next**.
6. Select the type of devices that are involved in the installation, and then click **Next**.

   Note: If the Storage Device Warning window is displayed, click **Yes, discard any data**. If the message displays as “At least one existing installation has been detected on your system. What would you like to do?”, select the option as you desired and then click **Next**.
7. Type a name for your server. Then click **Next**.
8. Specify your time zone by selecting the nearest city in your time zone. Then click **Next**.
9. Personalize the server by typing the root password for the root user account. Then click **Next**.

   Note: If a message prompts you that the password is weak, click **Use Anyway**.
10. In the “Which type of the installation would you like?” window, select your desired option. The following steps are based on the scenario that **Create Custom Layout** is selected in this step and click **Next**.
11. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition, do the following:
      a. Click **Create**. The Create Storage window is displayed.
      b. Select **Standard Partition** and then click **Create**.
      c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
      d. Select **Ext4** from the **File System Type** drop-down list box.
      e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

- Manually create a boot partition (**/boot/efi**)

  To create a boot partition, do the following:

  a. Click **Create**. The Create Storage window is displayed.
  b. Select **Standard Partition** and then click **Create**.
  c. In the Add Partition window, select **/boot/efi** from the **Mount Point** drop-down list box.
  d. Select **EFI System Partition** from the **File System Type** drop-down list box.
  e. In the Allowable Drives window, choose the hard disk drive to install the operating system.
  f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

- Manually create a swap partition

  To create a swap partition, do the following:

  a. Click **Create**. The Create Storage window is displayed.
  b. Select **Standard Partition** and then click **Create**.
  c. In the Add Partition window, select **swap** from the **File System Type** drop-down list box.
  d. In the Allowable Drives window, choose the hard disk drive to install the operating system.
  e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

Go back to the Partitioner window, the created root partition, boot partition, and swap partition are displayed. Click **Next**. The drive partition is finished.

12. In the Format Warnings window, click **Format** to format the hard disk drive.
13. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
14. In the “Boot loader operating system list” window, click **Next**.
15. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Notes:

    - When a warning window is displayed, select the option of your choice and then continue with the installation.
    - If you install the operating system in UEFI mode, ensure that the check box **tboot-1.7.4-1.el6.X86_64 - Performs a verified launch using Intel TXT** is cleared.
16. After the installation is completed, click **Reboot** to restart your server.
17. The installation continues after the server restarts. In the Welcome window, click **Forward**.
18. In the License Information window, select **Yes, I agree to the License Agreement**, and then click **Forward**.
19. In the Set Up Software Updates window, configure the settings you need, and then click **Forward**. If “Are you sure?” window is displayed, click **Register later**.
20. In the Finish Updates Setup window, click **Forward**.
21. Set your user name and password and then click **Forward**.
22. Set your time and date and then click **Forward**.
23. In the Kdump window, select **Enable kdump** if you want to enable kdump, and then click **Finish** to complete the installation.

    Note: When prompted to restart the server, click **Continue** or **Yes**.
24. Follow the instructions on the screen to log in to the operating system.

Installing the Red Hat Enterprise Linux 6.9 operating system

This topic provides instructions on how to install the following operating systems:

- RedHat Enterprise Linux 6.9 (x86)
- RedHat Enterprise Linux 6.9 (x64)

To install the Red Hat Enterprise Linux 6.9 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. The Welcome to Red Hat Enterprise Linux 6.9 ! window is displayed. Click **Install system with basic video driver**.
3. In the Disk Found window, click **Skip**and press Enter.

   Note: If the operating system is installed on the SAN card through iSCSI, the Networking Device window is displayed. Select the desired **Ethernet device**, and then click **OK**. In the Configure TCP/IP window, select the option according to the network environment. The following steps are based on the scenario that **Enable Ipv4 support->Dynamic IP configuration (DHCP)** is selected.
4. In the RED HAT window, click **Next**.
5. Select the language that you want to use during the installation process and click **Next**.
6. Select the appropriate keyboard layout for the system and click **Next**.
7. Select the type of devices that are involved in the installation, and then click **Next**.

   Note: If the Storage Device Warning window is displayed, click **Yes, discard any data**. If the message displays as “At least one existing installation has been detected on your system. What would you like to do?”, select the option as you desired and then click **Next**.
8. Type a name for your server. Then click **Next**.
9. Specify your time zone by selecting the nearest city in your time zone. Then click **Next**.
10. Personalize the server by typing the root password for the root user account. Then click **Next**.

    Note: If a message prompts you that the password is weak, click **Use Anyway**.
11. In the “Which type of the installation would you like?” window, select your desired option. The following steps are based on the scenario that **Create Custom Layout** is selected in this step and click **Next**.
12. In the Please Select A Device window, do one of the following to create a partition and then click **Next**.
    - Manually create a root partition (/)

      To create a root partition, do the following:

      a. Click **Create**. The Create Storage window is displayed.

      b. Select **Standard Partition** and then click **Create**.

      c. In the Add Partition window, select the forward slash **(/)** from the **Mount Point** drop-down list box.

      d. Select **EFI System Partition** from the **File System Type** drop-down list box.

      e. In the Allowable Drives window, select the hard disk drive on which you want to install the operating system.

      f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.
    - Manually create a boot partition (**/boot** in legacy mode) or (**/boot/efi** in UEFI mode)

      To create a boot partition, do the following:

      a. Click **Create**. The Create Storage window is displayed.

b. Select **Standard Partition** and then click **Create**.
c. In the Add Partition window, select **/boot/efi** (or select **/boot** in Legacy mode) from the **Mount Point** drop-down list box.
d. Select **EFI System Partition** (or select **Ext4** in Legacy mode) from the **File System Type** drop-down list box.
e. In the Allowable Drives window, select the storage device on which you want to install the operating system.
f. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

- Manually create a swap partition

  To create a swap partition, do the following:

  a. Click **Create**. The Create Storage window is displayed.
  b. Select **Standard Partition** and then click **Create**.
  c. In the Add Partition window, select **swap** from the **File System Type** drop-down list box.
  d. In the Allowable Drives window, select the hard disk drive on which you want to install the operating system.
  e. Type the amount of space (in MB) in the New Partitions Size window and then click **OK**.

Go back to the Partitioner window, the created root partition, boot partition, and swap partition are displayed. Click **Next**. The drive partition is finished.

13. In the Format Warnings window, click **Format** to format the hard disk drive.
14. In the “Writing storage configuration to disk” window, click **Write changes to disk**.
15. In the “Boot loader operating system list” window, click **Next**.
16. The default installation is a basic server installation. You can customize your server by selecting a different set of software from the software list or adding additional repositories that you want to use for the software installation. Select **Customize now**. Then, click **Next**. The installation process begins.

    Note: When a warning window is displayed, select the option of your choice and then continue with the installation.
17. After the installation is completed, click **Reboot** to restart your server.

Installing the Red Hat Enterprise Linux 6.10 operating system

To install the Red Hat Enterprise Linux 6.10 operating system, see “Installing the Red Hat Enterprise Linux 6.10 operating system” on page 45.

Installing the Red Hat Enterprise Linux 7 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7 (x64) operating system.

To install the Red Hat Enterprise Linux 7 (x64) operating system, see “Installing the Red Hat Enterprise Linux 7 operating system” on page 47.

Installing the Red Hat Enterprise Linux 7.1 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.1 (x64) operating system.

To install the Red Hat Enterprise Linux 7.1 (x64) operating system, do the following:

1. Download the drivers from the Lenovo Web site at http://www.lenovo.com/drivers. Unzip the drivers if necessary. Then, copy the drivers to a USB storage device or burn the drivers to a disc.

Note: If your server comes with an onboard RAID card, download the readme files for the drivers from the Lenovo Web site and follow the instructions to install the drivers.

2. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
3. Depending on your server configuration, do one of the following:
   - If your SATA configuration is set to Add-on RAID, AHCI, or IDE, select **Install Red Hat Enterprise Linux 7.1** and press Enter.
   - If your SATA configuration is set to onboard RAID, select **Install Red Hat Enterprise Linux 7.1** and press E. Type `inst.dd modprobe.blacklist=ahci` after `linuxefi...`, and press F10.
   - If the operating system is to be installed on a SAN card, do the following to load the drivers:
     a. Select **Install Red Hat Enterprise Linux 7.1** and press Tab.
     b. Type `linux DD` and press Enter.
     c. When the "Driver disk device selection" window is displayed, connect the USB storage device that contains the drivers or the optical drive that contains the driver disc to your server. Then type `1` or `2` as you need and press Enter.
     d. In the "Select drivers to install" window, select the drivers and then press Enter.
     e. Type `C` and the driver loading process begins.
4. Select the language that you want to use during the installation process and click **Continue**.
5. Configure the date, time, language, and keyboard layout for the system.
6. In the INSTALLATION SUMMARY window, click **SOFTWARE SELECTION**, and then select the software that you want to install.

   Note: The following steps are based on the scenario that you select **Server with GUI**, select all of the options on the right pane, and click **Done**.
7. In the INSTALLATION SUMMARY window, click **INSTALLATION DESTINATION**.
8. Select the drive partition on which you want to install the operating system. Then, click **Done**. If you want to create a partition manually, do the following:
   a. Select **I will configure partitioning** and then click **Done**. Do one of the following to create a partition:
      - Manually create a root partition (/)

        To create a root partition, do the following:
        1) In the Manual Partitioning window, click **+** in the bottom left corner.
        2) In the ADD A NEW MOUNT POINT window, select the forward slash **(/)** from the **Mount Point** drop-down list box.
        3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add mount point**.
        4) Change **Device Type** to **Standard Partition**.
      - Manually create a boot partition (/boot/efi)

        To create a boot partition, do the following:
        1) In the Manual Partitioning window, click **+** in the bottom left corner.
        2) In the ADD A NEW MOUNT POINT window, select **/boot/efi** from the **Mount Point** drop-down list box.
        3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add mount point**.
      - Manually create a swap partition

To create a swap partition, do the following:

1) In the Manual Partitioning window, click **+** in the bottom left corner.
2) In the ADD A NEW MOUNT POINT window, select **swap** from the **Mount Point** drop-down list box.
3) Type the amount of space (in MB) in the Desired Capacity field and then click **Add mount point**.

b. Ensure that the drive partition you created is correct and click **Done**.

c. In the SUMMARY OF CHANGES window, select **Accept Changes**.

9. In the INSTALLATION SUMMARY window, click **Begin Installation**. The installation process begins.
10. In the CONFIGURATION window, click **ROOT PASSWORD** to set the root password. Then, click **Reboot**.
11. In the INITIAL SETUP window, click **LICENSE INFORMATION**.
12. In the LICENSE INFORMATION window, select **I accept the license agreement** and click **Done**.
13. In the INITIAL SETUP window, click **Finish Configuration**.
14. In the Kdump window, click **Forward**.
15. In the “Subscription Management Registration” window, select **No, I prefer to register at a later time** and click **Finish**.
16. Configure the language and click **Next → Next**.
17. Set your user name and the password (if needed) and click **Next**.
18. Select the location as you need and click **Next**.
19. Select **Start using Red Hat Enterprise Linux Server** to log in to the operating system.

    Note: The local account is used by default when logging in to the operating system for the first time. Log out and then log in to Root.

Installing the Red Hat Enterprise Linux 7.2 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.2 (x64) operating system.

To install the Red Hat Enterprise Linux 7.2 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.2** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a hard disk drive from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the **Manual Partitioning** window, do one of the following to create a required drive partition:

- Manually create a root partition (/)
  a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.
- Manually create a boot partition (/boot/efi)
  a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select **/boot/efi** from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.
- Manually create a swap partition
  a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.

Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.

8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. In the Configuration window, click **Root Password** to set the root password.
10. When file copying is completed, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Time Zone window, set the time zone and click **Next**.
17. In the About You window, set the user name and click **Next**.
18. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
19. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.3 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.3 (x64) operating system.

To install the Red Hat Enterprise Linux 7.3 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.3** and press Enter.

3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the **Manual Partitioning** window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.
   - Manually create a boot partition (/boot/efi)
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot/efi** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition
     a. In the **Manual Partitioning** window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.

   Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.
8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. In the Configuration window, click **Root Password** to set the root password.
10. When file copying is completed, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Time Zone window, set the time zone and click **Next**.
17. In the About You window, set the user name and click **Next**.

18. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.

19. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.4 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.4 (x64) operating system.

To install the Red Hat Enterprise Linux 7.4 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.4** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the Manual Partitioning window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.
   - Manually create a boot partition (**/boot** in legacy mode) or (**/boot/efi** in UEFI mode)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot** (or select **/boot/efi** in UEFI mode) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.

d. Click **Add mount point**.

Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.

8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. During the installation, in the Configuration window, click **Root Password** to set the root password and then click **Done**.
10. When the installation is completed, in the Configuration window, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Privacy window, set the location services as you are desired and click **Next**.
17. In the Time Zone window, set the time zone and click **Next**.
18. In the Online Accounts window, select your desired online account.

    Note: Online Accounts is optional. Click **Skip** if you do not want to select an online account.
19. In the About You window, set the user name and click **Next**.
20. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
21. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.5 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.5 (x64) operating system.

To install the Red Hat Enterprise Linux 7.5 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.5** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the Manual Partitioning window, do one of the following to create a required drive partition:

- Manually create a root partition (/)
  a. In the Manual Partitioning window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.
  e. Change **Device Type** to **Standard Partition**.
- Manually create a boot partition (**/boot/efi**)
  a. In the Manual Partitioning window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select **/boot/efi** from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.
- Manually create a swap partition
  a. In the Manual Partitioning window, click **+** in the bottom left corner.
  b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
  c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
  d. Click **Add mount point**.

Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.

8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. During the installation, in the Configuration window, click **Root Password** to set the root password and then click **Done**.
10. When the installation is completed, in the Configuration window, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Privacy window, set the location services as you are desired and click **Next**.
17. In the Time Zone window, set the time zone and click **Next**.
18. In the Online Accounts window, select your desired online account.

    Note: Online Accounts is optional. Click **Skip** if you do not want to select an online account.
19. In the About You window, set the user name and click **Next**.
20. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
21. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the Red Hat Enterprise Linux 7.6 operating system

This topic provides instructions on installing the Red Hat Enterprise Linux 7.6 (x64) operating system.

To install the Red Hat Enterprise Linux 7.6 operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device, and start the server from the optical drive.
2. In the Welcome window, select **Install RedHat Enterprise Linux 7.6** and press Enter.
3. When “What language would you like to ...” is displayed, select a required language (for example, English) and click **Continue**.
4. In the Installation Summary window, set **Date&Time**, **Language Support**, **Keyboard**, **Security Policy**, and **Installation Source**. The following steps are based on the scenario that the default settings are used in this step.
5. In the Installation Summary window, click **Software Selection** and select software packages to be installed. The following steps are based on the scenario that **Server with GUI** is selected and all items in the right pane are selected. Then click **Done**.
6. In the Installation Summary window, click **Installation Destination**.
7. In the Installation Destination window, select a storage device from **Local Standard Disks** for installing the operating system, and click **Done**.

   Notes: If you want to create a drive partition, select **I will configure partitioning** and click **Done**. In the Manual Partitioning window, do one of the following to create a required drive partition:

   - Manually create a root partition (/)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select forward slash (**/**) from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 80 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
     e. Change **Device Type** to **Standard Partition**.
   - Manually create a boot partition (**/boot**)
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **/boot** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.
   - Manually create a swap partition
     a. In the Manual Partitioning window, click **+** in the bottom left corner.
     b. In the Add a New Mount Point window, select **swap** from the **Mount Point** drop-down list.
     c. Type the amount of space (for example, 2 GB) in the **Desired Capacity** field.
     d. Click **Add mount point**.

   Verify that the created drive partition is correct and click **Done**. In the Summary of Changes window, click **Accept Changes**.
8. In the Installation Summary window, click **Begin Installation** to start installing the operating system.
9. During the installation, in the Configuration window, click **Root Password** to set the root password and then click **Done**.

10. When the installation is completed, in the Configuration window, click **Reboot**.
11. In the Initial Setup window, click **License Information**.
12. Select **I accept the license agreement** and click **Done**.
13. In the Initial Setup window, click **Finish Configuration**.
14. In the Welcome window, select a required language (for example, English) and click **Next**.
15. In the Typing window, select a specific language type (for example, English US) and click **Next**.
16. In the Privacy window, set the location services as you are desired and click **Next**.
17. In the Time Zone window, set the time zone and click **Next**.
18. In the Online Accounts window, select your desired online account.

    Note: Online Accounts is optional. Click **Skip** if you do not want to select an online account.
19. In the About You window, set the user name and click **Next**.
20. In the Password window, set the password and click **Next**.

    Note: The password is optional. Click **Next** if you do not want to set a password.
21. In the Ready to Go window, click **Start using Red Hat Enterprise Linux Server**.

    Note: By default, the local account is used to log in to the operating system for the first time. Log out and use the root account to log in to the operating system again.

Installing the VMware hypervisor

This topic provides instructions on how to install the following operating systems:

- VMware ESXi 5.1 P5
- VMware ESXi 5.5 Update 2
- VMware ESXi 6.0
- VMware ESXi 6.0 Update 1
- VMware ESXi 6.0 Update 2
- VMware ESXi 6.0 Update 3
- VMware ESXi 6.5
- VMware ESXi 6.5 Update 1
- VMware ESXi 6.5 Update 2
- VMware ESXi 6.7

Note: If the operating system is to be installed on SAN, download the instructional file *How to Create a Customized VMWare ESXi ISO Image* from http://support.lenovo.com/us/en/products/servers/thinkserver-rack-servers/thinkserver-rd650/documents/HT100820?tabName=Solutions. Then, follow the instructions to prepare the ISO file.

To install the VMware ESXi operating system, do the following:

1. Insert the operating system installation disc into the optical drive that you have set as the first startup device. Then, start the server from the optical drive. Wait several minutes for the system to load the files.
2. When the “Welcome to the VMware ESXi ... Installation” window is displayed, press Enter.
3. When the “End User License Agreement (EULA)” window is displayed, press F11.
4. When the “Select a Disk to Install or Upgrade” window is displayed, press Enter.
5. Select a keyboard layout as you need, and then press Enter.

6. Set the password as you need, and then press Enter.

   Notes:

   - For VMware ESXi 5.1 P5, the password must contain at least seven characters. If you do not want to set the password, press Enter.
   - For VMware ESXi 6.7, the password must contain at least seven characters with numbers, upper-case and lower-case letters, and symbols.

7. When the Confirm Install window is displayed, press F11. The installation process starts.
8. When the Installation Complete window is displayed, press Enter. The server restarts. The operating system is installed successfully.

Chapter 4. Installing drivers

This topic provides information about installing drivers for different operating systems.

Installing drivers for the supported Microsoft Windows operating systems

This topic provides instructions on installing drivers for the supported Microsoft Windows operating systems.

Installing the driver for the chipset

To install the driver for the chipset, do the following:

1. Download the driver for the chipset from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file. The “Intel® Chipset Driver Software Welcome” window is displayed.
4. Click **Accept**. The License Agreement window is displayed.
5. Click **Accept**. The Readme File Information window is displayed.
6. Click **Install**. The Intel® Chipset Device Software Completion window is displayed.
7. Click **Restart now**. The installation is completed. It is recommended to restart your computer after driver installation.

Installing the driver for an onboard graphics card

To install the driver for an onboard graphics card, do the following:

1. Download the driver for an onboard graphics card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the Setup file.
4. When the “Welcome to the ...” window is displayed, click **Next**.
5. When the License Agreement window is displayed, click **I accept the agreement**, and then click **Next**.
6. When the Select Destination Location window is displayed, click **Next**.
7. When the message displays as “Ready to Install”, click **Install**.
8. When the message displays as “Completing the ...”, click **Finish**. It is recommended to restart your server after the installation is completed.

Installing the driver for an Intel Ethernet card

To install the driver, do the following:

© Copyright Lenovo 2014, 2018

1. Download the driver for an Ethernet card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file.
4. In the Intel Network Connections window, select **Install Drivers and Software**.
5. In the “Welcome to the install wizard for Intel Network Connections” window, click **Next**.
6. When the License Agreement window is displayed, select **I accept the terms in the license agreement**, and then click **Next**.
7. When the Setup Options window is displayed, click **Next**.
8. When the Ready to Install the Program window is displayed, click **Install**. The driver installation begins.
9. When the Install wizard Completed window is displayed, click **Finish**. It is recommended to restart your server after the installation is completed.

Installing the driver for USB 3.0 connectors

This topic provides instructions on installing the driver for the USB 3.0 connectors for the following operating systems:

- Microsoft Windows Server 2008 R2 with Service Pack 1 (x64)
- Microsoft Windows Small Business Server 2011 (x64)

Notes: For the following operating systems, the driver for USB 3.0 connectors comes with the server system:

- Microsoft Windows Server 2012 (x64)
- Microsoft Windows Server 2012 R2 (x64)
- Microsoft Windows Storage Server 2012 (x64)
- Microsoft Windows Multipoint Server 2012 (x64)

To install the driver for USB 3.0 connectors, do the following:

1. Download the driver for USB 3.0 connectors from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file. The Welcome to the Setup Program window is displayed.
4. Click **Next**. The License Agreement window is displayed.
5. Click **Yes**. The Readme File Information window is displayed.
6. Click **Next**. The Setup Progress window is displayed.
7. Click **Next**. The Setup Is Complete window is displayed.
8. Click **Finish**. The installation is completed. It is recommended to restart your computer after driver installation.

Installing the driver for the SATA AHCI

To install the driver for the SATA AHCI, do the following:

1. Download the driver for the SATA AHCI from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the Device Manager window. Under the IDE ATA/ATAPI controller, right-click on the SATA AHCI Controller that requires drivers, and then select **Update Driver Software...**.
4. In the Update Driver Software window, click **Browse my computer for driver software**.
5. In the Browse for driver software on your computer window, click **Browse...** to locate the driver you want to install.
6. Click **OK → Next**.

   Note: If the **Windows Security** dialogue box is displayed, select the option to trust the software and click **Install**.
7. When the Windows has successfully updated your driver software window is displayed, click **Close**.

Installing the driver for the Avago 9286 CV-8e HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the Device Manager window. Right-click on the HBA card that requires drivers, and then select **Update Driver Software...**.
4. In the Update Driver Software window, click **Browse my computer for driver software**.
5. In the “Browse for driver software on your computer” window, click **Browse...** to locate the driver you want to install.
6. Click **OK → Next**.
7. When the “Windows has successfully updated your driver software” window is displayed, click **Close**.

Installing the driver for the Avago 9300-8e HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the Device Manager window. Right-click on the HBA card that requires drivers, and then select **Update Driver Software...**.
4. In the Update Driver Software window, click **Browse my computer for driver software**.

5. In the “Browse for driver software on your computer” window, click **Browse...** to locate the driver you want to install.
6. Click **OK → Next**.
7. When the “Windows has successfully updated your driver software” window is displayed, click **Close**.

Installing the driver for the HBA card

This topic provides instructions on installing the driver for the following cards:

- Emulex LPe1250 HBA card
- Emulex LPe16000B HBA card
- Emulex LPe16002B HBA card

To install the driver for the card, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the EXE file.
4. When the message displays as “Emulex FC ...”, click **Next**.
5. In the Installation options window, select your desired option and then click **Install**.
6. In the Installation completed window, select your desired option. The following steps are based on the scenario that **Start your application** is selected in this step.
7. Click **Finish**.
8. In the EMULEX window, click **Next**.
9. When the Monitoring the Installation window is displayed, the installation starts.
10. When the message displays as “Congratulations! Installation completed successfully.”, click **Finish**.

Installing the driver for a CNA card

This topic provides instructions on installing the driver for the following cards:

- Emulex 0Ce14102 CNA card
- Emulex 0Ce14401 CNA card
- Emulex 0Ce14102–NX card

To install the driver, do the following:

1. Download the driver for the CNA card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file.
4. When the Click Next to continue window is displayed, click **Next**.
5. In the Installation options window, select your desired option and then click **Install**.

6. In the Emulex FCoE Kit window, click **OK**.
7. In the Installation completed window, select your desired option. The following steps are based on the scenario that **Start the application** is selected in this step.
8. Click **Finish**.
9. In the EMULEX window, click **Next**. The Monitoring the Installation window is displayed, the installation process starts.

   Note: If the Windows Security window is displayed, select the option to trust the software and click **Install**.
10. When the Congratulations! Installation completed successfully window is displayed, click **Finish**.

Installing the driver for the ThinkServer Trusted Platform Module

To install the driver for the ThinkServer Trusted Platform Module (TPM), do the following:

1. Download the driver for the TPM from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file.
4. In the Choose Setup Language window, select **English (United States)**, and then click **OK**.
5. When the Setup status window opens, the driver installation begins. When the InstallShield Wizard Complete window opens, click **Finish**. The installation is completed.

Installing the driver for the PMC 8885e

To install the driver for the PMC 8885e, do the following:

1. Download the corresponding driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the Device Manager window. Right-click **RAID controller** and then select **Update Driver Software**.
4. In the Update Driver Software window, click **Browse my computer for driver software**.
5. In the “Browse for driver software on your computer” window, click **Browse...** to locate the driver you want to install.
6. Click **OK → Next**.
7. When the message “Windows has successfully updated your driver software” is displayed, click **Close**.

Installing drivers for the supported Hyper-V Server operating systems

This topic provides instructions on installing drivers for the supported Hyper-V Server operating systems.

Installing the driver for the chipset

To install the driver for the chipset, do the following:

1. Download the driver for the chipset from the Lenovo Web site. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at: http://www.lenovo.com/drivers.
2. Copy the driver to a USB storage device and then connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file. The “Intel® Chipset Device Software” window is displayed.
4. Click **Next**. The License Agreement window is displayed.
5. Click **Accept**. The Readme File Information window is displayed.
6. Click **Install**. The “Completing the ...window” is displayed.
7. Click **Finish**. The installation is completed.

Installing drivers for an onboard graphics card

To install the driver for an onboard graphics card, do the following:

1. Download the driver for an onboard graphics card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at: http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the Setup file.
4. When the “Welcome to the ...” window is displayed, click **Next**.
5. When the License Agreement window is displayed, click **I accept the agreement**, and then click **Next**.
6. When the Select Destination Location window is displayed, click **Next**.
7. When the message displays as “Ready to Install”, click **Install**.
8. When the message displays as “Completing the ...”, click **Finish**. It is recommended to restart your server after the installation is completed.

Installing the driver for an Ethernet card

To install the driver for an Ethernet card, do the following:

1. Download the driver for the Ethernet card from the Lenovo Web site to your server. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at: http://www.lenovo.com/drivers
2. Copy the driver for the Ethernet card to a USB storage device. Connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file.
4. In the Intel Network Connections window, select **Install Drivers and Software**.
5. In the Welcome to the install wizard for Intel Network Connections window, click **Next**.
6. In the License Agreement window, select **I agree the terms in the license agreement**. Then click **Next**.
7. Select your desired option to install, and then click **Next**.
8. In the Ready to Install the Program window, click **Install** to begin the installation.
9. In the Install wizard Completed window, click **Finish**.

Installing the driver for an HBA card

To install the driver for an HBA card, do the following:

1. Download the driver for the HBA card from the Lenovo Web site to your server. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at: http://www.lenovo.com/drivers
2. Copy the driver to a USB storage device. If the driver is a compressed file, unzip it to a folder. Then, connect the USB storage device to your server.

   Depending on the format of the driver setup file, do one of the following to install the driver:

   - For .exe file, go to procedure A
   - For .inf file, go to procedure B

   Procedure A:

   a. Open the folder that contains the driver and double-click the .exe file.

   b. In the Emulex windows, click **Next**.

   c. In the Installation options window, click **Install**.

   d. In the Installation completed window, click **Finish.**

   Procedure B:

   a. Use the `Pnputil-i-a <driverinf>` command to install the driver, for example:
   ```
   e:
   cd Management
   cd Win7
   Pnputil -i -a *.inf
   ```

   Note: In the command lines, *e:* represents the drive letter of your USB storage device and *Management* represents the subdirectory where your driver is located.

   b. Restart your server after the installation is completed.

Installing the driver for a CNA card

To install drivers for a CNA card, do the following:

1. Download the driver for a CNA card from the Lenovo Web site to your server. The most up-to-date device drivers for various server models are always available on the Lenovo Web site at: http://www.lenovo.com/drivers
2. Copy the driver for the Ethernet card to a USB storage device. Connect the USB storage device to your server.
3. Open the folder that contains the driver and double-click the setup file.
4. In the Click Next to continue window, click **Next**.
5. In the Installation options window, select your desired option, and then click **Install**.
6. In the Installation completed window, click **Finish**.
7. When the command line displays as: `Found the following drivers & Press “y” for yes or “n” for no`, press y.
8. When the Would you like to install this device software? window is displayed, click **Install** and then press Enter. The installation is completed.

Installing drivers for the PMC 8885e

To install the driver for the PMC 8885e, do the following:

1. Download the corresponding driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at: http://www.lenovo.com/drivers

2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Use the `Pnputil-i-a <driverinf>` command to install the driver, for example:
   ```
   e:
   cd Management
   Pnputil –i –a arcsas.inf
   ```

   Note: In the command lines, *e:* represents the drive letter of your USB storage device, *Management* represents the subdirectory where your driver is located, and *arcsas.inf* represents the driver name. Use the corresponding file name on your server.
4. Restart your server after the installation is completed.

Installing drivers for the SUSE Linux Enterprise Server operating system

This topic provides instructions on installing drivers for the SUSE Linux Enterprise Server operating system.

Note: Your server comes with a chipset driver pre-installed. You do not need to install the chipset driver manually.

Installing the driver for an onboard graphics card

To install the driver for an onboard graphics card, do the following:

1. Download the driver for the onboard graphics card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   - For the file with the .sh extension:
     ```
     cd /tmp
     cd lxdrv-1-
     ./update.sh
     ```

     Note: In the command lines, `lxdrv` represents the name of the folder that the drive is stored. `update.sh` represents the driver name. Use the corresponding file name on your server.
   - For the file with the .rpm extension:
     ```
     cd /tmp
     cd rpms-2
     rpm-ivh *.rpm
     ```

     Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the drive name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for an Ethernet card

This topic provides instructions on installing drivers for the following Ethernet cards:

- I350-T2
- I350-T4
- X520–DA2
- X520–SR2
- X540–T2

To install the driver for an Ethernet card, do the following:

1. Download the driver for an Ethernet card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   tar zxvf e1000e-x.x.x.x.tar.gz
   cd e1000e -x.x.x.x/src
   make install
   ```

   Notes:

   - If the file extension is not .tar.gz, skip the second command.
   - In the command lines, `e1000e` represents the driver name. `x.x.x.x` represents the driver file version. Use the corresponding file name on your server.
4. Restart your server.
5. Click **Computer** and then click **YaST**.
6. In the YaST Control Center window, click **Network Devices → Network Settings**. The Ethernet card list is displayed.
7. Select the Ethernet card that you want to configure. Then, click **Edit**.
8. In the Network Card Setup window, select **Statically assigned IP Address**, and configure your desired settings in the **IP Address** and **Subnet Mask** area.
9. Repeat the previous steps to configure other Ethernet cards. Then, click **OK**.

Installing the driver for the HBA card

This topic provides instructions on installing the driver for the following cards:

- Emulex LPe1250 HBA card
- Emulex LPe16000B HBA card
- Emulex LPe16002B HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd /elx-lpfc-dd-sles11sp-10.2.185.0
   ./elx_lpfc_install.sh
   ```

   Note: In the command lines, `elx-lpfc-dd-sles11sp-10.2.185.0` represents the name of the folder that the drive is stored. `elx_lpfc_install.sh` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for a CNA card for FCoE, iSCSI, and NIC protocols

This topic provides instructions on installing drivers for the following CNA cards:

- Emulex OCe14102
- Emulex OCe14401
- Emulex OCe14102–NX

To install the driver for a CNA card for FCoE, iSCSI, and NIC protocols, do the following:

1. Download the driver for a CNA card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd /elx-lpfc-dd-sles11sp-10.2.185.0
   ./elx_lpfc_install.sh
   ```

   Note: In the command lines, `elx-lpfc-dd-sles11sp-10.2.185.0` represents the name of the folder that the drive is stored. `elx_lpfc_install.sh` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for the Avago 9286 CV-8e HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
4. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
5. Restart your server.

Installing the driver for the Avago 9300-8e HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers

2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
4. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
5. Restart your server.

Installing the driver for a RAID card

This topic provides instructions on how to install the driver for both add-on and onboard RAID cards, such as the LSI 9286CV-8e HBA card, the RAID 510i adapter, the RAID 720i adapter, the RAID 720ix adapter, and the RAID 110i adapter.

To install the driver for a RAID card, do the following:

1. Download the corresponding driver for the RAID card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for the PMC 8885e

To install the driver for the PMC 8885e, do the following:

1. Download the corresponding driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the RPM file to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the RPM file from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing drivers for the Red Hat Enterprise Linux operating system

This topic provides instructions on installing rivers for the Red Hat Enterprise Linux operating system.

Note: Your server comes with a chipset driver pre-installed. You do not need to install the chipset driver manually.

Installing the driver for an onboard graphics card

To install the driver for an onboard graphics card, do the following:

1. Download the driver for an onboard graphics card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   - For the file with the .sh extension:
     ```
     cd /tmp
     cd lxdrv-1-
     ./update.sh
     ```

     Note: In the command lines, `lxdrv` represents the name of the folder that the drive is stored. `update.sh` represents the driver name. Use the corresponding file name on your server.
   - For the file with the .rpm extension:
     ```
     cd /tmp
     cd rpms-2
     rpm-ivh *.rpm
     ```

     Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the drive name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for an Ethernet card

This topic provides instructions on installing drivers for the following Ethernet cards:

- I350-T2
- I350-T4
- X520-DA2
- X520-SR2
- X540-T2

To install the driver for an Ethernet card, do the following:

1. Download the driver for an Ethernet card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   tar zxvf e1000e-x.x.x.x.tar.gz
   cd e1000e -x.x.x.x/src
   ```

```
make install
```

Notes:

- If the file extension is not .tar.gz, skip the second command.
- In the command lines, `e1000e` represents the driver name. `x.x.x.x` represents the driver file version. Use the corresponding file name on your server.

4. Restart your server.
5. Click **System**. Then, select **Network Connections** in the **Preferences** area. The Ethernet card list is displayed.
6. Select the Ethernet card that you want to configure. Then, click **Edit**.
7. Click **Ipv4 Settings**, and then select **Manual** from the **Method** drop-down list box.
8. Click **Add** to configure the IP in the **Address** area. Then, click **Apply**. Your server restarts.
9. Repeat the previous steps to configure other Ethernet cards.

Installing the driver for the Avago 9286 CV-8e HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
4. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
5. Restart your server.

Installing the driver for the Avago 9300-8e HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. The most up-to-date device drivers for various server models are always available for download on the Lenovo Web site at:
   http://www.lenovo.com/drivers
2. Copy the folder that contains the driver to your USB storage device and connect the USB storage device to your server.
3. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
4. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.

5. Restart your server.

Installing the driver for the HBA card

This topic provides instructions on installing the driver for the following cards:

- Emulex LPe1250 HBA card
- Emulex LPe16000B HBA card
- Emulex LPe16002B HBA card

To install the driver, do the following:

1. Download the driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd /elx-lpfc-dd-sles11sp-10.2.185.0
   ./elx_lpfc_install.sh
   ```

   Note: In the command lines, `elx-lpfc-dd-sles11sp-10.2.185.0` represents the name of the folder that the drive is stored. `elx_lpfc_install.sh` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for a CNA card for FCoE, iSCSI, and NIC protocols

This topic provides instructions on installing drivers for the following CNA cards:

- Emulex OCe14102
- Emulex OCe14401
- Emulex OCe14102–NX

To install the driver for a CNA card for FCoE, iSCSI, and NIC protocols, do the following:

1. Download the driver for a CNA card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd /elx-lpfc-dd-sles11sp-10.2.185.0
   ./elx_lpfc_install.sh
   ```

   Note: In the command lines, `elx-lpfc-dd-sles11sp-10.2.185.0` represents the name of the folder that the drive is stored. `elx_lpfc_install.sh` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for a RAID card

This topic provides instructions on how to install the driver for both add-on and onboard RAID cards, such as the LSI 9286CV-8e HBA card, the RAID 510i adapter, the RAID 720i adapter, the RAID 720ix adapter, and the RAID 110i adapter.

To install the driver for a RAID card, do the following:

1. Download the corresponding driver for the RAID card from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the folder to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the folder from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing the driver for the PMC 8885e

To install the driver for the PMC 8885e, do the following:

1. Download the corresponding driver from the Lenovo Web site. If the driver is a compressed file, unzip it to a folder. Then, copy the RPM file to your USB storage device and connect the USB storage device to your server.
2. Log in to the operating system and copy the RPM file from your USB storage device to the `/tmp` directory on your server.
3. Use the following commands to install the driver:
   ```
   cd /tmp
   cd rpms-2
   rpm-ivh *.rpm
   ```

   Note: In the command lines, `rpms-2` represents the name of the folder that the drive is stored. `*.rpm` represents the driver name. Use the corresponding file name on your server.
4. Restart your server.

Installing drivers for the VMware hypervisor

To install drivers for the VMware hypervisor, do the following:

1. Download the driver file from the Lenovo Support Web site. Ensure that the name of the driver file you download is offline-bundle.zip. The most up-to-date device drivers for various server models are always available on the Lenovo Support Web site at:
   http://www.lenovo.com/drivers
2. Log in to the ESXi host as an administrator using the vSphere Client. Do the following to connect the vSphere Client to the ESXi host:
   a. Press F2 to log in to the system.
   b. Select **Troubleshooting Option → ESXi Shell is Enabled**.
   c. Press Alt+F1 to enter the command line interface. Use the following command to disable the firewall:
      ```
      esxcli network firewall set --enabled false
      ```

Use the following command to view the status of the firewall:
```
esxcli network firewall get
```

d. Select **Configure Management Network → Network Adapters** to configure the IP address. Ensure that the IP address of the vSphere Client and the IP adress of the ESXi host are within the same IP address range.

3. Upload the offline-bundle.zip file to the ESXi host using the Datastore Browser.
4. In the vSphere Client inventory, right-click the host and select **Enter Maintenance Mode**.
5. Log in to the ESXi host as a root user using SSH or iLO/DRAC.
6. Use the following command to install the drivers:
```
esxcli software vib install –d /path/offline-bundle.zip
```
Example:
```
esxcli software vib install –d /vmfs/volumes/datastore/offline-bundle.zip
```

Note: If you are prompted to verify the digital signature for the drivers, add `--no-sig-check` to the command.
```
esxcli software vib install -v /vmfs/volumes/datastore/filename.vib --no-sig-check
```

7. Restart your server.
8. In the vSphere Client inventory, right-click the host and select **Exit Maintenance Mode**.

Trademarks

Lenovo, the Lenovo logo, and ThinkServer are trademarks of Lenovo in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds.

Intel is a trademark of Intel Corporation in the U.S. and/or other countries.

Red Hat and Red Hat Enterprise Linux are registered trademarks of Red Hat, Inc. in the U.S. and other countries.

Hyper-V, Microsoft, Multipoint, Windows, and Windows Server are trademarks of the Microsoft group of companies.

Other company, product, or service names may be trademarks or service marks of others.