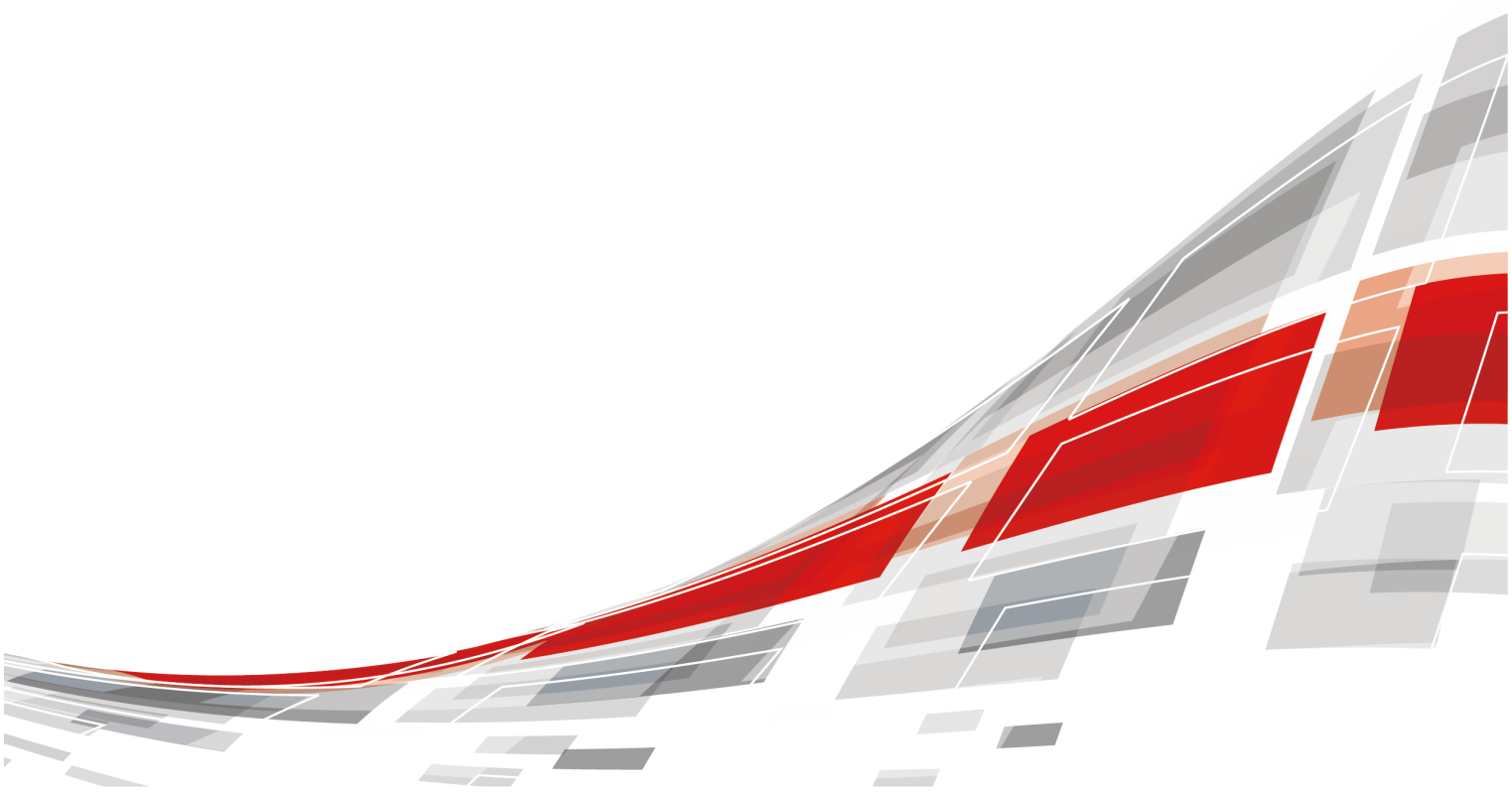
Smart Provisioning 1.8.10

User Guide

Issue	01
Date	2025-09-30



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About This Document

Purpose

This document describes how to use Smart Provisioning (SP for short) to install an operating system (OS), configure redundant array of independent drives (RAID), upgrade firmware and Smart Provisioning, import and export configurations, diagnose hardware, collect logs, and erase hard drives.

Intended Audience

This document is intended for:

- Enterprise administrators
- Enterprise device users

Symbol Conventions

The symbols that may be found in this document are defined as follows:

Symbol	Description
DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.
NOTE	Supplements the important information in the main text. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

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Change History

Issue	Release Date	Description
01	2025-09-30	This issue is the first official release.

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Contents

About This Document ii
1 Before You Start 1
2 Preparations 3
2.1 Checking Whether Smart Provisioning Is Installed and Enabled on a V5 and later Server 3
2.2 (Optional) Mounting the Smart Provisioning Image Using a Virtual DVD-ROM Drive 5
3 Logging In to Smart Provisioning 11
4 Smart Provisioning User Guide 15
4.1 Overview 15
4.2 Compatibility List 19
4.2.1 Servers Supported by Smart Provisioning 19
4.2.2 OSs Supported by Smart Provisioning 23
4.2.3 Mapping Between the OSs supported by Smart Provisioning and Controllers 35
4.2.4 Smart Provisioning Hardware Diagnosis Compatibility 72
4.2.5 Local Default Driver of Smart Provisioning 75
4.2.5.1 Local default drivers used for installing the RHEL OS 76
4.2.5.2 Local default drivers used for installing the Windows OS 79
4.2.5.3 Local default drivers used for installing the CentOS OS 81
4.2.5.4 Local default drivers used for installing the SLES OS 84
4.2.5.5 Local default drivers used for installing the VMware OS 85
4.2.5.6 Local default drivers used for installing the Ubuntu OS 88
4.3 Introduction to the Smart Provisioning Main Window 88
4.4 Using Smart Provisioning 90
4.4.1 Installing an OS 90
4.4.1.1 Preparations for Installation 90
4.4.1.2 Installing a Windows Server OS 91
4.4.1.2.1 Installing a Windows Server OS in Default Mode 91
4.4.1.2.2 Installing a Windows Server OS in Customized Mode 106
4.4.1.3 Installing an SLES OS 120
4.4.1.3.1 Installing an SLES OS in Default Mode 120
4.4.1.3.2 Installing an SLES OS in Customized Mode 135
4.4.1.4 Installing an RHEL/CentOS/RockyLinux OS 152
4.4.1.4.1 Installing RHEL/CentOS/RockyLinux OS in Default Mode 152

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4.4.1.4.2 Installing an RHEL/CentOS/RockyLinux OS in Customized Mode....166
4.4.1.5 Installing a VMware OS....185
4.4.1.5.1 Installing a VMware OS in Default Mode....185
4.4.1.5.2 Installing a VMware OS in Customized Mode....198
4.4.1.6 Installing an Ubuntu OS....214
4.4.1.6.1 Installing an Ubuntu OS in Default Mode....214
4.4.1.6.2 Installing an Ubuntu OS in Customized Mode....226
4.4.1.7 Installing BC-Linux OS....246
4.4.1.7.1 Installing BC-Linux OS in Default Mode....246
4.4.1.7.2 Installing a BC-Linux OS in Customized Mode....260
4.4.1.8 Installing EulerOS....277
4.4.1.8.1 Installing EulerOS in Default Mode....277
4.4.1.8.2 Installing EulerOS in Customized Mode....291
4.4.1.9 Installing NeoKylin OS....303
4.4.1.9.1 Installing NeoKylin OS in Default Mode....303
4.4.1.9.2 Installing NeoKylin OS in Customized Mode....316
4.4.1.10 Installing openEulerOS....331
4.4.1.10.1 Installing openEuler in Default Mode....331
4.4.1.10.2 Installing openEulerOS in Customized Mode....343
4.4.1.11 Installing a Debian OS....355
4.4.1.11.1 Installing a Debian OS in Default Mode....355
4.4.1.11.2 Installing a Debian OS in Customized Mode....367
4.4.1.12 Installing Kylin OS....382
4.4.1.12.1 Installing Kylin OS in Default Mode....382
4.4.1.12.2 Installing Kylin OS in Customized Mode....396
4.4.1.13 Installing FusionOS OS....411
4.4.1.13.1 Installing FusionOS OS in Default Mode....411
4.4.1.13.2 Installing an FusionOS OS in Customized Mode....425
4.4.1.14 Common Operations....439
4.4.1.14.1 Prepare driver and firmware packages....439
4.4.1.14.2 **Upload Driver and Firmware**....441
4.4.2 Configuring a RAID....443
4.4.2.1 Creating a RAID Array....443
4.4.2.2 Viewing a RAID Array....450
4.4.2.3 Configuring a RAID Array....452
4.4.2.4 Deleting a RAID Array....455
4.4.2.5 Configuring a RAID....456
4.4.2.6 Viewing a Physical Drive....463
4.4.2.7 Adding a Virtual Disk....466
4.4.2.8 Configuring a Virtual Disk....470
4.4.2.9 Deleting a Virtual Disk....472
4.4.3 Performing Upgrades....475

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4.4.3.1 Upgrading RAID Controller Card, NIC, and Disk Firmware....476
4.4.3.2 Upgrading the Smart Provisioning for a Single Server....483
4.4.3.2.1 Onboard Boot Upgrading....483
4.4.3.2.2 Drive Boot Upgrading....488
4.4.3.3 Upgrading the components of Smart Provisioning for a Single Server....497
4.4.3.4 Batch Upgrading the Smart Provisioning for Server....500
4.4.4 Importing and Exporting the Configuration....503
4.4.4.1 Specifications for Configuration Import and Export....511
4.4.5 Hardware Diagnosis....521
4.4.6 Collecting Logs....531
4.4.6.1 Collecting Hard Drive Logs....531
4.4.6.2 Collecting Smart Provisioning Logs....538
4.4.6.2.1 Collecting Smart Provisioning Logs....538
4.4.6.2.2 List of the Collected Logs....544
4.4.7 Erasing Hard Drives....547

5 FAQs....553

5.1 Some RAID Controller Cards Cannot Be Identified in a Multi-RAID Controller Card Scenario in Legacy Mode....554
5.2 What Should I Do If I Fail to Start Smart Provisioning by Pressing F6 During BIOS Startup?....554
5.3 An Error Occurs During Windows Installation on a Hard Disk of a Server When Windows Has Been Installed on Another Hard Disk....554
5.4 When a Folder Is Mounted by Using the Independent Remote Console for Firmware Upgrade, A Message Is Displayed Indicating that the File Fails to Be Copied....555
5.5 What Should I Do If "SP Boot is not supported" Is Displayed When I Press F6 to Start Smart Provisioning During BIOS Startup?....556
5.6 "Prepare tools failed" during the firmware upgrade....557
5.7 Failed to deploy system in Legacy mode in V6-16 DIMM pass-through hard drive environment....558
5.8 During the BIOS startup, the user enters the OS directly when pressing F6 to start Smart Provisioning 558
5.9 What Can I Do If the RAID Group Fails to Be Created After the JBOD Working Mode Is Set?....559
5.10 Mellanox Driver Fails to Be Installed When the Server Has a Mellanox NIC and Any OS Is Deployed and the Driver Is Uploaded....560
5.11 Driver Fails to Be Installed When the OS Is Installed and the Driver Is Uploaded....560
5.12 When creating RAID10 on MegaRAID 9560-8i controller with 24 drives and setting Span parameter to 2, the error message **Invalid PDs specified** is displayed....561

6 Host Accounts....562

7 Public IP Addresses and Email Addresses....564

A Getting Help....565

A.1 Collecting Fault Information....565
A.2 Preparing for Debugging....565
A.3 Using Product Documentation....565
A.4 Technical Support....566

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1 Before You Start

Viewing the Version of Smart Provisioning

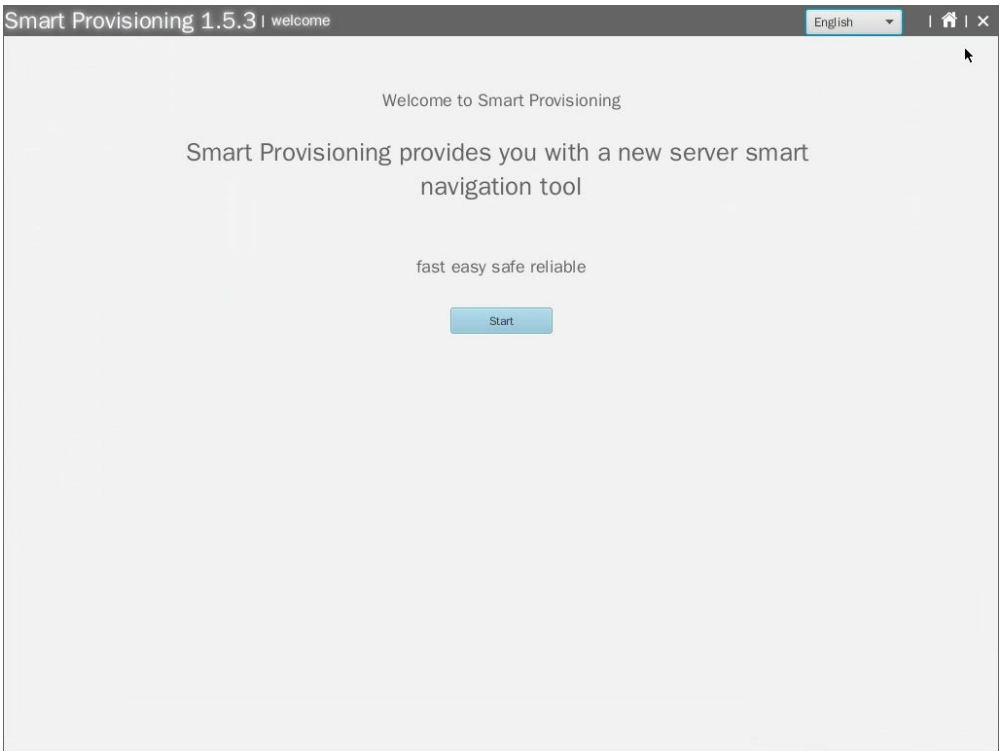
You can obtain the Smart Provisioning version information in either of the following ways:

- Query the version information by using Smart Provisioning.
  - Visit the **Smart Provisioning download page** and select a Smart Provisioning software version. You can view the Smart Provisioning version in the **Software** column
  - Carrier users: Contact the technical support personnel of your local xFusion office.
- Query the Smart Provisioning version on the GUI.

  On the Smart Provisioning screen, you can query the Smart Provisioning version. As shown in **Figure 1-1**, **1.5.3** is the queried version.

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Figure 1-1 Smart Provisioning version



Software Package Description

Figure 1-2 shows the files generated after the Smart Provisioning installation package is decompressed. Table 1-1 describes the files.

Figure 1-2 Generated files

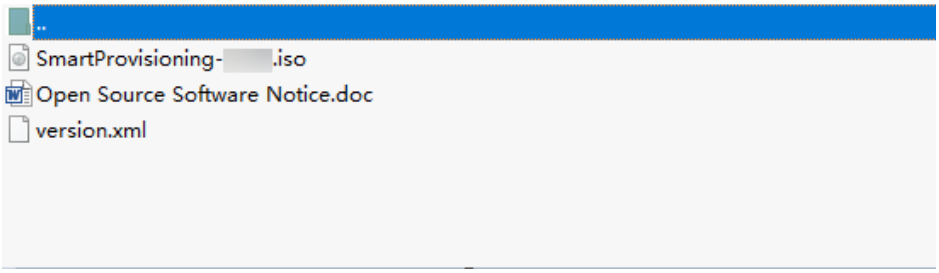


Table 1-1 File description

File	Description
SmartProvisioning-1.*.iso	Smart Provisioning image file
Open Source Software Notice.doc	Usage description of open-source software
version.xml	Description of the installation package version

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2 Preparations

2.1 Checking Whether Smart Provisioning Is Installed and Enabled on a V5 and later Server

2.2 (Optional) Mounting the Smart Provisioning Image Using a Virtual DVD-ROM Drive

2.1 Checking Whether Smart Provisioning Is Installed and Enabled on a V5 and later Server

Scenario

Before using Smart Provisioning, ensure that Smart Provisioning has been loaded to the V5 and later server and **SP Boot** in the BIOS has been set to **Enabled**.

You can use uREST tool to query the Smart Provisioning information to check whether Smart Provisioning is successfully loaded. For details about how to use uREST, see the ***FusionServer Tools uREST User Guide***.

For details about how to view and set **SP Boot**, see the BIOS parameter reference of each platform.

- ***Server Purley Platform BIOS Parameter Reference***
- ***Server Whitley Platform BIOS Parameter Reference***
- ***Server Cedar Island Platform BIOS Parameter Reference***
- ***Server Eagle Stream Platform BIOS Parameter Reference***
- ***Server Genoa Platform BIOS Parameter Reference***

Prerequisites

- uREST tool is installed.
- The server type is V5 and later.

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Procedure

Step 1 Run the following command to query Smart Provisioning information:

./urest -H *HOST* **-p** *PORT* **-U** *USERNAME* **-P** *PASSWORD* **getspinfo**

Table 2-1 describes the parameters.

Table 2-1 Parameter description

Parameter	Description	Value
HOST	Specifies the IPv4/IPv6 address or domain name of the iBMC on the server. This parameter is mandatory. If an IPv6 address is used, the IPv6 address must be enclosed in parentheses, for example, [****::****].	-
PORT	Specifies the port number. The default value is **443**. This parameter is optional.	If the actual port number is not 443, enter the actual port number.
USERNAME	Specifies the user name of the iBMC administrator. This parameter is mandatory.	-
PASSWORD	Specifies the password of the iBMC administrator. This parameter is mandatory.	-

Information similar to the following is displayed:

```
[root@localhost bin]# ./urest -H 10.10.10.10 -U ****** -P ****** getspinfo
SysRestartDelaySeconds       : 30
SPStartEnabled               : False

[Version]
OSVersion                  : 1.**
APPVersion                  : 1.**
DataVersion                : 1.**
```

Table 2-2 describes the output items.

Table 2-2 Output description

Output Item	Description
SysRestartDelaySeconds	Specifies the system restart delay. The unit is second.

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Output Item	Description
SPStartEnabled	Specifies whether to enable or disable the Smart Provisioning service. ● **True:** The service is enabled. ● **False:** The service is disabled.
OSVersion	Specifies the Smart Provisioning system version.
APPVersion	Specifies the Smart Provisioning application version.
DataVersion	Specifies the Smart Provisioning data version.

Step 2 Check whether Smart Provisioning is installed and enabled on the server.

- If the information fails to be obtained, error information similar to **Failure: resource was not found** is displayed, indicating that Smart Provisioning is not loaded. Perform operations according to **2.2 (Optional) Mounting the Smart Provisioning Image Using a Virtual DVD-ROM Drive**.
- If the information is obtained, Smart Provisioning has been installed. In this case, access the BIOS screen and check whether **SP Boot** is set to **Enabled**. For details, see the ***Server Purley Platform BIOS Parameter Reference***, ***Server Cedar Island Platform BIOS Parameter Reference***, ***Server Whitley Platform BIOS Parameter Reference***, ***Server Eagle Stream Platform BIOS Parameter Reference***, *or* ***Server Genoa Platform BIOS Parameter Reference***. If **SP Boot** is **Disabled**, set it to **Enabled**; if **SP Boot** is **Enabled**, perform operations from **3 Logging In to Smart Provisioning**.

----End

2.2 (Optional) Mounting the Smart Provisioning Image Using a Virtual DVD-ROM Drive

Data Preparations

- Download the latest image package, for example, **SmartProvisioning-1.*.iso**, on the **Smart Provisioning product** page.

Procedure

Step 1 Log in to the KVM by using either of the following modes.

- Use the iBMC to log in to the KVM from a web page.
  a. Log in to the iBMC WebUI.
  b. Access the KVM through the **Remote Console** screen.
     - Choose **Remote Console** from the main menu, and click **Java Integrated Remote Console (Shared)** or **Java Integrated Remote Console (private)**. The KVM screen is displayed.

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NOTE

If you click **Java Integrated Remote Console (Shared)**, two users are allowed to simultaneously access and perform operations on the server. Each user can view the operations performed by the other user, which causes security risks.

If the Java integrated remote console cannot be started, see "Failed to Open the Remote Virtual Console" in the ***iBMC User Guide***.

- Choose **Remote Console** from the main menu, and click **HTML5 Integrated Remote Console (private)** or **HTML5 Integrated Remote Console (Shared)**.

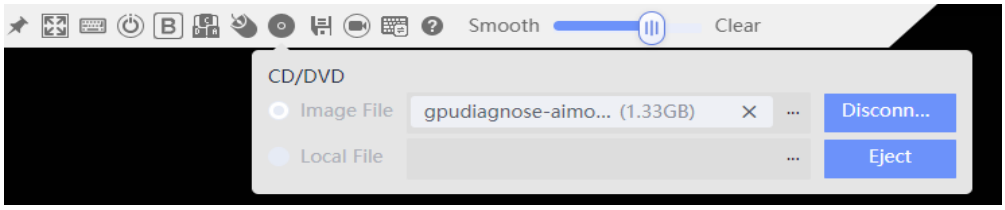
NOTE

If you click **HTML5 Integrated Remote Console (Shared)**, two users are allowed to simultaneously access and perform operations on the server. Each user can view the operations performed by the other user, which causes security risks.

- Download the KVM software and log in.
  - Log in to the **Independent Remote Console**, download the KVM package of the corresponding OS, and log in the KVM.

Step 2 On the KVM page, upload the image file and click **Connect**. See **Figure 2-1**.

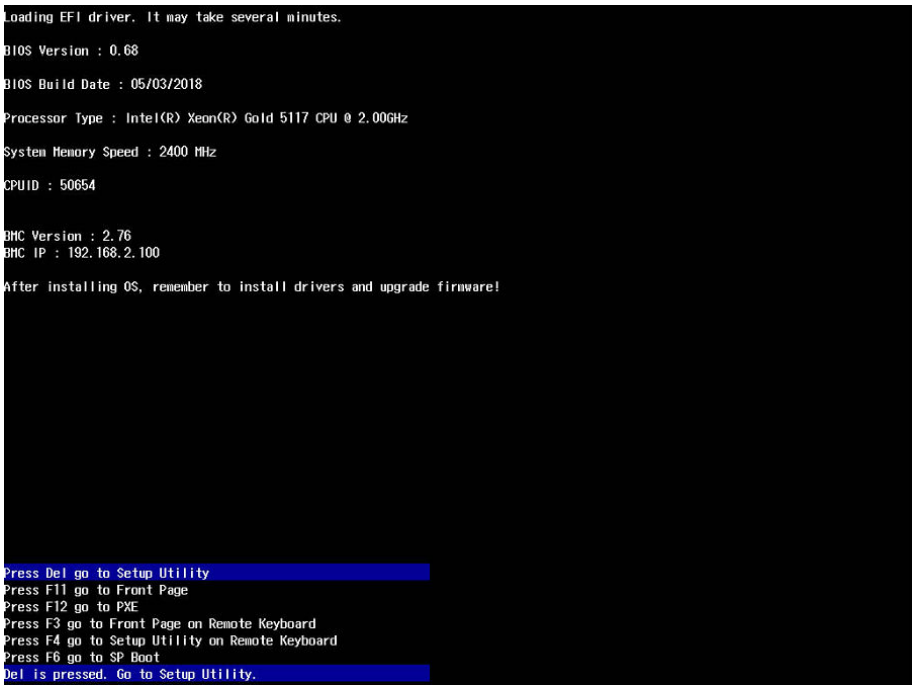
Figure 2-1 KVM screen



Step 3 The Boot Manager screen is displayed.

- If the BIOS platform is Purley and the BIOS version is V363 or earlier:
  a. Restart the server.
  b. When the following screen is displayed, press **F11** or **F3**.

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c. During the startup, if the system prompts you to enter the password, enter the password in the displayed dialog box. The default password is **Admin@9000**.

   The **Front Page** screen is displayed.

d. Use arrow keys to select **Boot Manager** and press **Enter**.

   The Boot Manager screen is displayed.

- If the BIOS platform is Purley and the BIOS version is V658 or later, or the BIOS platform is Cedar Island:

  a. Restart the server.

  b. When the screen shown in **Figure 2-2** or **Figure 2-3** is displayed, press **F11** or **F3**.

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Figure 2-2 BIOS of V658 or later on the Purley platform

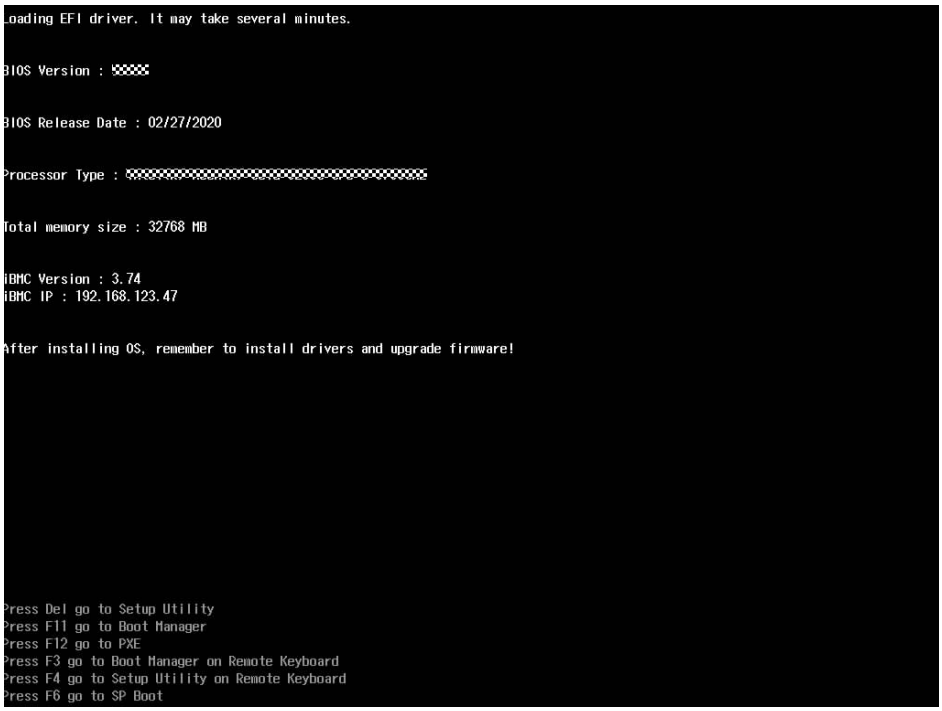
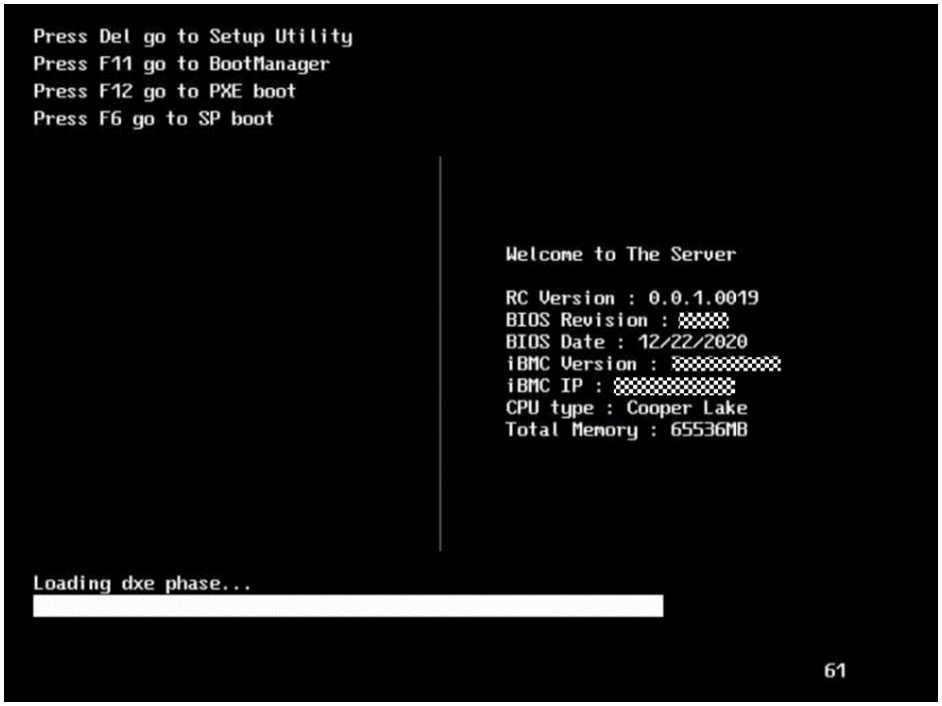


Figure 2-3 BIOS on the Cedar Island/Whitley platform



c. During the startup, if the system prompts you to enter the password, enter the password in the displayed dialog box. The default password is **Admin@9000**.

   The Boot Manager screen is displayed.

Step 4 Select **Boot Manager** in the displayed screen, and press **Enter**.

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Step 5 In the dialog box that is displayed, choose to boot from the DVD-ROM drive. See **Figure 2-4** or **Figure 2-5**.

Figure 2-4 Booting from the DVD-ROM drive (Purley platform)

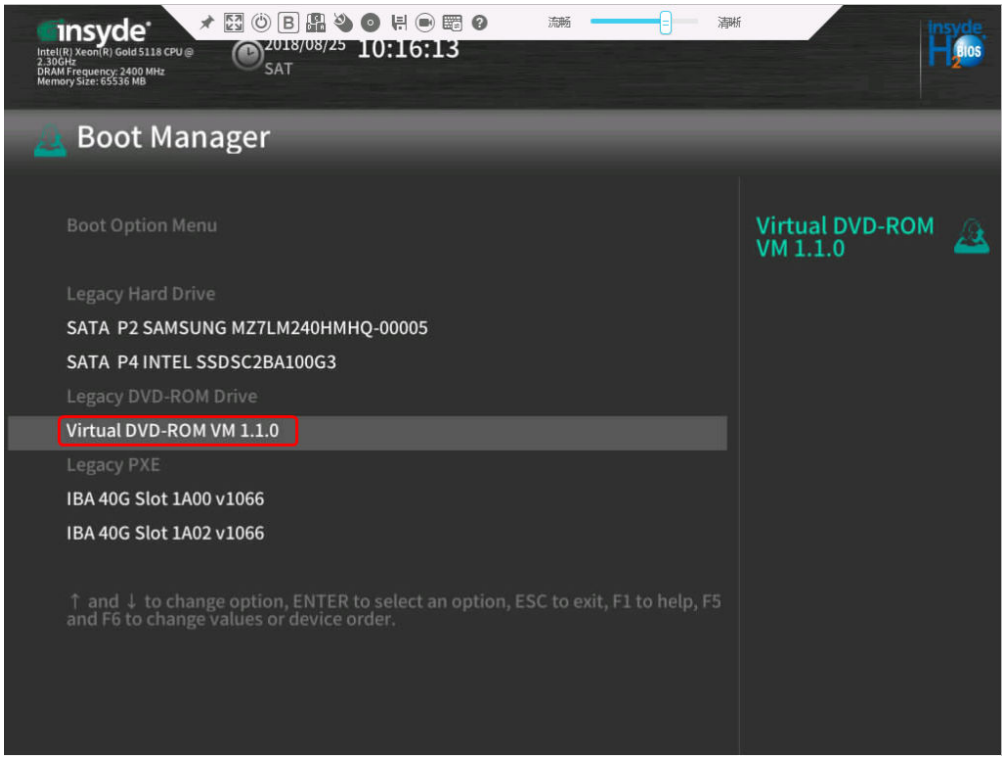
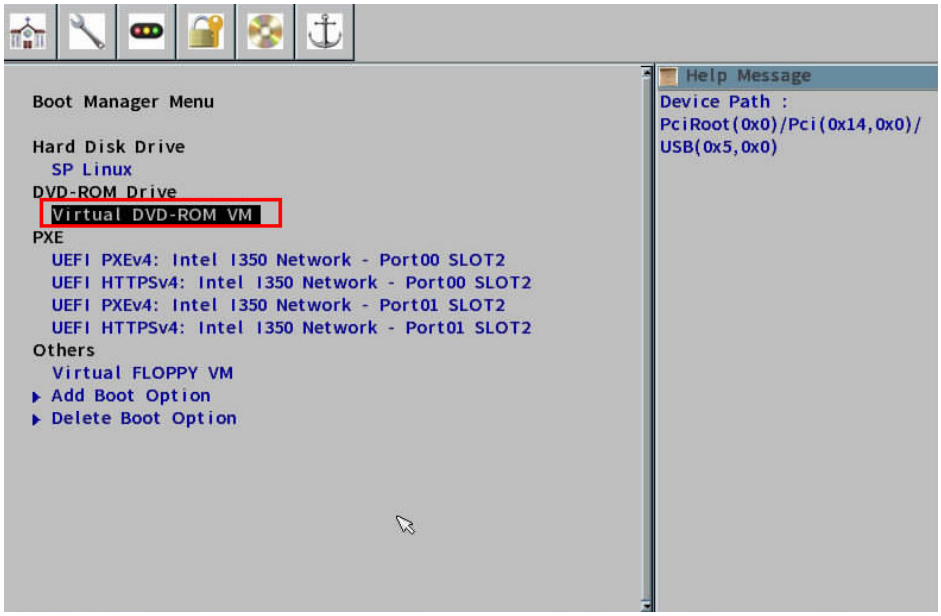


Figure 2-5 Booting from the DVD-ROM drive (Cedar Island Platform)



Step 6 After the booting is complete, the Smart Provisioning main window is displayed. Perform subsequent operations.

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NOTE

- To upload another image file, click **Eject** to eject the existing image file, select a new image file whose format is ***.iso**, and click **Insert**.
- To dismount the virtual DVD-ROM drive from the server, click **Disconnect**. Then, click **Yes** in the **Confirm** dialog box.

----End

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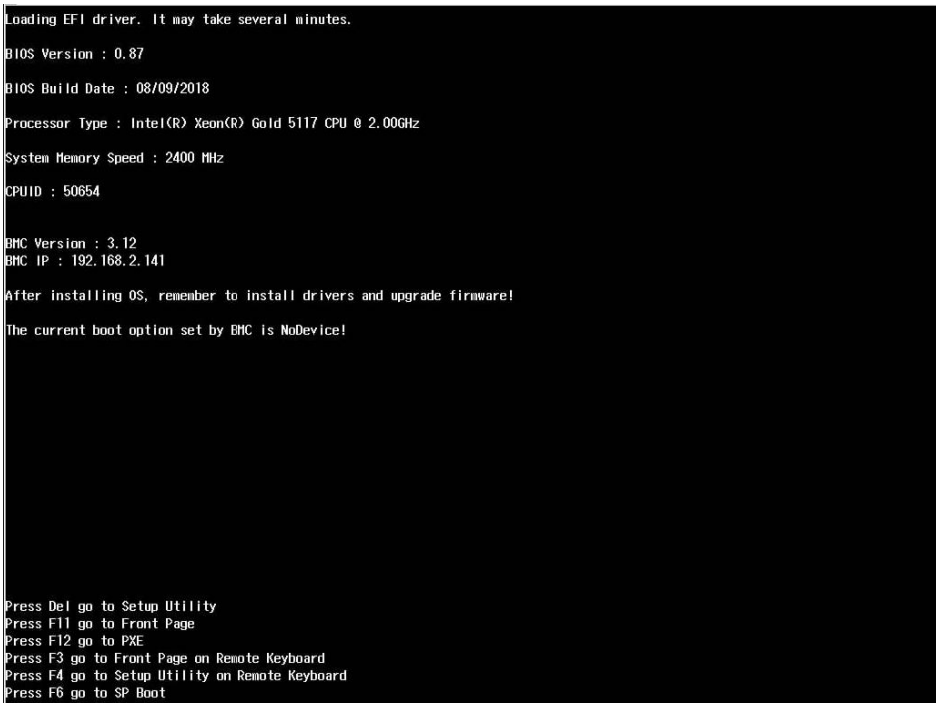
3 Logging In to Smart Provisioning

NOTE

You are advised to use the Java Integrated Remote Console or Independent Remote Console to log in to the Smart Provisioning. If you use the independent remote console to upgrade the firmware, the version of the independent remote console must be 1.0.5.228 or later.

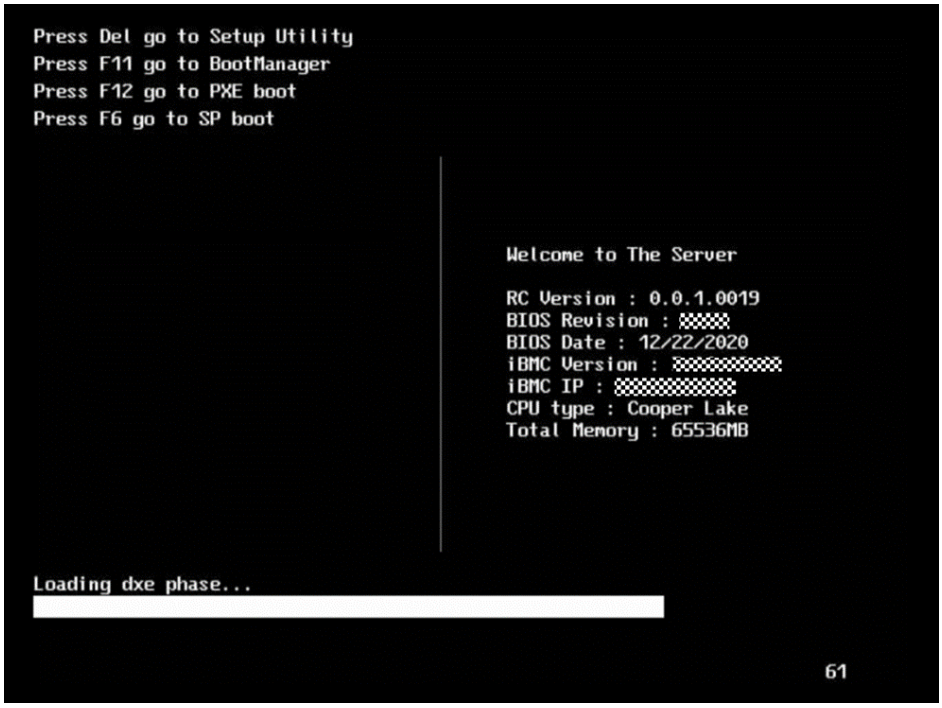
Step 1 During the server startup process, press **F6** on the boot option selection screen shown in **Figure 3-1** or **Figure 3-2**.

Figure 3-1 Boot option selection screen (Purley platform)



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Figure 3-2 Boot option selection screen (Cedar Island/Whitley platform)



Step 2 If a dialog box prompts you to enter a password is displayed during the startup, enter a password (the default password is **Admin@9000**) and press **Enter**.

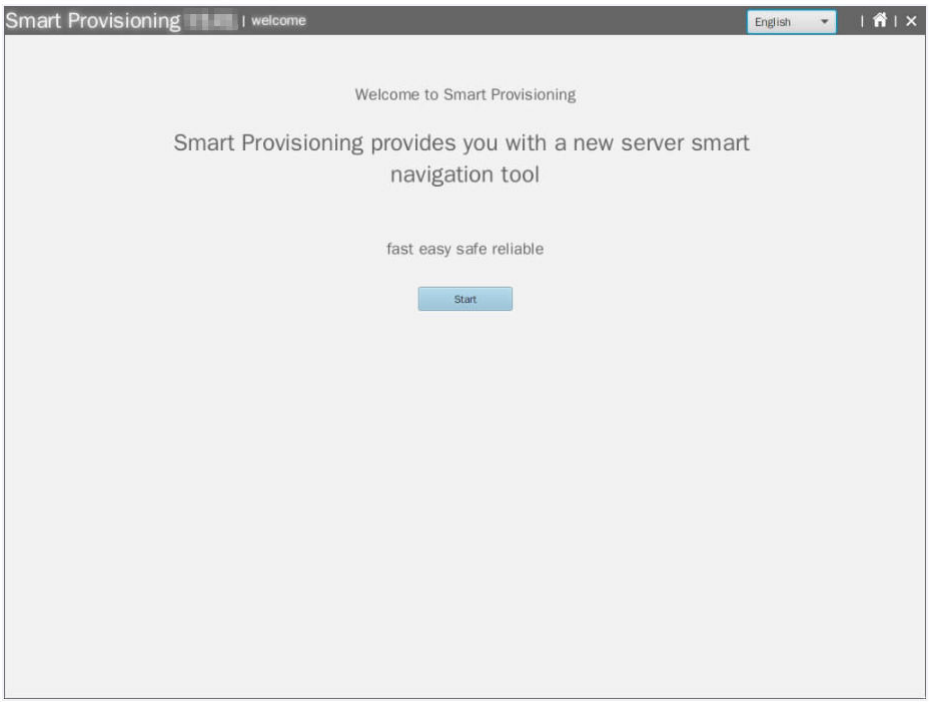
NOTE

If Smart Provisioning cannot be accessed by pressing **F6**, refer to the section **2.1 Checking Whether Smart Provisioning Is Installed and Enabled on a V5 and later Server**.

The Smart Provisioning welcome window is displayed, as shown in **Figure 3-3**.

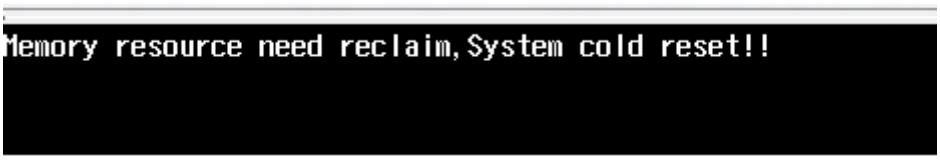
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Figure 3-3 Smart Provisioning welcome window



NOTE

- During the startup, if too many PCIe devices cause insufficient free memory, the system triggers a cold restart to release memory. Go to **Step 1**.



- When you use Smart Provisioning, you can click  in the upper right corner to return to the welcome window.
- The default language of Smart Provisioning is English.

Step 3 Click **Start**.

The Smart Provisioning main window is displayed, as shown in **Figure 3-4**.

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Figure 3-4 Smart Provisioning main window



----End

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4 Smart Provisioning User Guide

4.1 Overview

4.2 Compatibility List

4.3 Introduction to the Smart Provisioning Main Window

4.4 Using Smart Provisioning

4.1 Overview

Smart Provisioning supports V5, V6 and V7 servers. You can press **F6** during the BIOS startup process to enter the GUI of Smart Provisioning. For details about the startup process, see **3 Logging In to Smart Provisioning**. If you use Smart Provisioning by using the iBMC remote console, you are advised to download the iBMC remote console of the 1.0.5.228 version or later on the **Support** website. You can click  on the login page of the iBMC remote console to query the version.

Table 4-1 Functions

Function	Description
OS installation	Smart Provisioning supports OS installation in UEFI and Legacy modes. It supports mainstream OSs, including Windows, RHEL, CentOS, SLES, VMware, Ubuntu, BC-Linux, EulerOS, NeoKylin, openEuler and Debian. **Table 4-4** lists the supported OSs. Supports iBMA installation during OS deployment. For details about the servers supported by the iBMA, see "Software and Hardware Compatibility" in the ***iBMA User Guide***.

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Function	Description
RAID configuration	Smart Provisioning supports the configuration of the LSI SAS3008, LSI SAS3108, Avago SAS3004, Avago SAS3408, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i RAID, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i, BROADCOM MegaRAID 9580-8i8e, BROADCOM SAS3808iMR, BROADCOM SAS3816iMR, BROADCOM SAS3808-BootCard(XP270-M), BROADCOM SAS3808-BootCard (XP270-M2), BROADCOM SAS3908, BROADCOM SAS3916, BROADCOM XR370-M-8i and BROADCOM XR370-M-16i RAID controller cards. The Avago SAS3408IT, Avago SAS3416IT, 9305-24i, HBA 9500-8i, HBA 9500-8e, HBA 9500-16e and HBA 9500-16i RAID controller cards can be queried.
Upgrade	• PCIe devices include firmware of RAID controller cards and NICs (mainstream xFusion-developed cards and standard cards). • Hard drive (SAS and SATA) firmware • Smart Provisioning • NVMe drives **NOTE** • Download NIC and RAID controller card firmware packages from **FusionServer iDriver**. Only firmware packages with the description "You can use SmartProvisioning-1.2.0.5 or a later version to upgrade the firmware" can be used for upgrading through Smart Provisioning. • If you need to upgrade the firmware of the PCIe card (LPe16002B/LPe16000B/LPe12002/LPe12000/MZ220/X722/SP331/SP332/SP330/QLE2772/QLE2770/QLE2742/QLE2740/QLE2694L/QLE2692/QLE2690/E810CQDA2/E810XXVDA2/E810XXVDA4) using Smart Provisioning 1.5.2 or later, obtain the firmware package from **FusionServer iDriver** 3.0.100 or later. • Download the drive firmware package from **xBayes**. • Use the Java Integrated Remote Console or Independent Remote Console to upgrade firmware because the HTML5 Integrated Remote Console cannot be used to mount folders. • During the upgrade of the NIC, RAID controller card, and hard drive firmware, each upgrade takes less than 10 minutes. After the upgrade is complete, you need to manually restart the server for the upgrade to take effect.

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Function	Description
Configuration import and export	Configurations of iBMC, BIOS, RAID controller cards, and HBA cards can be imported and exported. ● RAID controller cards include LSI SAS3008, LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i, BROADCOM MegaRAID 9580-8i8e, BROADCOM SAS3808iMR, BROADCOM SAS3816iMR, BROADCOM SAS3808-BootCard(XP270-M), BROADCOM SAS3808-BootCard (XP270-M2), BROADCOM SAS3908, BROADCOM SAS3916. Scenarios where multiple RAID controller cards are used are not supported. ● HBA cards include LPE 12002 and Qlogic 2672. **NOTE** ● Before importing the Qlogic 2672 configuration, ensure that the FC port of the card is properly connected to the storage device, and ensure that the ID of the imported TargetLUN node is the same as the host LUN ID configured in the LUN group on the storage device. ● Before exporting the Qlogic 2672 configuration, ensure that the FC port of the card is properly connected to the storage device, and ensure that the remote boot information TargetWWPN configured for the port is the same as the WWPN of the connected storage device. Otherwise, the exported configuration information does not contain the target node.
Hardware diagnosis	The hardware diagnosis function supports the CPU, memory, NIC, hard drive, RAID controller card, FC, and GPU. For details, see **4.2.4 Smart Provisioning Hardware Diagnosis Compatibility**

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Function	Description
Log collection	● The following hard drive vendors support the log collection function: Toshiba, HGST, Seagate and WDC. ● The following types of hard drives support log collection function: hard drives managed by the PCH controller, hard drives in a RAID group, and hard drives in JBOD state. ● HGST hard drives of the following models do not support the collection of internal hard drive logs: – HUS726060ALE610 – HUS726020ALA610 – HUS726T4TALA600 – HUS726T6TALE600 – HUH721010ALE600 – HUH721212ALE600 – HUS724020ALA640 – WUH721816ALE6L4 – HUS728T8TALE6L4 – Hard drive models starting with HUC ● If the message "……Log Collection Failed" or "……Collection Incomplete" is displayed during drive log collection, the drive does not support the collection of internal drive logs. ● Internal logs of the Toshiba **MG04ACA200N**, **MG04ACA400N**, and **MG04ACA600E** SATA drives can be collected. ● If the message "……log not supported on this device" is displayed during Seagate drive log collection, the drive does not support the collection of internal drive logs. ● The function of obtaining hard drive slot information is supported only on servers using iBMC 2.53 or later. ● The hard drive log collection function does not support scenarios where multiple RAID controller cards are used. ● The hard drive log collection function supports the following hard drive types: SAS and SATA.

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Function	Description
Hard drive erasing	• SAS/SATA hard disks connected to RAID controller cards from Broadcom and PMC all support the **Drive Erase** function. • The SATA AHCI passthrough hard direves from following manufacturers support the **Drive Erase** function. Seagate, WDC, HGST, Toshiba, SanDisk, Intel, Micron, Samsung, xFusion, YMTC, PETAIO, Memblaze, Solidigm, ScaleFlux, DapuStor, Kioxia, Hynix, Shannon, DERA, Ramaxel, Goke, Huawei, XITC, SMI, SSSTC, LITEON, Sage, DAT, UMIS, CMHI, and KunLun • NVMe hard drives from the following manufacturers support the Drive Erase function. HUAWEI, Samsung, Intel, Kioxia, Ramaxel, UMIS, xFusion, YMTC, PETAIO, Memblaze, ScaleFlux, DapuStor, Shannon, DERA, WestDigi, SK hynix, XITC, CMHI, and KunLun • Encrypted hard disks provided by Samsung support the **Drive Erase** function.
Collects the device information (only through the Redfish interface)	For server asset management and version management. The following items are included: • PCIe device – Common attributes: BDF information, vendor ID, device type, device ID, product name, device location, part number, serial number, and firmware version. – Ethernet NIC: MAC address and optical module information. – FC card: WWN information. – RAID controller: memory capacity, port type, and BBU status. • Drive: vendor name, product name, firmware version, serial number, capacity, speed, model, port type, and media type. • Mainboard: mainboard name.

4.2 Compatibility List

4.2.1 Servers Supported by Smart Provisioning

Table 4-2 lists the servers supported by Smart Provisioning. **Table 4-3** lists the mapping relationships between Smart Provisioning and BIOS versions of some servers.

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Table 4-2 Servers supported by Smart Provisioning

Type	Model
Rack Servers	5288 V5
	2488 V5
	2288 V5
	2488H V5
	5885H V5
	1288H V5
	2288H V5
	8100 V5
	2298 V5
	1288X V5
	2288X V5
	5288X V5
	2488H V6
	1288H V6
	2288H V6
	2288E V6
	5288 V6
	5885H V6
	1288H V7
	2288 V7
	2288H V7
	1258H V7
	2258 V7
	2258H V7
	2488H V7
	5288 V7
	5885H V7
	5298 V7
	1158H V7

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Type	Model
	2158H V8
	2258H V8
High-Density Servers	XH321 V5
	XH321L V5
	X6800 XH628 V5
	X6000 XH321 V6
	X6000 XH321C V6
Blade Servers	CH121L V5
	CH121 V5
	CH242 V5
	CH221 V5
	CH225 V5
AI Servers	G530 V5
	G560 V5
	CX5200 V5
	G5500 V6
	G5200 V7
	G5500 V7
	G8600 V7
Mission Critical Servers	9008 V5
Rack-Scale Servers	DH120 V5
	DH120C V5
	DH120C V6
	DH121C V6
	DH140C V6
	DH122E V6
	DH141C V5
	DH120E V7
	GN560E V7

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NOTE

For details about the compatibility between servers and OSs, see the **Compatibility Checker**.

Table 4-3 Mapping between Smart Provisioning and server BIOS versions

Server	BIOS Version Supporting Smart Provisioning Boot	BIOS Version Supporting Smart Provisioning Secure Boot
2-socket V5 rack server, such as 2288H V5 and 1288H V5	0.38 or later	0.65 or later
4-socket V5 rack server, such as 2488 V5 and 2488H V5	0.70 or later	0.87 or later
5885/CH242 V5	0.69 or later	-
8100	0.73 or later	-
KunLun mission-critical server	3.16 or later	-
High-density server, such as XH321 V5	0.38 or later	-
Heterogeneous server, such as G530 V5	0.60 or later	-
2488H V6	0.17 or later	0.59 or later
2288H V6 (16DIMM)	0.31 or later	0.31 or later
1288H V6, 2288H V6 (32DIMM), and 5288 V6	0.31 or later	1.26 or later **NOTE** Smart Provisioning 1.2.0.4 and 1.2.0.5 support BIOS 0.31 or later.
1288H V7 and 2288H V7	2.00.28 or later	2.00.28 or later
2258 V7	1.06.07 or later	Not supported
2258H V7	1.06.07 or later	1.06.13 or later
2288 V7	2.00.15 or later	2.00.15 or later
5288 V7 and G5200 V7	2.00.36 or later	2.00.36 or later
CX5200 V5	8.30 or later	8.30 or later
1158H V7	5.01.05 or later	5.01.05 or later
5298 V7	00.01.03.01 or later	00.01.03.01 or later
G5500 V6	1.30 or later	1.30 or later

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Server	BIOS Version Supporting Smart Provisioning Boot	BIOS Version Supporting Smart Provisioning Secure Boot
FusionPoD 600 server	5.21 or later	-
FusionPoD 700 server	8.20 or later	-

4.2.2 OSs Supported by Smart Provisioning

Table 4-4 lists the OSs supported by Smart Provisioning and whether OSs can be installed in security mode, with the iBMA, and on some special storage media. 4.2.3 Mapping Between the OSs supported by Smart Provisioning and Controllers lists the mapping relationships between the supported OSs and different controllers.

- The iBMA can be installed during the OS deployment only when the OS is installed in the default mode.

  The OS cannot be installed on a SAN storage system (SAN Boot).
- If the OS needs to be installed on a NVMe drive in pass-through mode or VMD mode, the Legacy boot mode is not supported and the environment does not have PCH pass-through drives, RAID cards with "IT" included in model numbers, or RAID cards with boot drives configured.

Table 4-4 OSs on which Smart Provisioning can be installed in security mode

OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
BC-Linux	BC-Linux8.8f	No	No	No	No	No	Yes
	BC-Linux8.6f	No	No	No	No	No	Yes
	BC-Linux8.4f	No	No	No	Yes	No	Yes
	BC-Linux8.2f	No	No	No	Yes	No	Yes

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	BC-Linux7.6[f]	No	No	No	Yes	Yes	No
Windows	Windows Server 2022 Standard (Desktop Experience)	Yes	No	No	Yes	No	No
	Windows Server 2022 Standard	Yes	No	No	Yes	No	No
	Windows Server 2022 Datacenter (Desktop Experience)	Yes	No	No	Yes	No	No
	Windows Server 2022 Datacenter	Yes	No	No	Yes	No	No
	Windows Server 2019 Standard (Desktop Experience)	Yes	No	No	No	No	No
	Windows Server 2019 Standard	Yes	No	No	No	No	No

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	Windows Server 2019 Datacenter (Desktop Experience)	Yes	No	No	No	No	No
	Windows Server 2019 Datacenter	Yes	No	No	No	No	No
	Windows Server 2016 Standard (Desktop Experience)	Yes	No	No	No	No	No
	Windows Server 2016 Standard	Yes	No	No	No	No	No
	Windows Server 2016 Datacenter (Desktop Experience)	Yes	No	No	No	No	No
	Windows Server 2016 Datacenter	Yes	No	No	No	No	No

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	Windows Server 2012 R2 Standard (Desktop Experience)	Yes	No	No	No	No	No
	Windows Server 2012 R2 Standard	Yes	No	No	No	No	No
	Windows Server 2012 R2 Datacenter (Desktop Experience)	Yes	No	No	No	No	No
	Windows Server 2012 R2 Datacenter	Yes	No	No	No	No	No
Rocky	Rockylinux 8.8 [1]	No	No	No	Yes	Yes	Yes
	Rockylinux 8.9 [1]	No	No	No	Yes	Yes	Yes
	Rockylinux 8.5 [1]	No	No	No	Yes	Yes	Yes
	Rockylinux 8.6 [1]	No	No	No	Yes	Yes	Yes
	Rockylinux 9.0 [1]	No	No	No	Yes	Yes	Yes
	Rockylinux 9.1 [1]	No	No	No	Yes	Yes	Yes

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	Rockylinux 9.2 [l]	No	No	No	Yes	Yes	Yes
	Rockylinux 9.3 [l]	No	No	No	Yes	Yes	Yes
	Rockylinux 9.4 [l]	No	No	No	Yes	Yes	Yes
RHEL	RHEL 9.4 [a]	No	No	No	Yes	Yes	Yes
	RHEL 9.3 [a]	No	No	No	Yes	Yes	Yes
	RHEL 9.2 [a]	No	No	No	Yes	Yes	Yes
	RHEL 9.0 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.9 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.8 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.7 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.6 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.5 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.4 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.3 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.2 [a]	No	No	No	Yes	Yes	Yes

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	RHEL 8.1 [a]	No	No	No	Yes	Yes	Yes
	RHEL 8.0 [a]	No	No	Yes	Yes	Yes	Yes
	RHEL 7.9 [a]	No	No	No	Yes	Yes	Yes
	RHEL 7.8 [a]	No	No	No	Yes	Yes	Yes
	RHEL 7.7 [a]	No	No	No	Yes	Yes	Yes
	RHEL 7.6	No	Yes	Yes	Yes	Yes	Yes
	RHEL 7.5	No	Yes	Yes	Yes	Yes	Yes
	RHEL 7.4	No	Yes	Yes	Yes	Yes	Yes
	RHEL 7.3	No	Yes	Yes	Yes	No	Yes
	RHEL 6.10	No	Yes	No	No	No	Yes
	RHEL 6.9	No	Yes	Yes	No	No	Yes
CentOS	CentOS 8.5 [b]	No	No	No	Yes	Yes	Yes
	CentOS 8.3 [b]	No	No	No	Yes	Yes	Yes
	CentOS 8.2 [b]	No	No	Yes	Yes	No	Yes
	CentOS 8.1 [b]	No	No	Yes	Yes	No	Yes
	CentOS 8.0 [b]	No	No	Yes	Yes	No	Yes

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	CentOS 7.9 [b]	No	No	No	Yes	Yes	Yes
	CentOS 7.8 [b]	No	No	Yes	Yes	Yes	Yes
	CentOS 7.7 [b]	No	No	Yes	Yes	Yes	Yes
	CentOS 7.6	No	Yes	Yes	Yes	Yes	Yes
	CentOS 7.5	No	Yes	Yes	Yes	Yes	Yes
	CentOS 7.4	No	Yes	Yes	Yes	Yes	Yes
	CentOS 7.3	No	Yes	Yes	Yes	No	Yes
	CentOS 6.10	No	Yes	No	No	No	Yes
	CentOS 6.9	No	Yes	Yes	No	No	Yes
SLES	SLES 15 SP6 [c]	No	No	No	Yes	Yes	Yes
	SLES 15 SP5 [c]	No	No	No	Yes	Yes	Yes
	SLES 15 SP4 [c]	No	No	No	Yes	Yes	Yes
	SLES 15 SP3 [c]	No	No	No	Yes	Yes	Yes
	SLES 15 SP2 [c]	No	No	No	Yes	Yes	Yes
	SLES 15 SP1 [c]	No	No	No	Yes	Yes	Yes
	SLES 15 [c]	No	No	No	Yes	Yes	Yes

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	SLES 12 SP5 [c]	No	No	Yes	Yes	No	Yes
	SLES 12 SP4 [c]	No	No	Yes	Yes	No	Yes
	SLES 12 SP3	No	No	Yes	Yes	No	Yes
	SLES 12 SP2	No	No	Yes	Yes	No	Yes
	SLES 11 SP4	No	No	Yes	Yes	No	No
VMware	VMware ESXi 6.5.0	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.5.0a	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.5.0d	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.5.0 Update 1	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.5.0 Update 2	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.5.0 Update 3	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.0	No	No	Yes	Yes	No	No

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	VMware ESXi 6.7.0	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.7.0 Update 1	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.7.0 Update 2	Yes	No	Yes	Yes	No	No
	VMware ESXi 6.7.0 Update 3	Yes	No	Yes	Yes	No	No
	VMware ESXi 7.0 [e]	Yes	No	No	Yes	No	No
	VMware ESXi 7.0 Update 1 [e]	Yes	No	No	Yes	No	No
	VMware ESXi 7.0 Update 2 [e]	Yes	No	No	Yes	No	No
	VMware ESXi 7.0 Update 3 [e]	Yes	No	No	Yes	Yes	No
	VMware ESXi 8.0 [e]	Yes	No	No	Yes	No	No
	VMware ESXi 8.0.1 [e]	Yes	No	No	Yes	No	No

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	VMware ESXi 9.0[e]	Yes	No	No	Yes	No	No
Ubuntu	Ubuntu 24.04 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 22.04.3 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 22.04.2 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 22.04.1 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 22.04 LTS [d]	No	No	No	No	No	Yes
	Ubuntu 20.04.6 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 20.04.5 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 20.04.1 LTS [d]	No	No	No	Yes	Yes	Yes
	Ubuntu 18.04 LTS [d]	No	No	No	Yes	Yes	No
	Ubuntu 18.04.1 LTS [d]	No	No	No	Yes	Yes	No

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	Ubuntu 18.04.2 LTS [d]	No	No	No	Yes	Yes	No
	Ubuntu 18.04.3 LTS [d]	No	No	No	Yes	Yes	No
	Ubuntu 18.04.4 LTS [d]	No	No	No	Yes	Yes	No
	Ubuntu 18.04.5 LTS [d]	No	No	No	Yes	Yes	No
	Ubuntu 16.04.6 LTS	No	No	Yes	Yes	No	No
	Ubuntu 16.04.2 LTS	No	No	Yes	Yes	No	No
	Ubuntu 16.04.1 LTS	No	No	Yes	No	No	No
	Ubuntu 16.04 LTS	No	Yes	Yes	No	No	No
NeoKylin	NeoKylin Server V7.0 U6 [g]	No	No	No	Yes	Yes	No
EulerOS	EulerOS 2.0 SP5 [h]	No	No	No	Yes	Yes	No
	EulerOS 2.0 SP9 [h]	No	No	No	Yes	Yes	No

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
openEuler	openEuler 24.03 LTS [i]	No	No	No	Yes	Yes	Yes
	openEuler 22.03 LTS SP1 [i]	No	No	No	Yes	Yes	No
	openEuler 20.03 [i]	No	No	No	Yes	Yes	No
Debian	Debian 9.6 [j]	No	No	No	No	No	No
	Debian 9.8 [j]	No	No	No	No	No	No
	Debian 9.9 [j]	No	No	No	No	No	No
	Debian 10 [j]	No	No	No	No	No	No
	Debian 10.7 [j]	No	No	No	No	No	No
	Debian 10.8 [j]	No	No	No	No	No	No
	Debian 11.0 [j]	No	No	No	No	No	No
	Debian 11.4 [j]	No	No	No	No	No	No
	Debian 11.5 [j]	No	No	No	No	No	No
	Debian 11.7 [j]	No	No	No	No	No	No
Kylin	Kylin V10 SP2 [k]	No	No	No	No	No	Yes

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OS	Version	Secure-Mode Installation	Install iBMA During OS Deployment	Whether It Can Be Installed on a USB Flash Drive	Whether It Can Be Installed on a NVMe Drive in Pass-through Mode	Whether It Can Be Installed on a NVMe Drive in VMD Mode	Whether LVM Partitioning Is Supported
	Kylin V10 SP2[k]	No	No	No	No	No	No
FusionOS	FusionOS 22.0.1	No	Yes	No	No	No	No
	FusionOS 22.0.3	No	Yes	No	No	No	No
	FusionOS 23.0.1	No	Yes	No	No	No	No

a: Use RHEL 7, 8 or 9 series for deployment.

b: Use the CentOS 7 or 8 series for deployment.

c: Use the SLES 12 or 15 series for deployment.

d: Use the Ubuntu 18.04 or Ubuntu 20.04, Ubuntu 22.04, Ubuntu 24.04 series for deployment.

e: Use the ESXi 7 series, ESXi 8 series and ESXi 9 series for deployment. ESXi 9 series supports only V6 or later servers.

f: Use the BC-Linux 7 series for deployment.

g: Use the NeoKylin 7 series for deployment.

h: Use the EulerOS series for deployment.

i: Use the openEuler series for deployment.

j: Use Debian 9, 10, or 11 for deployment.

k: Use the Kylin V10 series for deployment.

l: Use the Rockylinux 8 or 9 series for deployment.

4.2.3 Mapping Between the OSs supported by Smart Provisioning and Controllers

Table 4-5, **Table 4-6** and **Table 4-7** list the mapping relationships between OSs and RAID controller card types.

The local default driver of Windows 2012 system driver will be deleted from Smart Provisioning 1.7.10 and later versions.

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Table 4-5 Mapping relationships between OSs and RAID controller card types (1)

OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
BC-Linux8.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BC-Linux8.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BC-Linux8.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BC-Linux8.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BC-Linux7.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Windows Server 2022 Standard (Desktop Experience)/ Windows Server 2022 Standard/ Windows Server 2022 Datacenter (Desktop Experience)/ Windows Server 2022	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
Windows Server 2019 Standard (Desktop Experience)/ Windows Server 2019 Standard / Windows Server 2019 Datacenter (Desktop Experience)/ Windows Server 2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
Windows Server 2016 Standard (Desktop Experience)/ Windows Server 2016 Standard / Windows Server 2016 Datacenter (Desktop Experience)/ Windows Server 2016 Datacenter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
Windows Server 2012 R2 Standard (Desktop Experience)/ Windows Server 2012 R2 Standard / Windows Server 2012 R2 Datacenter (Desktop Experience)/ Windows Server 2012 R2 Datacenter	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Rockylinux 8.5	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 8.6	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 8.8	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 8.9	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 9.0	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 9.1	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 9.2	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
Rockylinux 9.3	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rockylinux 9.4	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 9.4	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 9.3	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 9.2	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 9.0	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.9	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.8	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.7	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.6	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.5	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.4	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.3	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.2	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.1	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
RHEL 7.9	Only the LSI SAS3008IR is supported.	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 7.8	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 7.7	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 7.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 7.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 7.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 7.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 6.10	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
RHEL 6.9	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
CentOS 8.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 8.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 8.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 8.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 8.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
CentOS 7.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 6.10	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
CentOS 6.9	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
SLES 15	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SLES 15 SP1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SLES 15 SP2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SLES 15 SP3	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
SLES 15 SP4	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
SLES 15 SP5	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
SLES 15 SP6	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No
SLES 12 SP5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SLES 12 SP4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
SLES 12 SP3	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
SLES 12 SP2	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
SLES 11 SP4	No	No	No	No	No	No	No	Yes	Yes	Yes
VMware ESXi 6.5.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.5.0a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.5.0d	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.5.0 Update 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.5.0 Update 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.5.0 Update 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.0	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.7.0	Only the LSI SAS3008IR is supported.	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
VMware ESXi 6.7.0 Update 1	Only the LSI SAS3008IR is supported.	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.7.0 Update 2	Only the LSI SAS3008IR is supported.	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 6.7.0 Update 3	Only the LSI SAS3008IR is supported.	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 7.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 7.0 Update 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 7.0 Update 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 7.0 Update 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 8.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VMware ESXi 8.0.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
VMware ESXi 9.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 24.04 LTS	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No
Ubuntu 22.04.3 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 22.04.2 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 22.04.1 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 22.04 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 20.04.6 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 20.04.5 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 20.04.1 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 18.04 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 18.04.1 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 18.04.2 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
Ubuntu 18.04.3 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 18.04.4 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 18.04.5 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 16.04.6 LTS	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No
Ubuntu 16.04.2 LTS	No	No	No	No	No	No	No	No	No	No
Ubuntu 16.04.1 LTS	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Ubuntu 16.04 LTS	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
NeoKylin Server V7.0 U6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kylin V10 SP3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kylin V10 SP2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EulerOS 2.0 SP5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EulerOS 2.0 SP9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 9.6	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Debian 9.8	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes

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OS	LSI SAS3008	Avago SAS3004	Avago SAS3416iMR	Avago SAS3416IT	LSI SAS9305-24i	SmartRAID 3152-8i	SmartHBA 2100-8i	PCH	LSI SAS3108	LSI 9361-8i
Debian 9.9	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Debian 10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 10.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 10.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 11.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 11.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 11.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debian 11.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
openEuler 20.03	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
openEuler 22.03 LTS SP1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
openEuler 24.03 LTS	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No
FusionOS 22.0.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FusionOS 22.0.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FusionOS 23.0.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Table 4-6 Mapping relationships between OSs and RAID controller card types (2)

OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS 3508	Avago SAS 9460-8i	Avago SAS 3516	Avago SAS 9460-16i	BROAD COM MegaRAID 9560-8i/ 9560-16i	BROAD COM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/HBA 9500-16i	BROAD COM MegaRAID 9540-8i/ 9540-16i
BC-Linux8.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
BC-Linux8.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
BC-Linux8.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
BC-Linux8.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
BC-Linux7.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROAD COM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
Windows Server 2022 Standard (Desktop Experience)/ Windows Server 2022 Standard /Windows Server 2022 Datacenter (Desktop Experience)/ Windows Server 2022	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROAD COM MegaRAID 9560-8i/ 9560-16i	BROAD COM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/HBA 9500-16i	BROAD COM MegaRAID 9540-8i/ 9540-16i
Windows Server 2019 Standard (Desktop Experience)/ Windows Server 2019 Standard /Windows Server 2019 Datacenter (Desktop Experience)/ Windows Server 2019	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes

OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROAD COM MegaRAID 9560-8i/ 9560-16i	BROAD COM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/HBA 9500-16i	BROAD COM MegaRAID 9540-8i/ 9540-16i
Windows Server 2016 Standard (Desktop Experience)/ Windows Server 2016 Standard /Windows Server 2016 Datacenter (Desktop Experience)/ Windows Server 2016 Datacenter	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No

OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
Windows Server 2012 R2 Standard (Desktop Experience)/ Windows Server 2012 R2 Standard /Windows Server 2012 R2 Datacenter (Desktop Experience)/ Windows Server 2012 R2 Datacenter	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Rockylinux 8.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Rockylinux 8.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i / 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i / 9540-16i
Rockylinux 8.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Rockylinux 8.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Rockylinux 9.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
Rockylinux 9.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Rockylinux 9.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Rockylinux 9.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Rockylinux 9.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
RHEL 9.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
RHEL 9.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 9.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 9.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
RHEL 8.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 8.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 8.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 8.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RHEL 8.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
RHEL 8.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
RHEL 8.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
RHEL 8.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
RHEL 8.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 8.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 7.9	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i / 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i / 9540-16i
RHEL 7.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No
RHEL 7.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 7.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
RHEL 7.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 7.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 7.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 6.10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
RHEL 6.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 8.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
CentOS 8.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
CentOS 8.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
CentOS 8.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 8.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 7.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 7.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No
CentOS 7.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 7.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
CentOS 7.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 7.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 7.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 6.10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
CentOS 6.9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i / 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i / 9540-16i
SLES 15	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
SLES 15 SP1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
SLES 15 SP2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
SLES 15 SP3	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
SLES 15 SP4	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
SLES 15 SP5	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No	No
SLES 15 SP6	No	No	No	No	Yes	No	No	Yes	No	No	No	Yes
SLES 12 SP5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
SLES 12 SP4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
SLES 12 SP3	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
SLES 12 SP2	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
SLES 11 SP4	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.5.0	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.5.0a	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.5.0d	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.5.0 Update 1	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.5.0 Update 2	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.5.0 Update 3	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.0	No	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
VMware ESXi 6.7.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.7.0 Update 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.7.0 Update 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 6.7.0 Update 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
VMware ESXi 7.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
VMware ESXi 7.0 Update 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
VMware ESXi 7.0 Update 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
VMware ESXi 7.0 Update 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
VMware ESXi 8.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No
VMware ESXi 8.0.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
VMware ESXi 9.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Ubuntu 24.04 LTS	No	No	No	No	No	No	No	Yes	No	No	No	Yes
Ubuntu 22.04.3 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
Ubuntu 22.04.2 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 22.04.1 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 22.04 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
Ubuntu 20.04.6 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 20.04.5 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 20.04.1 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ubuntu 18.04 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 18.04.1 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 18.04.2 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 18.04.3 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Ubuntu 18.04.4 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
Ubuntu 18.04.5 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Ubuntu 16.04.6 LTS	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No
Ubuntu 16.04.2 LTS	No	No	No	No	No	No	No	No	No	No	No	No
Ubuntu 16.04.1 LTS	Yes	No	No	Yes	No	No	No	No	No	No	No	No
Ubuntu 16.04 LTS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
NeoKylin Server V7.0 U6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Kylin V10 SP3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Kylin V10 SP2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No
EulerOS 2.0 SP5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i / 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i / 9540-16i
EulerOS 2.0 SP9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 9.6	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 9.8	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 9.9	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 10.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 10.8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 11.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 11.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 11.5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Debian 11.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

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OS	Avago SAS3408	Avago SAS 9440-8i	Avago SAS 3408 IT	Avago SAS3508	Avago SAS 9460-8i	Avago SAS3516	Avago SAS 9460-16i	BROADCOM MegaRAID 9560-8i/ 9560-16i	BROADCOM MegaRAID 9580-8i8e	HBA 9500-8e/HBA 9500-16e	HBA 9500-8i/ HBA 9500-16i	BROADCOM MegaRAID 9540-8i/ 9540-16i
openEuler 20.03	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
openEuler 22.03 LTS SP1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
openEuler 24.03 LTS	No	No	No	No	No	No	No	Yes	No	No	No	Yes
FusionOS 22.0.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
FusionOS 22.0.3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
FusionOS 23.0.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No

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Table 4-7 Mapping relationships between OSs and RAID controller card types (3)

OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
BC-Linux8.8	No	No	Yes	No	No	No
BC-Linux8.6	No	No	Yes	Yes	No	No
BC-Linux8.4	No	No	No	No	No	No
BC-Linux8.2	No	No	No	No	No	No
BC-Linux7.6	No	No	No	No	No	No
Windows Server 2022 Standard (Desktop Experience)/ Windows Server 2022 Standard/ Windows Server 2022 Datacenter (Desktop Experience)/ Windows Server 2022	No	No	No	No	No	No
Windows Server 2019 Standard (Desktop Experience)/ Windows Server 2019 Standard/ Windows Server 2019 Datacenter (Desktop Experience)/ Windows Server 2019	No	No	No	No	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
Windows Server 2016 Standard (Desktop Experience)/ Windows Server 2016 Standard/ Windows Server 2016 Datacenter (Desktop Experience)/ Windows Server 2016 Datacenter	No	No	No	No	No	No
Windows Server 2012 R2 Standard (Desktop Experience)/ Windows Server 2012 R2 Standard/ Windows Server 2012 R2 Datacenter (Desktop Experience)/ Windows Server 2012 R2 Datacenter	No	No	No	No	No	No
Rockylinux 8.8	No	No	No	No	No	No
Rockylinux 8.9	No	No	No	No	No	No
Rockylinux 8.5	No	No	No	No	No	No
Rockylinux 8.6	No	No	Yes	No	No	No
Rockylinux 9.0	No	No	No	No	No	No
Rockylinux 9.1	No	No	No	No	No	No
Rockylinux 9.2	Yes	Yes	Yes	Yes	No	No
Rockylinux 9.3	Yes	No	Yes	Yes	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
Rockylinux 9.4	Yes	Yes	Yes	No	No	No
RHEL 9.4	Yes	Yes	Yes	No	Yes	Yes
RHEL 9.3	Yes	No	Yes	Yes	No	No
RHEL 9.2	Yes	Yes	Yes	Yes	No	No
RHEL 9.0	Yes	No	Yes	Yes	No	No
RHEL 8.9	No	No	Yes	No	No	No
RHEL 8.8	No	No	Yes	No	No	No
RHEL 8.7	No	No	Yes	No	No	No
RHEL 8.6	Yes	No	Yes	Yes	No	No
RHEL 8.5	Yes	No	Yes	Yes	No	No
RHEL 8.4	No	No	Yes	Yes	No	No
RHEL 8.3	No	No	Yes	Yes	No	No
RHEL 8.2	No	No	Yes	Yes	No	No
RHEL 8.1	No	No	No	No	No	No
RHEL 8.0	No	No	No	No	No	No
RHEL 7.9	Yes	No	Yes	Yes	No	No
RHEL 7.8	No	No	Yes	Yes	No	No
RHEL 7.7	No	No	No	No	No	No
RHEL 7.6	No	No	No	No	No	No
RHEL 7.5	No	No	No	No	No	No
RHEL 7.4	No	No	No	No	No	No
RHEL 7.3	No	No	No	No	No	No
RHEL 6.10	No	No	No	No	No	No
RHEL 6.9	No	No	No	No	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
CentOS 8.5	Yes	Yes	Yes	Yes	Yes	Yes
CentOS 8.3	No	No	Yes	Yes	No	No
CentOS 8.2	No	No	Yes	Yes	No	No
CentOS 8.1	No	No	No	No	No	No
CentOS 8.0	No	No	No	No	No	No
CentOS 7.9	Yes	Yes	Yes	Yes	No	No
CentOS 7.8	No	No	Yes	Yes	No	No
CentOS 7.7	No	No	No	No	No	No
CentOS 7.6	No	No	No	No	No	No
CentOS 7.5	No	No	No	No	No	No
CentOS 7.4	No	No	No	No	No	No
CentOS 7.3	No	No	No	No	No	No
CentOS 6.10	No	No	No	No	No	No
CentOS 6.9	No	No	No	No	No	No
SLES 15	No	No	No	No	No	No
SLES 15 SP1	No	No	No	No	No	No
SLES 15 SP2	No	No	No	Yes	No	No
SLES 15 SP3	Yes	No	Yes	Yes	No	No
SLES 15 SP4	Yes	No	Yes	Yes	No	No
SLES 15 SP5	Yes	Yes	Yes	Yes	No	No
SLES 15 SP6	No	No	No	No	No	No
SLES 12 SP5	Yes	No	Yes	Yes	No	No
SLES 12 SP4	No	No	No	No	No	No
SLES 12 SP3	No	No	No	No	No	No
SLES 12 SP2	No	No	No	No	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
SLES 11 SP4	No	No	No	No	No	No
VMware ESXi 6.5.0	No	No	No	No	No	No
VMware ESXi 6.5.0a	No	No	No	No	No	No
VMware ESXi 6.5.0d	No	No	No	No	No	No
VMware ESXi 6.5.0 Update 1	No	No	No	No	No	No
VMware ESXi 6.5.0 Update 2	No	No	No	No	No	No
VMware ESXi 6.5.0 Update 3	No	No	No	No	No	No
VMware ESXi 6.0	No	No	No	No	No	No
VMware ESXi 6.7.0	No	No	No	No	No	No
VMware ESXi 6.7.0 Update 1	No	No	No	No	No	No
VMware ESXi 6.7.0 Update 2	No	No	No	No	No	No
VMware ESXi 6.7.0 Update 3	No	No	No	No	No	No
VMware ESXi 7.0	No	No	No	No	No	No
VMware ESXi 7.0 Update 1	No	No	No	No	No	No
VMware ESXi 7.0 Update 2	Yes	No	Yes	No	No	No
VMware ESXi 7.0 Update 3	Yes	No	Yes	Yes	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
VMware ESXi 8.0	No	No	No	No	No	No
VMware ESXi 8.0.1	No	No	No	No	No	No
VMware ESXi 9.0	Yes	No	No	No	No	No
Ubuntu 24.04 LTS	No	No	No	No	No	No
Ubuntu 22.04.3 LTS	No	No	No	No	Yes	Yes
Ubuntu 22.04.2 LTS	No	No	No	No	No	No
Ubuntu 22.04.1 LTS	No	No	No	No	No	No
Ubuntu 22.04 LTS	No	No	No	No	No	No
Ubuntu 20.04.6 LTS	No	No	No	No	No	No
Ubuntu 20.04.5 LTS	No	No	No	No	No	No
Ubuntu 20.04.1 LTS	Yes	No	Yes	Yes	No	No
Ubuntu 18.04 LTS	No	No	No	No	No	No
Ubuntu 18.04.1 LTS	No	No	No	No	No	No
Ubuntu 18.04.2 LTS	No	No	No	No	No	No
Ubuntu 18.04.3 LTS	No	No	No	No	No	No
Ubuntu 18.04.4 LTS	No	No	No	No	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
Ubuntu 18.04.5 LTS	No	No	No	No	No	No
Ubuntu 16.04.6 LTS	No	No	No	No	No	No
Ubuntu 16.04.2 LTS	No	No	No	No	No	No
Ubuntu 16.04.1 LTS	No	No	No	No	No	No
Ubuntu 16.04 LTS	No	No	No	No	No	No
NeoKylin Server V7.0 U6	No	No	No	No	No	No
Kylin V10 SP3	No	No	No	No	No	No
Kylin V10 SP2	No	No	Yes	No	No	No
EulerOS 2.0 SP5	No	No	No	No	No	No
EulerOS 2.0 SP9	No	No	No	No	No	No
Debian 9.6	No	No	No	No	No	No
Debian 9.8	No	No	No	No	No	No
Debian 9.9	No	No	No	No	No	No
Debian 10	No	No	No	No	No	No
Debian 10.7	No	No	No	No	No	No
Debian 10.8	No	No	No	No	No	No
Debian 11.0	No	No	No	No	No	No
Debian 11.4	No	No	No	No	No	No
Debian 11.5	No	No	No	No	No	No
Debian 11.7	No	No	No	No	No	No
openEuler 20.03	No	No	No	No	No	No

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OS	BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M)	BROADCOM SAS3808-BootCard (XP270-M2)	BROADCOM SAS3908/ BROADCOM SAS3916	BROADCOM XR370-M-8i/ BROADCOM XR370-M-16i	MegaRAID 9670W-16i	HBA 9600-16e
openEuler 22.03 LTS SP1	No	No	No	No	No	No
openEuler 24.03 LTS	No	No	No	No	No	No
FusionOS 22.0.1	No	No	No	No	No	No
FusionOS 22.0.3	No	No	No	No	No	No
FusionOS 23.0.1	No	No	No	No	No	No

4.2.4 Smart Provisioning Hardware Diagnosis Compatibility

For details about the CPUs and memory supported by the diagnosis function, see the servers supported by Smart Provisioning and **4.2 Compatibility List**.

Ensure that the memory capacity of the server is at least 16 GB before performing a memory stress test. Otherwise, the memory stress test will fail.

For Smart Provisioning 1.3.1.1 or earlier version, stress testing of memory with capacity of 768 GB to 1024 GB may fail due to memory exhaustion. Update it to Smart Provisioning 1.6.1.2 or later version.The NIC diagnosis function supports only Ethernet NICs.

The NIC diagnosis function supports only Ethernet NICs.

For details about GPUs supported by the diagnosis function, see the **Compatibility List** of Smart Provisioning hardware diagnosis function.

For details about the RAID controller cards, FC cards, and drives supported by the diagnosis function, see **Table 4-8**.

Table 4-8 RAID controller cards, FC cards and drives supported by the diagnosis function

Hardware Type	Vendor	Model
RAID controller card	Broadcom	LSI SAS3008
	Broadcom	LSI SAS3108
	Broadcom	Avago SAS3004

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Hardware Type	Vendor	Model
	Adaptec	SmartRAID 3152-8i
	Adaptec	SmartHBA 2100-8i
	Broadcom	LSI SAS9305-24i
	Broadcom	LSI 9361-8i
	Broadcom	Avago SAS3408
	Broadcom	Avago SAS3508
	Broadcom	Avago SAS3416iMR
	Broadcom	Avago SAS3516
	Broadcom	Avago 9361-8i
	Broadcom	Avago 9440-8i
	Broadcom	Avago 9460-8i
	Broadcom	Avago 9460-16i
	Broadcom	MegaRAID 9560-8i
	Broadcom	MegaRAID 9560-16i
	Broadcom	MegaRAID 9540-8i
	Broadcom	MegaRAID 9540-16i
	Broadcom	MegaRAID 9580-8i8e
	Broadcom	SAS3808iMR
	Broadcom	SAS3816iMR
	Broadcom	SAS3808-BootCard(XP270-M)
	Broadcom	SAS3808-BootCard(XP270-M2)
	Broadcom	SAS3908
	Broadcom	SAS3916
	Broadcom	XR370-M-8i
	Broadcom	XR370-M-16i
	Broadcom	Avago SAS3408IT
	Broadcom	Avago SAS3416IT
	Broadcom	HBA 9500-8i
	Broadcom	HBA 9500-8e

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Hardware Type	Vendor	Model
	Broadcom	HBA 9500-16e
	Broadcom	HBA 9500-16i
	Broadcom	MegaRAID 9670W-16i
	Broadcom	HBA 9600-16e
FC card	Broadcom	LPE32000-AP
		LPE32002-AP
		LPE35002-AP
	QLogic Corp.	QLE2690
		QLE2692
		QLE2672
		QLE2742-HUA-SP
		QLE2560-HUA-SP
		QLE2770
		QLE2772
Drive	Seagate	-
	WDC	-
	HGST	-
	Toshiba	-
	SanDisk	-
	Intel	-
	Micron	-
	Samsung	-
	xFusion	-
	YMTC	-
	PETAIO	-
	Memblaze	-
	Solidigm	-
	ScaleFlux	-
	DapuStor	-
	Kioxia	-

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Hardware Type	Vendor	Model
	Hynix	-
	Shannon	-
	DERA	-
	Ramaxel	-
	Goke	-
	Huawei	-
	XITC	-
	SMI	-
	SSSTC	-
	LITEON	-
	Sage	-
	DAT	-
	UMIS	-
	CMHI	-
	KunLun	-

NOTE

- The function of obtaining hard drive slot information is supported only on servers using iBMC 2.53 or later.
- The supported hard drive types include SAS/SATA HDD and SAS/SATA/NVMe SSD.
- The supported RAID controller card types include LSI SAS3008, LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, HBA 9500-8i, HBA 9500-8e, HBA 9500-16e, HBA 9500-16i, Avago SAS3408IT, Avago SAS3416IT, 9305-24i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i, BROADCOM MegaRAID 9580-8i8e, BROADCOM SAS3808iMR, BROADCOM SAS3816iMR, BROADCOM SAS3808-BootCard (XP270-M), BROADCOM SAS3808-BootCard (XP270-M2), BROADCOM SAS3908, BROADCOM SAS3916, BROADCOM XR370-M-8i and BROADCOM XR370-M-16i and PCH.

4.2.5 Local Default Driver of Smart Provisioning

- When installing the OS, you can use a local default driver as the server board driver, or search for iDriver to download the driver from the xFusion technical **Support** website and then upload the driver. Sections **4.2.5.1 Local default drivers used for installing the RHEL OS** and **4.2.5.6 Local default drivers used for installing the Ubuntu OS** describe file names of the local default drivers integrated with Smart Provisioning.

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- When a series of OSs is deployed in a batch, for example, CentOS 8 series, the local default driver of Smart Provisioning does not integrate the corresponding board drivers of these OSs.

4.2.5.1 Local default drivers used for installing the RHEL OS

Table 4-9 Local default drivers used for installing the RHEL OS

OS Version	Board or Card Name	Driver Name
RHEL 7.6	X550&82599&X540	NIC-82599_X540_X550-RHEL7.6-ixgbe-5.11.3-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-RHEL7.6-qla2xxx-10.01.00.55.07.6-k-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-RHEL7.6-megaraid_sas-07.719.04.00-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-RHEL7.6-i40e-2.15.9-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3224IT_3408IT_3416IT-RHEL7.6-mpt3sas-27.00.00.00-1-x86_64.rpm
	lancer	FC-Lancer-RHEL7.6-lpfc-12.0.344.0-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-RHEL7.6-lpfc-12.6.240.48-1-x86_64.rpm
RHEL 7.5	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-RHEL7.5-mpt3sas-27.00.00.00-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-RHEL7.5-qla2xxx-8.08.00.08.07.5-k9-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-RHEL7.5-ixgbe-5.11.3-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-RHEL7.5-megaraid_sas-07.716.01.00-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-RHEL7.5-lpfc-12.2.383.0-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-RHEL7.5-lpfc-12.2.383.0-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-RHEL7.5-i40e-2.9.21-1-x86_64.rpm
	lancer	FC-Lancer-RHEL7.5-lpfc-12.0.261.8-1-x86_64.rpm
RHEL 7.4	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-RHEL7.4-lpfc-12.2.383.0-1-x86_64.rpm
	PM8222&PM8204	RAID-PM8204-RHEL7.4-smartpqi-1.2.12-025-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-RHEL7.4-lpfc-12.2.383.0-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-RHEL7.4-megaraid_sas-07.716.01.00-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-RHEL7.4-ixgbe-5.11.3-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-RHEL7.4-mpt3sas-28.00.00.00-1-x86_64.rpm
	lancer	FC-Lancer-RHEL7.4-lpfc-12.0.261.8-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-RHEL7.4-i40e-2.9.21-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-RHEL7.4-qla2xxx-8.08.00.08.07.0-k-1-x86_64.rpm
RHEL 7.3	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-RHEL7.3-mpt3sas-28.00.00.00-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-RHEL7.3-i40e-2.9.21-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-RHEL7.3-lpfc-12.0.193.22-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
	lancer	FC-Lancer-RHEL7.3-lpfc-12.0.261.8-1-x86_64.rpm
	PM8204&PM8222	RAID-PM8204-RHEL7.3-smartpqi-1.2.12-025-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-RHEL7.3-qla2xxx-8.07.00.56.07.0-k-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-RHEL7.3-lpfc-12.0.193.22-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-RHEL7.3-ixgbe-5.11.3-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-RHEL7.3-megaraid_sas-07.716.01.00-1-x86_64.rpm
RHEL 6.10	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-RHEL6.10-megaraid_sas-07.709.08.00-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-RHEL6.10-mpt3sas-28.00.00.00-1-x86_64.rpm
	PM8222&PM8204	RAID-PM8204-RHEL6.10-smartpqi-1.2.12-025-1-x86_64.rpm
	lancer	FC-Lancer-RHEL6.10-lpfc-12.0.261.8-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-RHEL6.10-ixgbe-5.11.3-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-RHEL6.10-i40e-2.9.21-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-RHEL6.10-lpfc-12.2.299.13-1-x86_64.rpm
RHEL 6.9	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-RHEL6.9-qla2xxx-8.08.00.08.06.0-k-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-RHEL6.9-ixgbe-5.11.3-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
	PM8222&PM8204	RAID-PM8204-RHEL6.9-smartpqi-1.2.12-025-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-RHEL6.9-i40e-2.9.21-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-RHEL6.9-lpfc-12.2.299.13-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-RHEL6.9-mpt3sas-27.00.00.00-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-RHEL6.9-megaraid_sas-07.709.08.00-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-RHEL6.9-lpfc-12.2.299.13-1-x86_64.rpm
	lancer	FC-Lancer-RHEL6.9-lpfc-12.0.261.8-1-x86_64.rpm

4.2.5.2 Local default drivers used for installing the Windows OS

The Local default drivers Windows 2012 R2 system driver will be deleted from Smart Provisioning 1.7.10 and later versions.

Table 4-10 Local default drivers used for installing the Windows OS

OS Version	Board or Card Name	Driver Name
Windows Server 2019 Standard (Desktop Experience)/Windows Server 2019 Standard/ Windows Server 2019 Datacenter (Desktop Experience)/Windows Server 2019 Datacenter	3408iMR&3508&3416iMR&3516	RAID-3408iMR_3416iMR_3508_3516-Win2K19-7.719.06.00-x86_64_silence.exe
	3108&3004IMR	RAID-3004iMR_3108-Win2K19-6.714.18.00-x86_64_silence.exe
	PM8204&PM8222	RAID-PM8204-Win2K19-106.178.0.1009-x86_64_silence.exe
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501_XE601-Win2K19-12.8.542.9-x86_64_silence.exe

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OS Version	Board or Card Name	Driver Name
	82599&X710&X550&I350&XL710&X722&X540	NIC-I350_X710_XL710_XXV710-Win2K19-V26.2-x86_64_silence.exe
	lancer	FC-Lancer-Win2K19-12.6.165.0-x86_64_silence.exe
	CX4&CX5&CX4-Lx	IB_NIC-CX4_CX4Lx_CX5_CX5Ex_CX6-Win2K19-2.70.24728.0-x86_64_silence.exe
	ISP2722	FC-ISP2532_ISP2714_ISP2722_ISP2812-Win2K19-9.4.5.21-x86_64_silence.exe
Windows Server 2016 Standard (Desktop Experience)/Windows Server 2016 Standard/ Windows Server 2016 Datacenter (Desktop Experience)/Windows Server 2016 Datacenter	3408iMR&3508&3416iMR&3516	RAID-3408iMR_3416iMR_3508_3516-Win2K16-7.719.06.00-x86_64_silence.exe
	3416IT&3408IT	RAID-3408IT_3416IT-Win2K16-2.60.94.01-x86_64_silence.exe
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-Win2K16-12.8.542.9-x86_64_silence.exe
	lancer	FC-Lancer-Win2K16-12.6.165.0-x86_64_silence.exe
	XE201	FC-IOC540_XE201_XE501-Win2K16-12.8.542.9-x86_64_silence.exe
	PM8222&PM8204	RAID-PM8204-Win2K16-106.178.0.1009-x86_64_silence.exe
	CX4-Lx&CX4&CX5	IB_NIC-CX4_CX4Lx_CX5_CX5Ex_CX6-Win2K16-2.70.24728.0-x86_64_silence.exe
	3004iMR&3108	RAID-3004iMR_3108-Win2K16-6.714.18.00-x86_64_silence.exe

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OS Version	Board or Card Name	Driver Name
	lancer	FC-Lancer-Win2K16-12.6.165.0-x86_64_silence.exe
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-Win2K16-9.4.4.20-x86_64_silence.exe

4.2.5.3 Local default drivers used for installing the CentOS OS

Table 4-11 Local default drivers used for installing the CentOS OS

OS Version	Board or Card Name	Driver Name
CentOS 7.6	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-CentOS7.6-megaraid_sas-07.719.04.00-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-CentOS7.6-qla2xxx-10.01.00.55.07.6-k-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-CentOS7.6-i40e-2.15.9-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-CentOS7.6-lpfc-12.6.240.48-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-CentOS7.6-ixgbe-5.11.3-1-x86_64.rpm
	lancer	FC-Lancer-CentOS7.6-lpfc-12.0.344.0-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3224IT_3408IT_3416IT-CentOS7.6-mpt3sas-27.00.00.00-1-x86_64.rpm
CentOS 7.5	XE201	NIC-XE201-CentOS7.5-lpnic-11.4.367.0-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-CentOS7.5-qla2xxx-8.08.00.08.07.5-k9-1-x86_64.rpm
	be3	CNA-be3-CentOS7.5-brcmfcoe-11.4.1272.0-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-CentOS7.5-mpt3sas-27.00.00.00-1-x86_64.rpm
	lancer	HBA-lancer-CentOS7.5-lpfc-12.0.261.8-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-CentOS7.5-ixgbe-5.3.7-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-CentOS7.5-megaraid_sas-07.709.08.00-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-CentOS7.5-lpfc-12.2.383.0-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-CentOS7.5-i40e-2.7.12-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-CentOS7.5-mpt3sas-27.00.00.00-1-x86_64.rpm
CentOS 7.4	XE201	FC-IOC540_XE201_XE501-CentOS7.4-lpfc-12.2.383.0-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-CentOS7.4-megaraid_sas-07.716.01.00-1-x86_64.rpm
	lancer	FC-Lancer-CentOS7.4-lpfc-12.0.261.8-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-CentOS7.4-ixgbe-5.11.3-1-x86_64.rpm
	PM8222&PM8204	RAID-PM8204-CentOS7.4-smartpqi-1.2.12-025-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-CentOS7.4-mpt3sas-27.00.00.00-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-CentOS7.4-qla2xxx-8.08.00.08.07.0-k-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-CentOS7.4-lpfc-12.2.383.0-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-CentOS7.4-i40e-2.9.21-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
CentOS 7.3	XE201	FC-IOC540_XE201_XE501-CentOS7.3-lpfc-12.0.193.22-1-x86_64.rpm
	lancer	FC-Lancer-CentOS7.3-lpfc-12.0.261.8-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-CentOS7.3-lpfc-12.0.193.22-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-CentOS7.3-megaraid_sas-07.716.01.00-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-CentOS7.3-qla2xxx-8.07.00.56.07.0-k-1-x86_64.rpm
	3008IT&3408IT&3416IT&3008IR	RAID-3008IR_3008IT_3408IT_3416IT-CentOS7.3-mpt3sas-28.00.00.00-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-CentOS7.3-i40e-2.9.21-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-CentOS7.3-ixgbe-5.11.3-1-x86_64.rpm
CentOS 6.10	lancer	FC-Lancer-CentOS6.10-lpfc-12.0.261.8-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-CentOS6.10-lpfc-12.2.299.13-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-CentOS6.10-lpfc-12.2.299.13-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-CentOS6.10-ixgbe-5.11.3-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-CentOS6.10-i40e-2.9.21-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-CentOS6.10-megaraid_sas-07.709.08.00-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-CentOS6.10-mpt3sas-27.00.00.00-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
CentOS 6.9	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-CentOS6.9-megaraid_sas-07.709.08.00-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-CentOS6.9-lpfc-12.2.299.13-1-x86_64.rpm
	X550&82599&X540	NIC-82599_X540_X550-CentOS6.9-ixgbe-5.11.3-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-CentOS6.9-qla2xxx-8.08.00.08.06.0-k-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-X710_X722_XL710_XXV710-CentOS6.9-i40e-2.9.21-1-x86_64.rpm
	lancer	FC-Lancer-CentOS6.9-lpfc-12.0.261.8-1-x86_64.rpm
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-CentOS6.9-mpt3sas-27.00.00.00-1-x86_64.rpm
	PM8222&PM8204	RAID-PM8204-CentOS6.9-smartpqi-1.2.12-025-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-CentOS6.9-lpfc-12.2.299.13-1-x86_64.rpm

4.2.5.4 Local default drivers used for installing the SLES OS

Table 4-12 Local default drivers used for installing the SLES OS

OS Version	Board or Card Name	Driver Name
SLES 12 SP3	PM8204&PM8222	RAID-PM8204-SLES12SP3-smartpqi-1.2.12-025-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-XL710_XXV710-SLES12SP3-i40e-2.12.6-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3108_3408iMR_3508_3516-SLES12SP3-megaraid_sas-07.714.04.00-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-SLES12SP3-qla2xxx-8.08.00.08.12.3-k-1-x86_64.rpm

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OS Version	Board or Card Name	Driver Name
SLES 11 SP4	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-SLES11SP4-lpfc-12.0.261.27-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-XL710_XXV710-SLES11SP4-i40e-2.7.12-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-SLES11SP4-qla2xxx-8.08.00.08.11.3-k-1-x86_64.rpm
	PM8222&PM8204	RAID-PM8204-SLES11SP4-smartpqi-1.2.12-025-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3108_3408iMR_3508_3516-SLES11SP4-megaraid_sas-07.711.04.00-1-x86_64.rpm
	XE201	FC-IOC540_XE201_XE501-SLES11SP4-lpfc-12.0.261.27-1-x86_64.rpm
SLES 12 SP2	XE201	FC-IOC540_XE201_XE501-SLES12SP2-lpfc-12.2.383.0-1-x86_64.rpm
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3108_3408iMR_3508_3516-SLES12SP2-megaraid_sas-07.714.04.00-1-x86_64.rpm
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2714_ISP2722-SLES12SP2-qla2xxx-8.08.00.08.12.2-k-1-x86_64.rpm
	PM8204&PM8222	RAID-PM8204-SLES12SP2-smartpqi-1.2.12-025-1-x86_64.rpm
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-SLES12SP2-lpfc-12.2.383.0-1-x86_64.rpm
	X710&X722&XXV710&XL710	NIC-XL710_XXV710-SLES12SP2-i40e-2.12.6-1-x86_64.rpm

4.2.5.5 Local default drivers used for installing the VMware OS

Table 4-13 Local default drivers used for installing the VMware OS

OS Version	Board or Card Name	Driver Name
ESXi 6.0	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3108-ESXi6.0-lsi_mr3-7.706.09.00-offline_bundle-x86_64.zip

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OS Version	Board or Card Name	Driver Name
	CX4-Lx	NIC-CX4_CX4Lx_CX5-ESXi6.0-nmlx5_core-4.15.10.3-offline_bundle-x86_64.zip
	PM8222&PM8204	RAID-PM8204-ESXi6.0-smartpqi-1.0.4.3017-offline_bundle-x86_64.zip
ESXi 6.5	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3408iMR_3508_3516-ESXi6.5-lsi_mr3-7.709.10.00-offline_bundle-x86_64.zip
	lancer	FC-Lancer-ESXi6.5-lpfc-12.0.257.5-offline_bundle-x86_64.zip
	3416IT&3408IT	RAID-3408IT_3416IT-ESXi6.5-lsi_msgpt35-07.00.00.00-offline_bundle-x86_64.zip
	PM8204&PM8222	RAID-PM8204-ESXi6.5-smartpqi-1.0.4.3017-offline_bundle-x86_64.zip
	X710&X722&XL710	NIC-X710_X722_XL710-ESXi6.5-i40en-1.7.11-offline_bundle-x86_64.zip
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-ESXi6.5-lpfc-12.0.257.5-offline_bundle-x86_64.zip
	X550&82599&X540	NIC-82599_X540_X550-ESXi6.5-ixgben-1.9.11.0-offline_bundle-x86_64.zip
	3008IR&3008IT	RAID-3008IR_3008IT-ESXi6.5-lsi_msgpt3-16.00.00.00-offline_bundle-x86_64.zip
	CX4-Lx	NIC-CX4_CX4Lx_CX5-ESXi6.5-nmlx5_core-4.16.70.1-offline_bundle-x86_64.zip
	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2722-ESXi6.5-qlnativefc-2.1.101.0-offline_bundle-x86_64.zip
ESXi 6.7	ISP2532&ISP2714&ISP2722	FC-ISP2532_ISP2722_ISP2812-ESXi6.7-qlnativefc-3.1.87.6-offline_bundle-x86_64.zip

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OS Version	Board or Card Name	Driver Name
	PM8204&PM8222	RAID-PM8204-ESXi6.7-smartpqi-1.0.4.3017-offline_bundle-x86_64.zip
	3108&3508&3516&3004iMR&3508&9440-8i&9440-16i	RAID-3108-ESXi6.7-lsi_mr3-7.706.09.00-offline_bundle-x86_64.zip
	3408iMR&3416iMR	RAID-3004iMR_3408iMR_3416iMR-ESXi6.7-lsi_mr3-7.713.07.00-offline_bundle-x86_64.zip
	XE201	FC-IOC540_XE201_XE501-ESXi6.7-lpfc-12.6.182.2-offline_bundle-x86_64.zip
	CX4-Lx	NIC-CX4_CX4Lx_CX5-ESXi6.7-nmlx5_core-4.17.70.1-offline_bundle-x86_64.zip
	lancer	FC-Lancer-ESXi6.7-lpfc-12.0.257.5-offline_bundle-x86_64.zip
	82599&X540	NIC-82599_X540_X550-ESXi6.7-ixgben-1.9.12.0-offline_bundle-x86_64.zip
	X710&X722&XL710	NIC-X710_X722_XL710_XXV710-ESXi6.7-i40en-1.10.9.0-offline_bundle-x86_64.zip
	XE201&IOC540&XE501	FC-IOC540_XE201_XE501-ESXi6.7-lpfc-12.6.182.2-offline_bundle-x86_64.zip
	3008IR&3008IT	RAID-3008IR_3008IT-ESXi6.7-lsi_msgpt3-16.00.00.00-offline_bundle-x86_64.zip
	3416IT&3408IT	RAID-3408IT_3416IT-ESXi6.7-lsi_msgpt35-22.00.00.00-offline_bundle-x86_64.zip

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4.2.5.6 Local default drivers used for installing the Ubuntu OS

Table 4-14 Local default drivers used for installing the Ubuntu OS

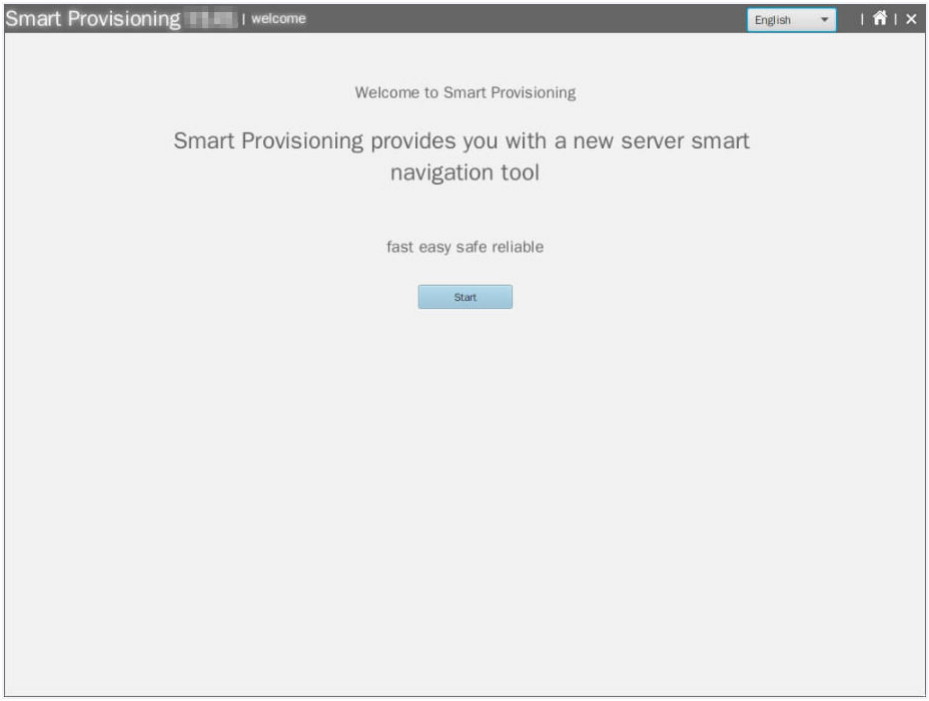
OS Version	Board or Card Name	Driver Name
Ubuntu 16.04 LTS	3416IT&3008IT&3008IR&3408IT	RAID-3008IR_3008IT_3408IT_3416IT-Ubuntu16.04-mpt3sas-27.00.00.00-1-x86_64.deb
	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-Ubuntu16.04-megaraid_sas-07.714.04.00-1-x86_64.deb
Ubuntu 16.04.1 LTS	3508&3416iMR&3108&3516&3408iMR&3004iMR	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-Ubuntu16.04.1-megaraid_sas-07.714.04.00-1-x86_64.deb
	3408IT&3008IR&3008IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-Ubuntu16.04.1-mpt3sas-23.00.00.00-1-x86_64.deb
Ubuntu 16.04.6 LTS	3004iMR&3108&3408iMR&3416iMR&3508&3516	RAID-3004iMR_3108_3408iMR_3416iMR_3508_3516-Ubuntu16.04.6-megaraid_sas-07.714.04.00-1-x86_64.deb
	3008IR&3008IT&3408IT&3416IT	RAID-3008IR_3008IT_3408IT_3416IT-Ubuntu16.04.6-mpt3sas-29.00.00.00-1-x86_64.deb

4.3 Introduction to the Smart Provisioning Main Window

Figure 4-1 shows the Smart Provisioning welcome window.

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Figure 4-1 Smart Provisioning welcome window



- In the English drop-down list, you can set the interface language of Smart Provisioning.
- When you use Smart Provisioning, you can click in the upper right corner to return to the welcome window.
- When you use Smart Provisioning, you can click in the upper right corner to exit Smart Provisioning.
- You can click **Start** to access the Smart Provisioning main window, as shown in **Figure 4-2**.

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Figure 4-2 Smart Provisioning main window



- Click the **Deploy OS** icon to access the OS installation window.
- Click the **RAID Config** icon to access the RAID configuration window.
- Click the **Upgrade** icon to access the upgrade window.
- Click  in the upper right corner to enter the maintenance mode. You can import and export configurations, diagnose hardware, collect logs, and erase hard disks.

4.4 Using Smart Provisioning

4.4.1 Installing an OS

This chapter describes how to install an OS in default mode and customized mode.

In default mode, the hard disk, password, language, and time zone parameters can be set. In customized mode, more parameters can be set.

4.4.1.1 Preparations for Installation

Before you install an OS by using Smart Provisioning, make preparations as follows:

- Obtain a PC running Windows. This PC is used to access the server.
- Log in to **Compatibility Checker** to check whether the current configuration of the server supports the OS to be installed.
- Obtain the installation DVD or ISO image file of the OS to be installed (a physical DVD drive is required when you use the DVD).

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- Configure RAID and set the boot disk for the server where the OS is to be installed. For details, see **4.4.2 Configuring a RAID** or **V5 Server RAID Controller Card User Guide**/**V6 Server RAID Controller Card User Guide**.

NOTICE

- When you use Smart Provisioning to install an OS, you must install the OS on the boot disk.
- Back up data on a hard disk before you install an OS on the disk using Smart Provisioning because the disk will be formatted during installation.
- When installing an OS in Legacy mode, use a hard disk with a capacity less than 2 TB.
- To set the RAID mode for pass-through drives of V5 servers, choose **Advanced** > **PCH Configuration** > **PCH SATA Configuration** or **Advanced** > **PCH Configuration** > **PCH sSATA Configuration** in the BIOS, and enable **Load EFI Driver for RAID** to install the OSs on these pass-through drives.
- When you use Smart Provisioning to install an OS, if there are multiple RAID controller cards in the current environment, you cannot install OSs on different RAID controller cards.
- When you use Smart Provisioning to install an OS on SANBoot in Legacy mode, if a PXE environment exists in the deployment environment, you need to adjust the boot sequence of the MZ520 in the BIOS configuration before the current PXE environment.
- When SANBoot is used to deploy an OS, if an OS exists on the local drive, you cannot switch to the UEFIBoot mode or SecureBoot mode from the Legacy mode to deploy the OS.
- After an OS is deployed in USB mode, the BIOS boot priority is changed to others. After an OS is deployed in SANBoot mode, the BIOS boot priority for the LPe16002 in Legacy mode is changed to others, and the BIOS boot priority for the MZ520 in Legacy mode is changed to PXE.
- Before installing the OS, enable the black box function on the server. If the black box function is not required after the OS is installed, manually disable it. For details, see the ***Server iBMC User Guide***. If the black box function is required after the OS is installed, you need to install the black box driver on the OS.
- /dev/sda path cannot be selected when SP deploys OS, but it does not affect deployment function. After OS is deployed successfully, it's still in the /dev/sda path.
- MegaRAID 9670W-16i and HBA 9600-16e do not support Legacy mode.

4.4.1.2 Installing a Windows Server OS

4.4.1.2.1 Installing a Windows Server OS in Default Mode

This section describes how to install a Windows Server OS on a server by using Smart Provisioning in default mode. In the following operations, Windows Server 2016 Standard and the BIOS UEFI mode are used as an example.

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Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-3**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-3 Smart Provisioning main window

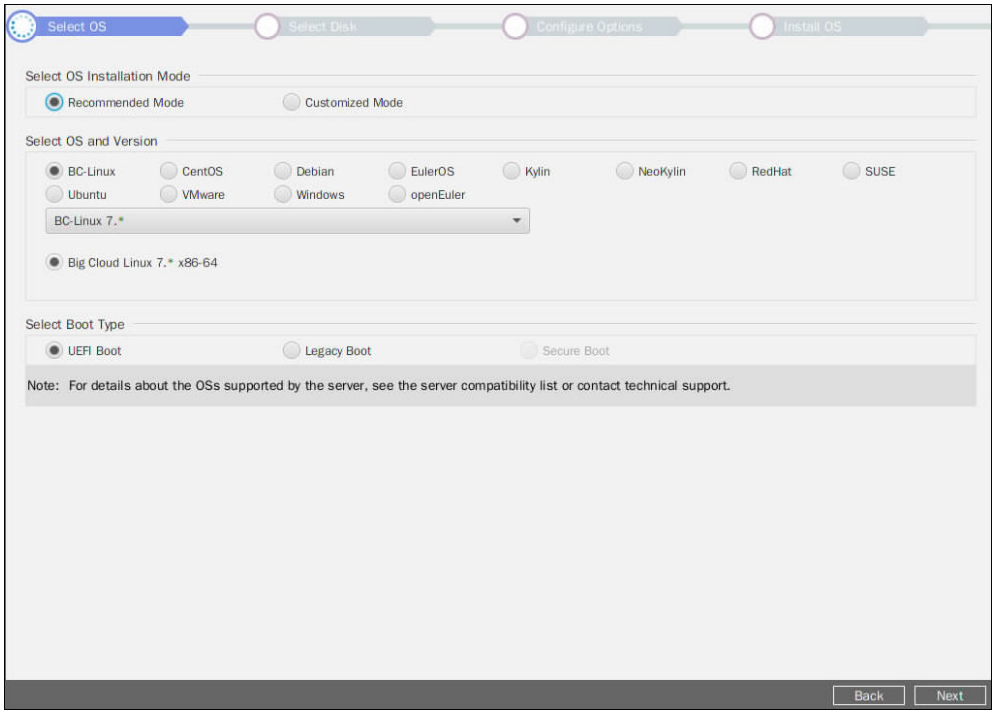


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-4**.

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Figure 4-4 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

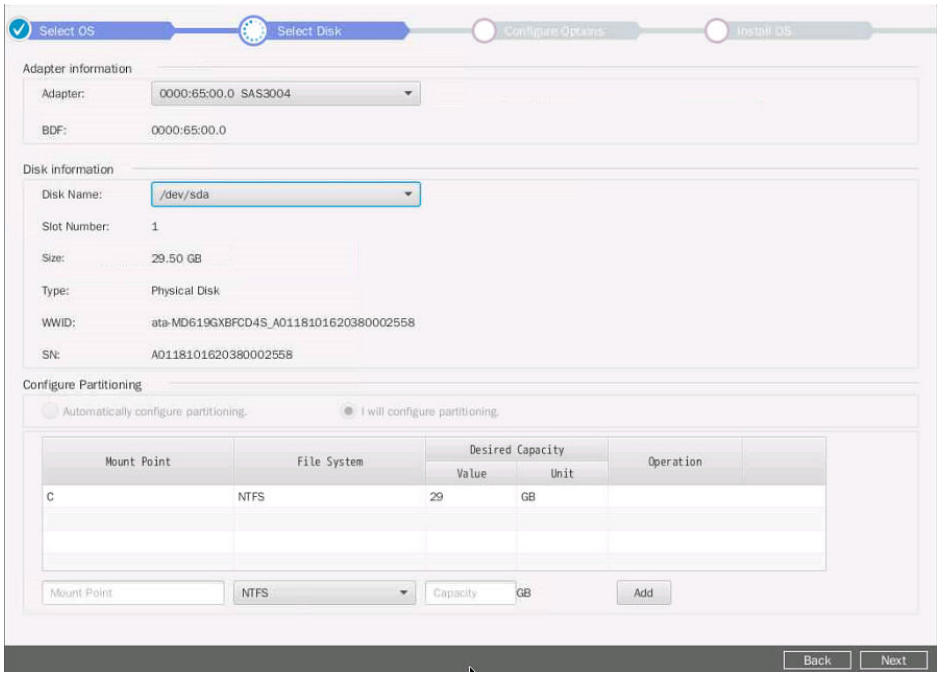
NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file. For example, if the OS version selected in **Step 2** is Windows Server 2016 Standard, the version of the DVD-ROM or image file to be mounted in **Step 11** must be Windows Server 2016 Standard.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.

The **Select Disk** window is displayed, as shown in **Figure 4-5**.

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Figure 4-5 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- The size of the hard drive that is used as drive C of the OS must be greater than or equal to 32 GB.

Step 6 Add drive partitions in the **Configure Partitioning** area based on service requirements.

NOTE

- The maximum number of added partitions cannot exceed 20.
- In this window, you can change the size of the default partition and add or delete partitions. After the modification is complete, press **Enter** for the modification to take effect. The partition value must be greater than **0** and contain only two decimal places.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.

Step 7 Click **Next**.

The OS configuration window is displayed, as shown in **Figure 4-6**.

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Figure 4-6 Configuring the OS

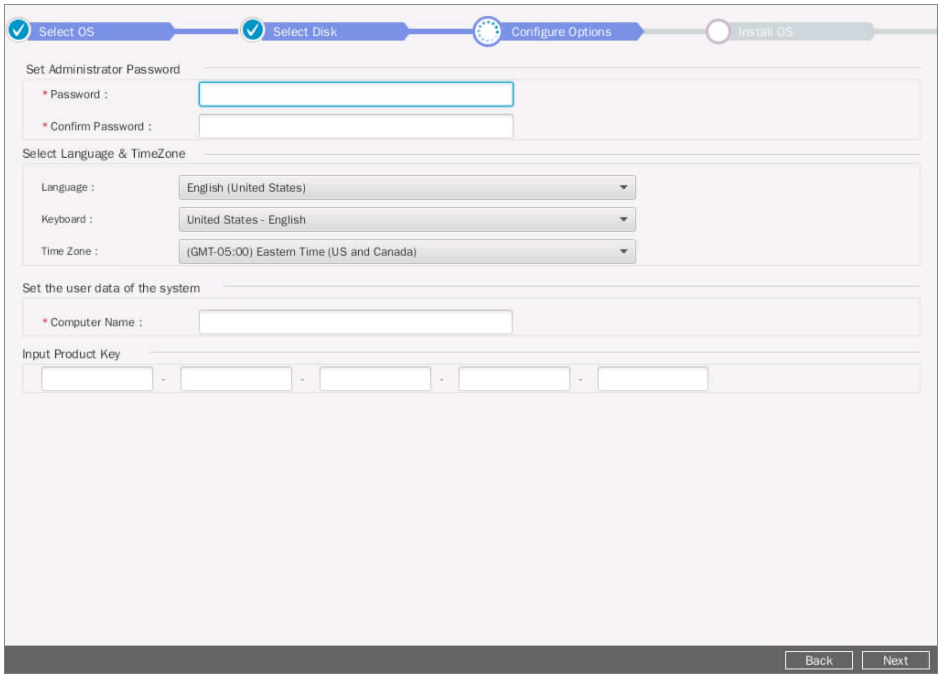


Table 4-15 describes the parameters.

Table 4-15 Parameter description

Parameter	Description	Mandatory
Password	Indicates the administrator account password. The password contains at least six characters.	Yes
Confirm Password	Indicates the administrator account password. The password contains at least six characters.	Yes
Select Language	Selects a language.	No
Select Keyboard	Selects a keyboard.	No
Select Time Zone	Selects a time zone.	No
Computer Name	Indicates the name of the server where the system is to be installed. The name cannot contain special characters (including `~!@#$%^&*()=+[]{}\\|/;:. '\", < >?) and spaces. You cannot set a computer name that contains more than 15 characters and only digits. It is recommended that computer name be the same as the server name.	Yes

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Parameter	Description	Mandatory
Input Product Key	Indicates the Windows product key. If this parameter is not set, the installation may fail(Windows 2019 must have a product key). The product key can contain only five digits, five letters, or a combination of five digits and letters.	No

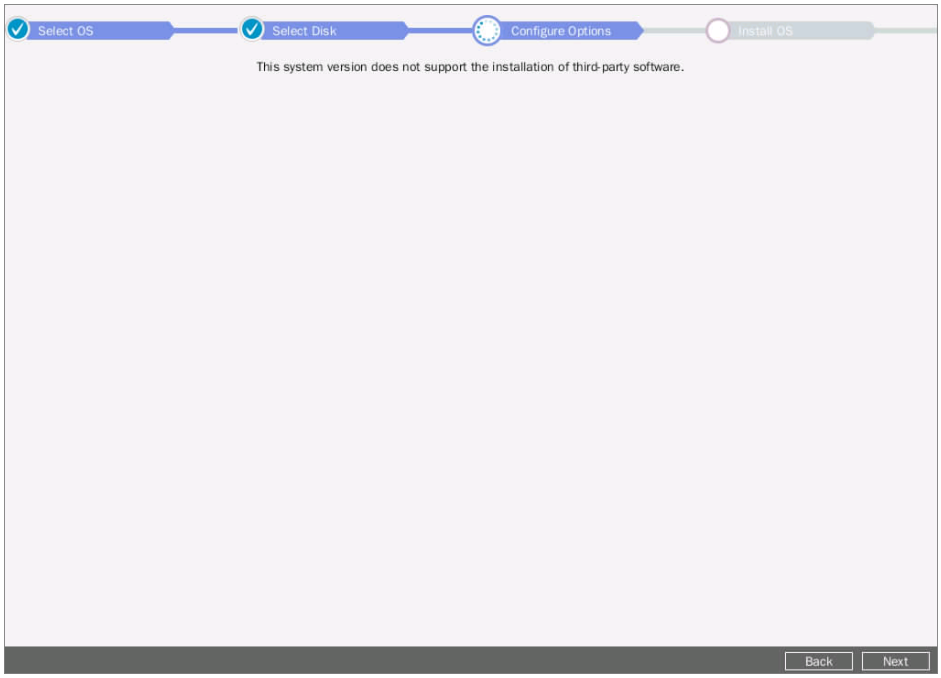
NOTE

To change the administrator password after the system is successfully deployed, log in to the desktop, press **Ctrl**+**Alt**+**Delete**, click **Change Password**, enter the new password twice, and click **OK**.

Step 8 Configure the OS based on **Table 4-15** and click **Next**.

The window shown in **Figure 4-7** is displayed, indicating that the OS version does not support the installation of third-party software.

Figure 4-7 Confirmation dialog box

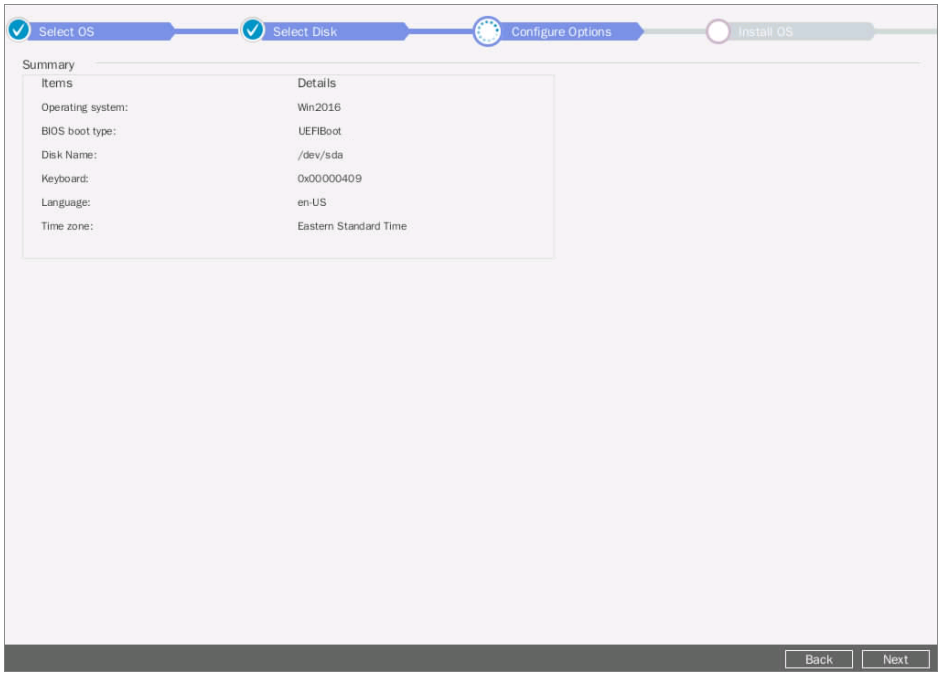


Step 9 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-8**.

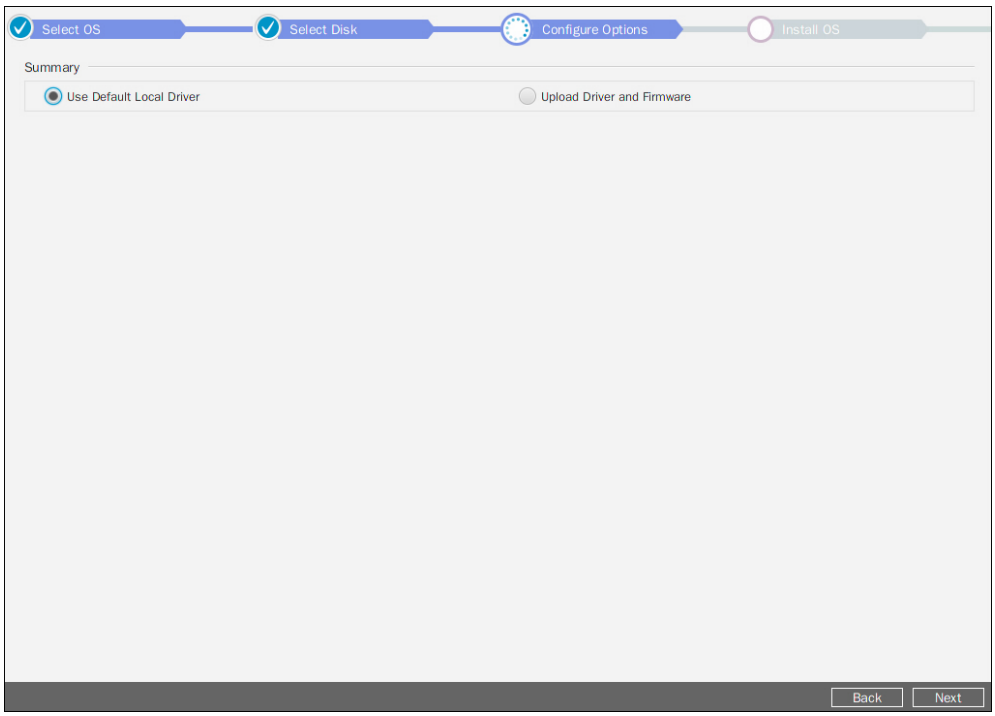
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Figure 4-8 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**, The configuration summary(2) window is displayed, as shown in **Figure 4-9**. For details about configuration, see **Table 4-16**.

Figure 4-9 Viewing the configuration summary(2)



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Table 4-16 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

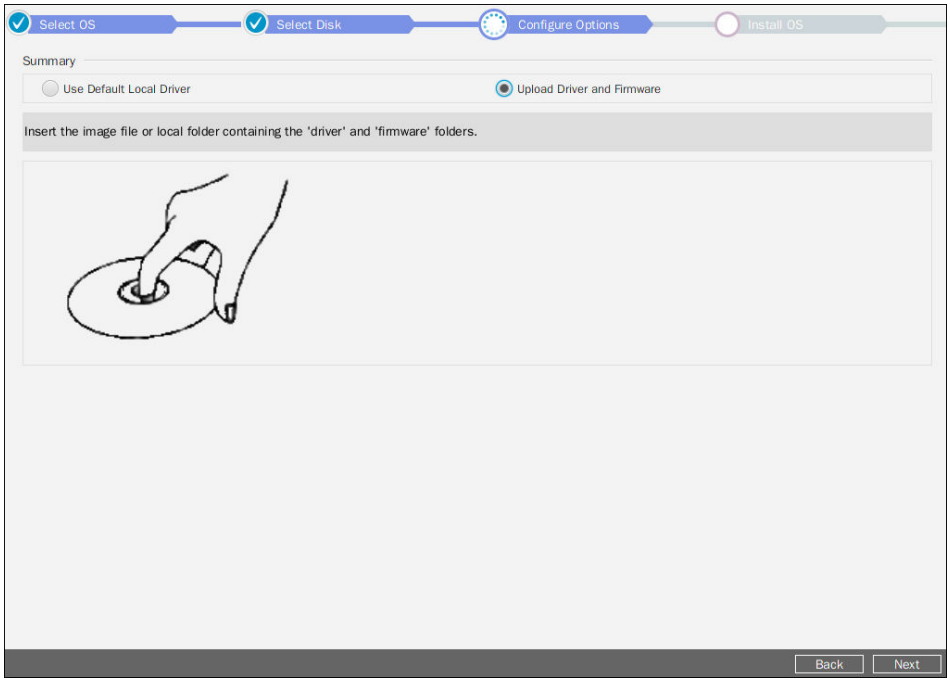
NOTE

- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The local default driver of Windows 2012 system driver will be deleted from Smart Provisioning 1.7.10 and later versions. If you need to install it, it is needed to download the corresponding driver for installing Windows 2012 system and install it through **Upload Driver and Firmware**. For details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.
- When deploying Windows 2012 system drivers, you can visit the Technical **Support Website > Software Download > FusionServer iDriver** to access the required driver and firmware packages. It is needed to download the packages from FusionServer iDriver 3.0.142 or earlier versions.

Procedure:

- Choose "Use Default Local Driver", and click **Next**.
- Choose "Upload Driver and Firmware". Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-10**.

Figure 4-10 Upload Driver and Firmware

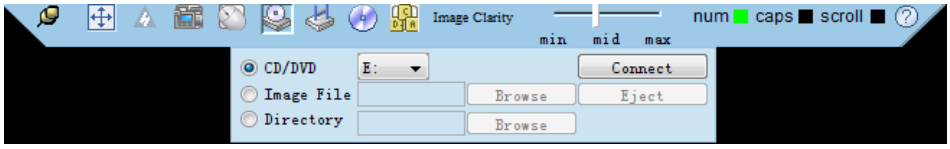


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b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-11**.

Figure 4-11 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

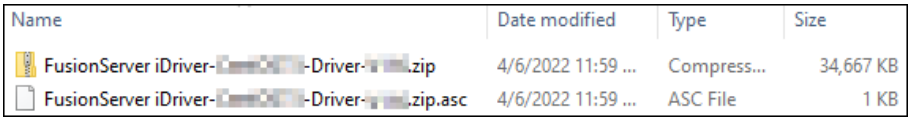
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-12**.

Figure 4-12 Folder



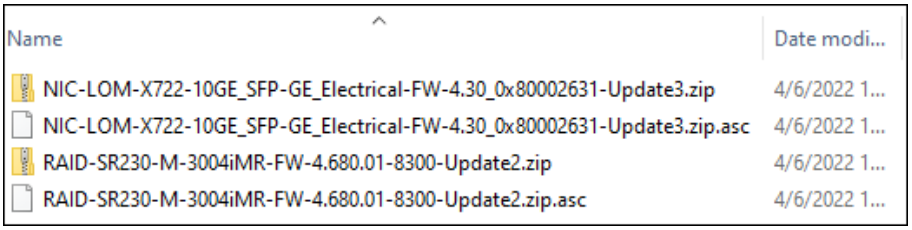
The **driver** folder is shown in **Figure 4-13**.

Figure 4-13 The **driver** folder



The **firmware** folder is shown in **Figure 4-14**.

Figure 4-14 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

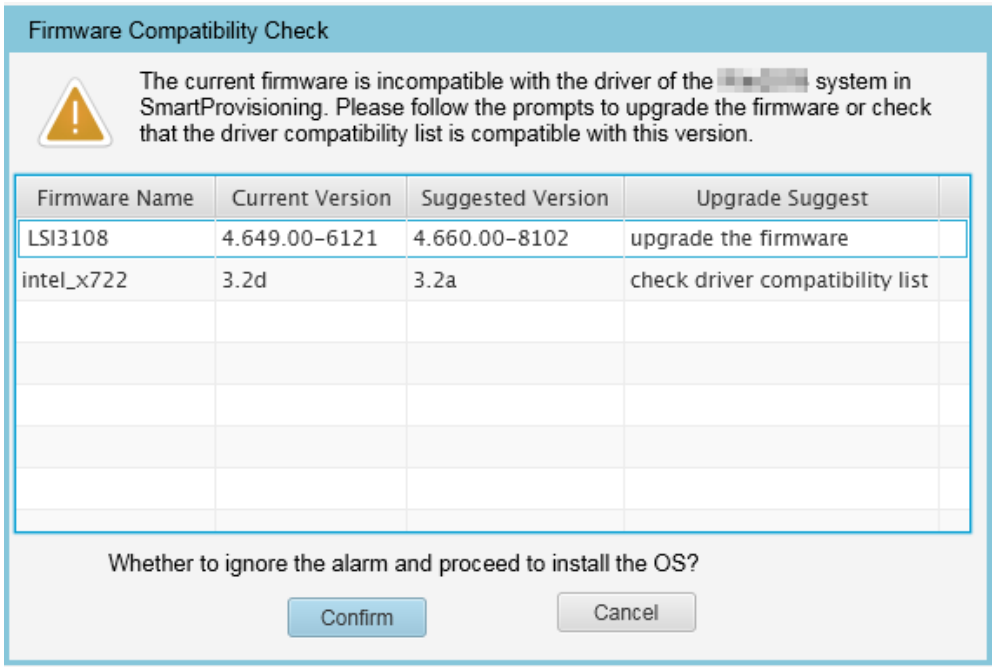
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-17** is displayed. If not, the dialog box shown in **Figure 4-15** is displayed.

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Figure 4-15 Confirmation dialog box



- If the current firmware version is earlier than the target version, upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

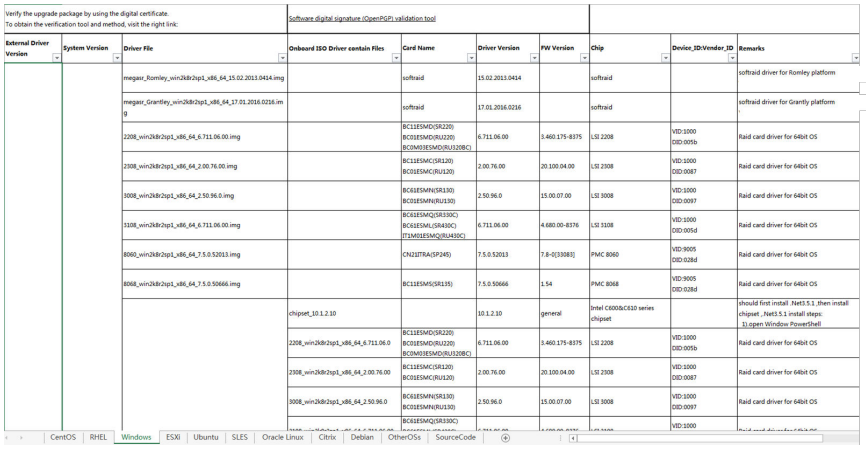
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-16**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the corresponding version in the driver mapping table after installing the OS.

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Figure 4-16 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-17**.

Figure 4-17 Window prompting you to insert the OS medium

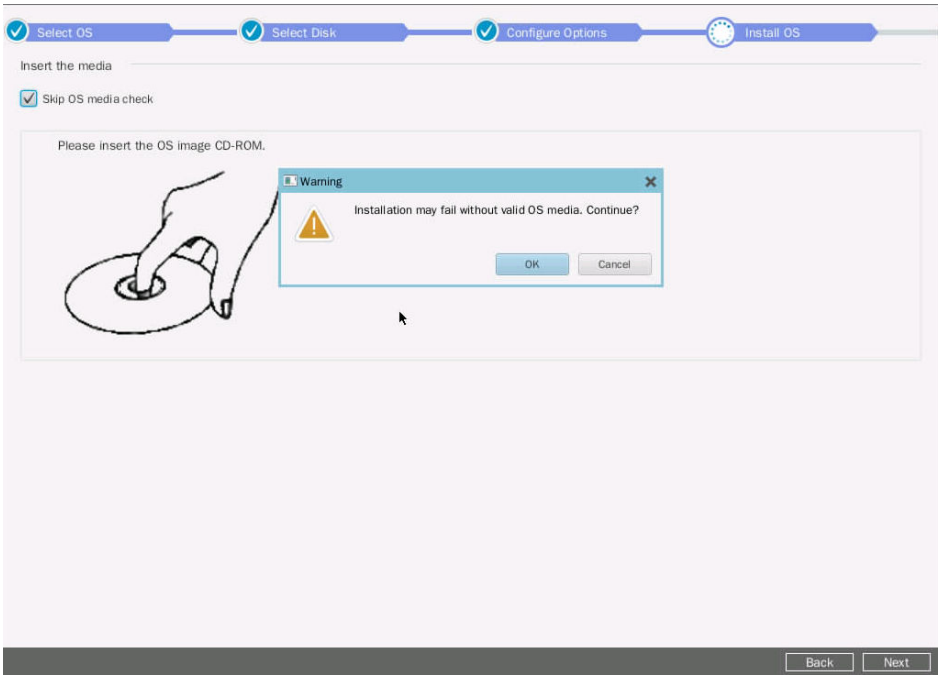


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-18**. Click **OK** or **Cancel** as required. If you do not select **Skip OS media check**, the time required for verifying the DVD-ROM depends on the content of the DVD-ROM. Wait patiently.

Figure 4-18 Confirmation dialog box



Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.

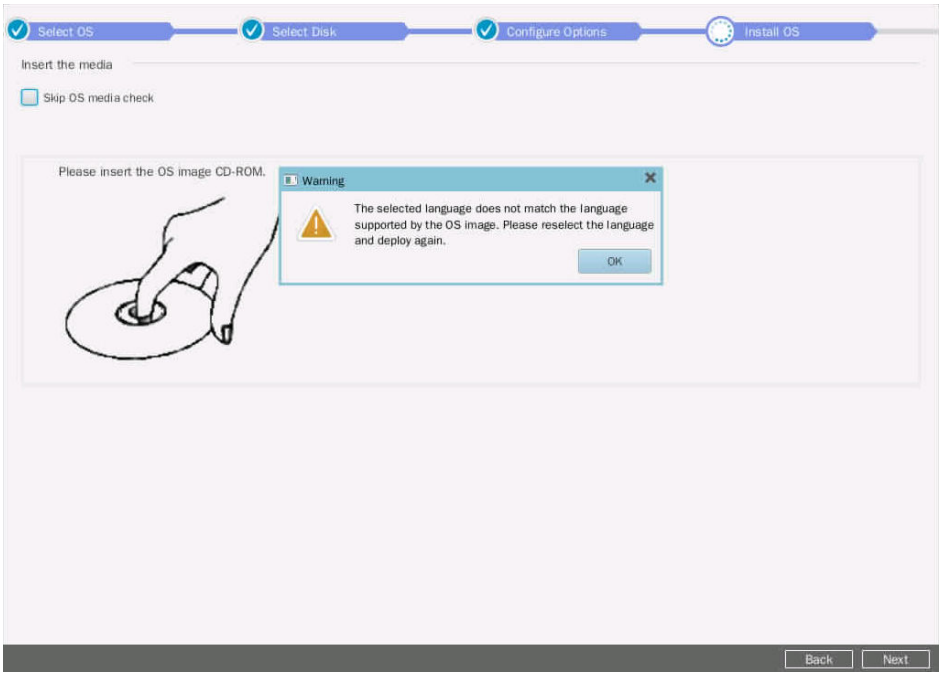
NOTICE

When the OS is deployed, if the selected language does not match the language supported by the OS image, a dialog box is displayed as shown in **Figure 4-19**. In this case, you need to select another language supported by the OS image on the OS configuration window.

You can check the supported languages in the **/sources/lang.ini** file of the OS image.

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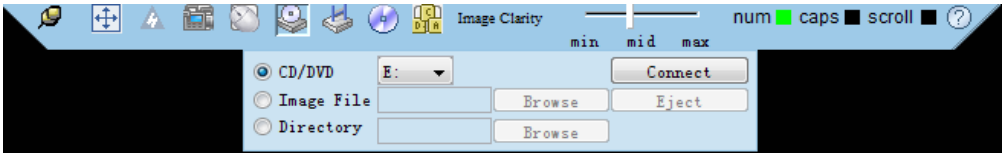
Figure 4-19 Confirmation dialog box



2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-20**.

Figure 4-20 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD-ROM drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 12 Click **Next**.

The OS installation starts, as shown in **Figure 4-21**.

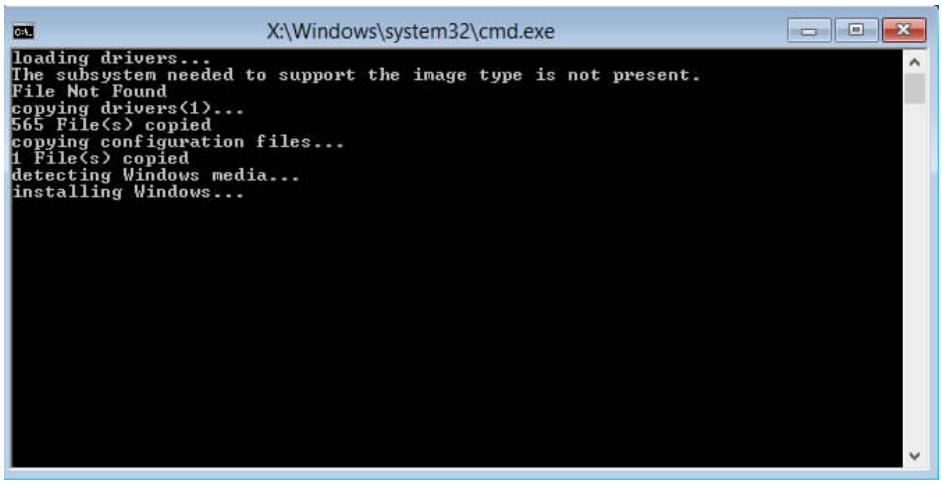
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Figure 4-21 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the server downloads the system configuration file automatically, as shown in **Figure 4-22**.

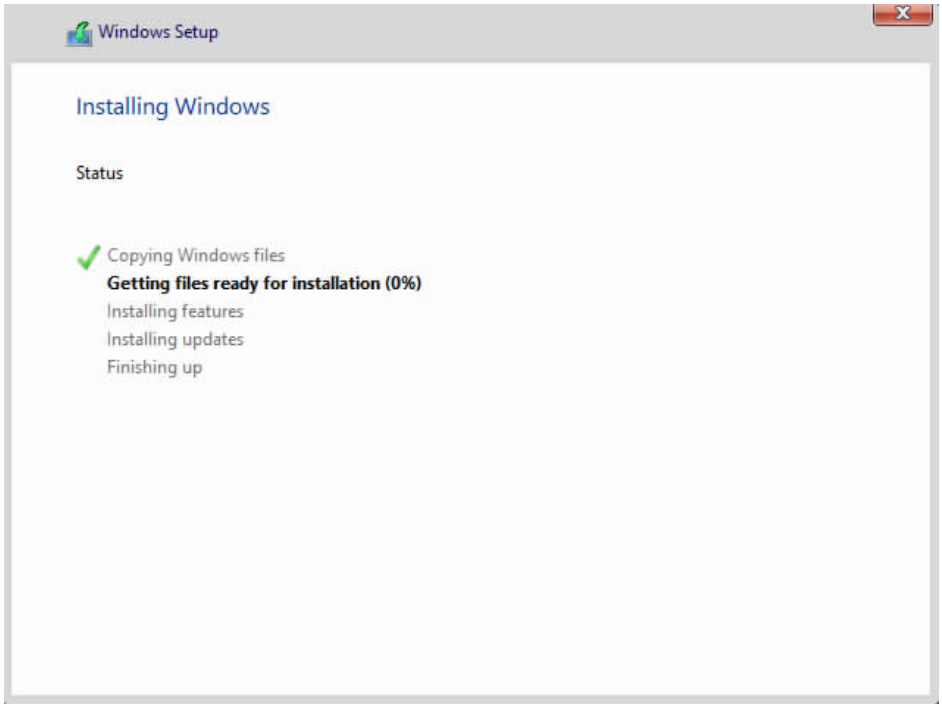
Figure 4-22 Downloading the system configuration file



After the system configuration file is downloaded, the OS installation starts automatically. See **Figure 4-23**.

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Figure 4-23 Installing the OS



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, go to the the system drive to view the installation logs in **C:\drivers\result.txt**.

----End

4.4.1.2.2 Installing a Windows Server OS in Customized Mode

Install a Windows Server OS on a server by using Smart Provisioning in customized mode. In the following operations, Windows Server 2016 Standard and the BIOS Legacy mode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in .**Figure 4-24**

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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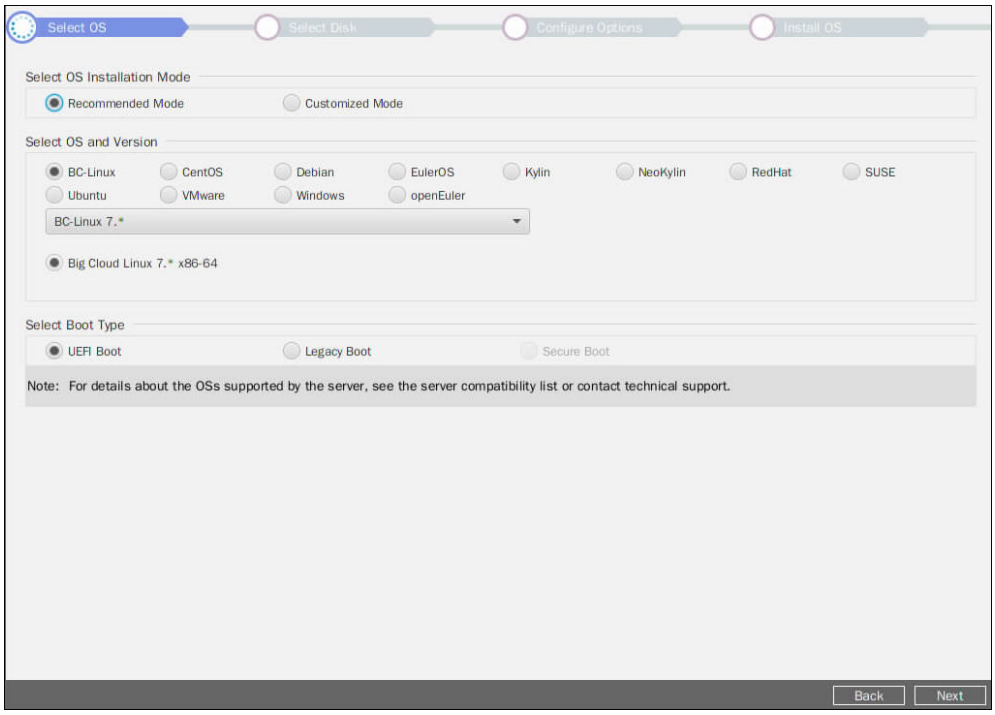
Figure 4-24 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-25**.

Figure 4-25 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

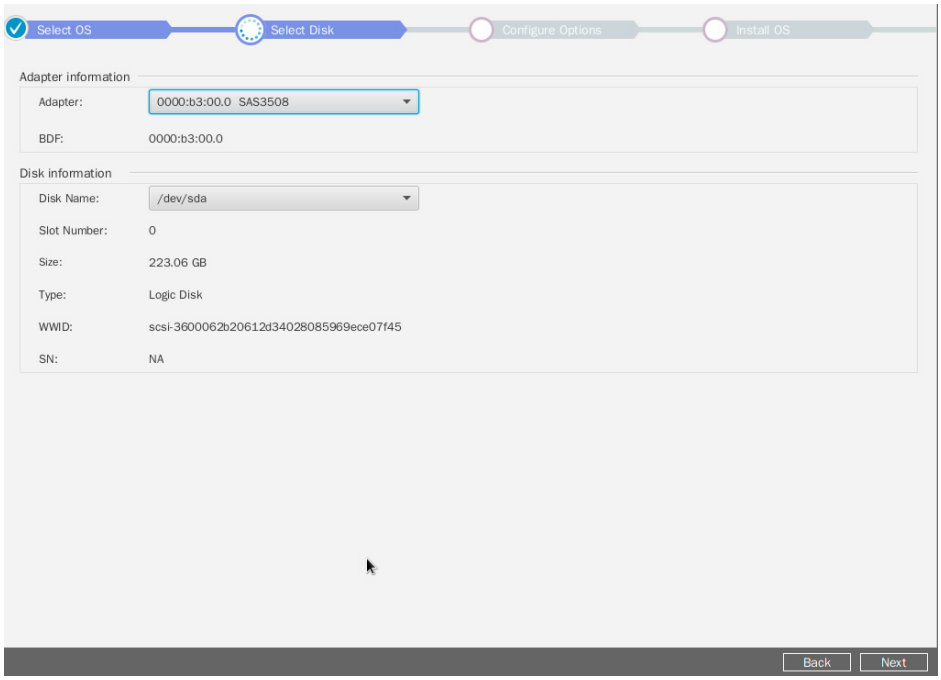
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is Windows Server 2016 Standard, the version of the installation DVD or image file to be mounted in **Step 8** must be Windows Server 2016 Standard.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.

The **Select Disk** window is displayed, as shown in **Figure 4-26**.

Figure 4-26 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

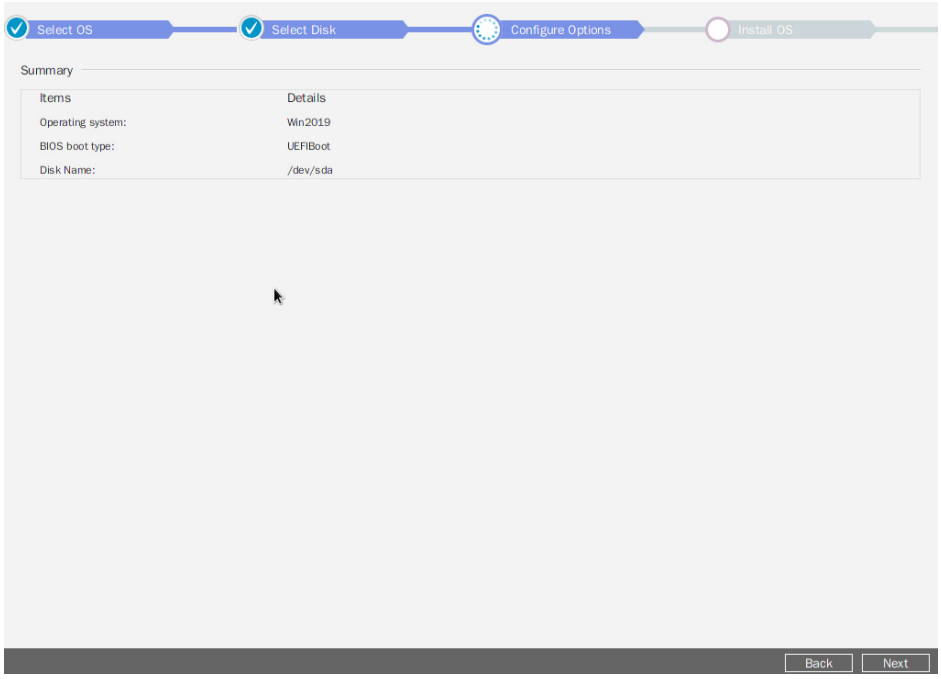
- During the installation process, Smart Provisioning sets the selected hard disk as the boot disk.
- After an installation hard disk is selected, record the value of **Size**. This value will be used in **Step 12**.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-27**.

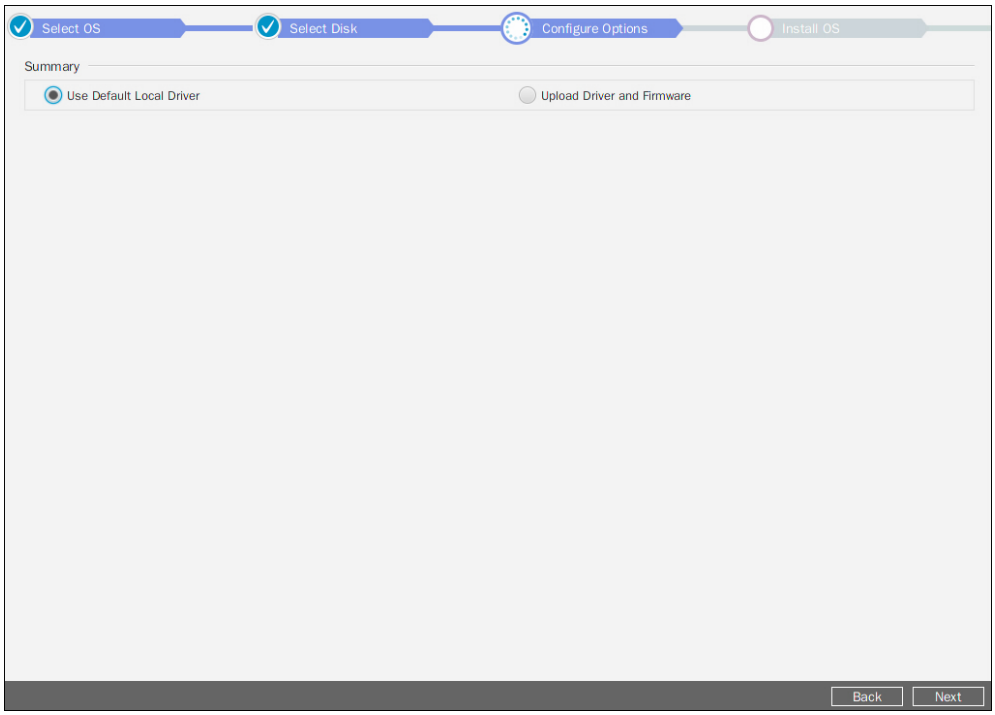
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Figure 4-27 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-28**.For details about configuration,see **Table 4-17**.

Figure 4-28 Viewing the configuration summary(2)



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Table 4-17 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

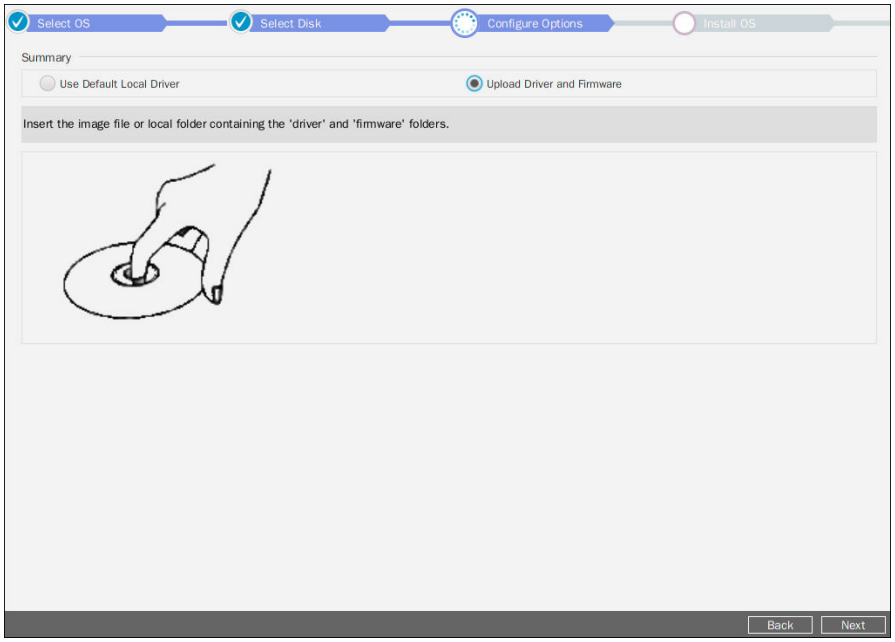
NOTE

- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The local default driver of Windows 2012 system driver will be deleted from Smart Provisioning 1.7.10 and later versions. If you need to install it, it is needed to download the corresponding driver for installing Windows 2012 system and install it through **Upload Driver and Firmware.** For details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.
- When deploying Windows 2012 system drivers, you can visit the Technical **Support Website > Software Download > FusionServer iDriver** to access the required driver and firmware packages. It is needed to download the packages from FusionServer iDriver 3.0.142 or earlier versions.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-29**.

Figure 4-29 Upload Driver and Firmware

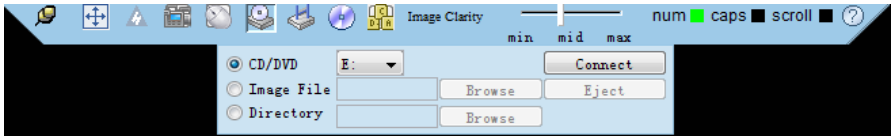


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b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-30**.

Figure 4-30 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

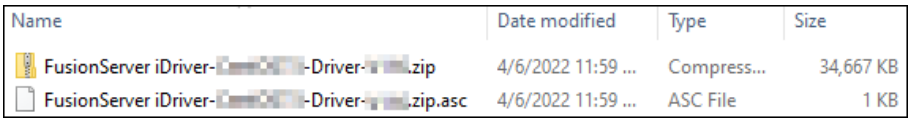
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-31**.

Figure 4-31 Folder



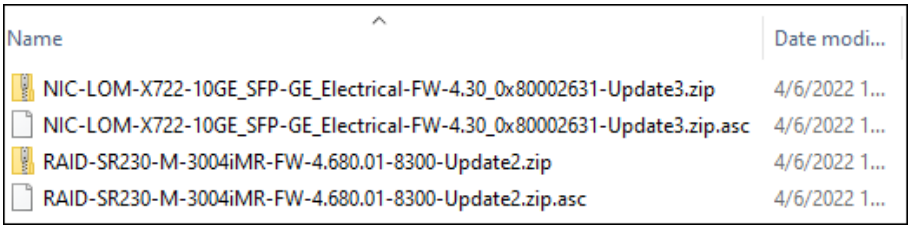
The **driver** folder is shown in **Figure 4-32**.

Figure 4-32 The **driver** folder



The **firmware** folder is shown in **Figure 4-33**.

Figure 4-33 The **firmware** folder



- The required driver and firmware packages can be downloaded through **Technical Support** > **iDriver** > **FusionServer iDriver**. It is need to select FusionServer iDriver 3.0.142 or earlier versions.
- The driver and firmware packages do not need to be decompressed.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

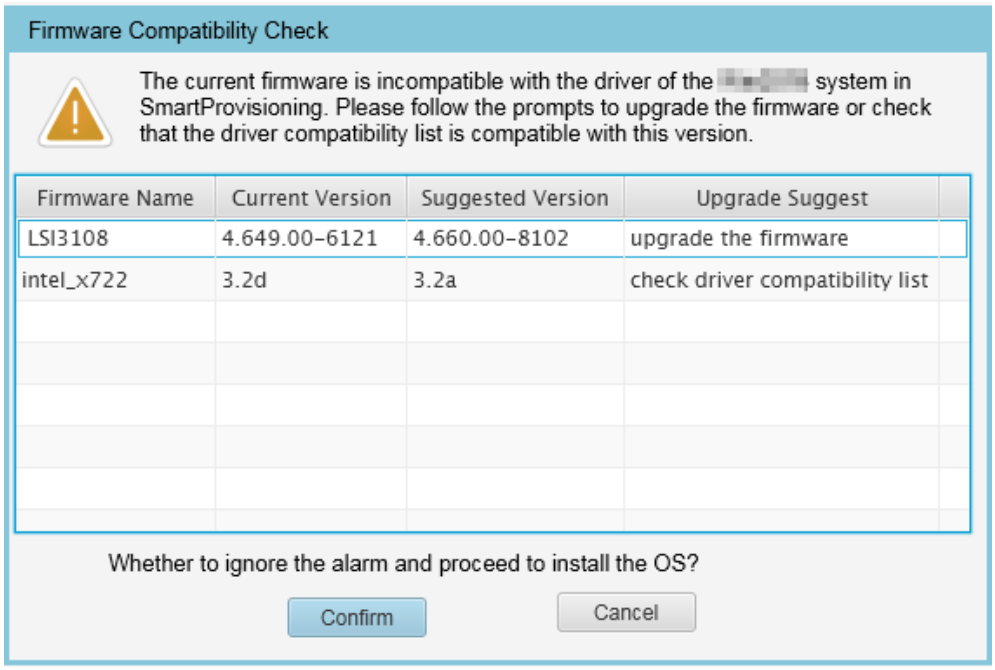
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-36** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-34** is displayed.

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Figure 4-34 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

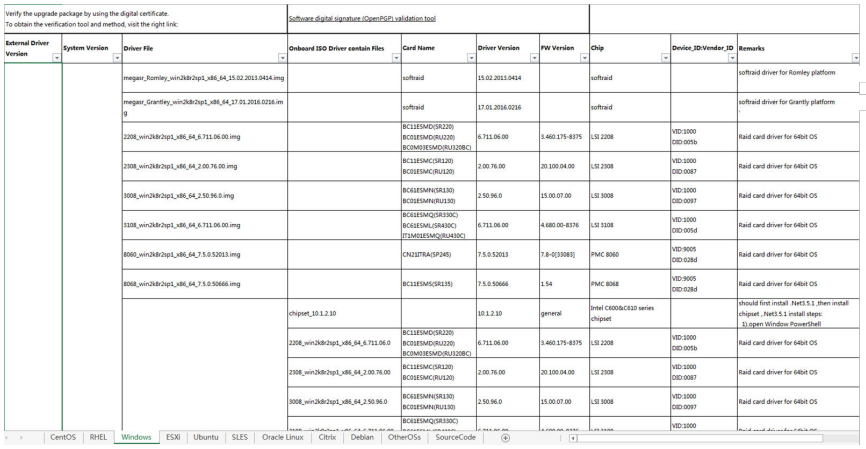
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-35**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-35 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-36**.

Figure 4-36 Window prompting you to insert the OS medium

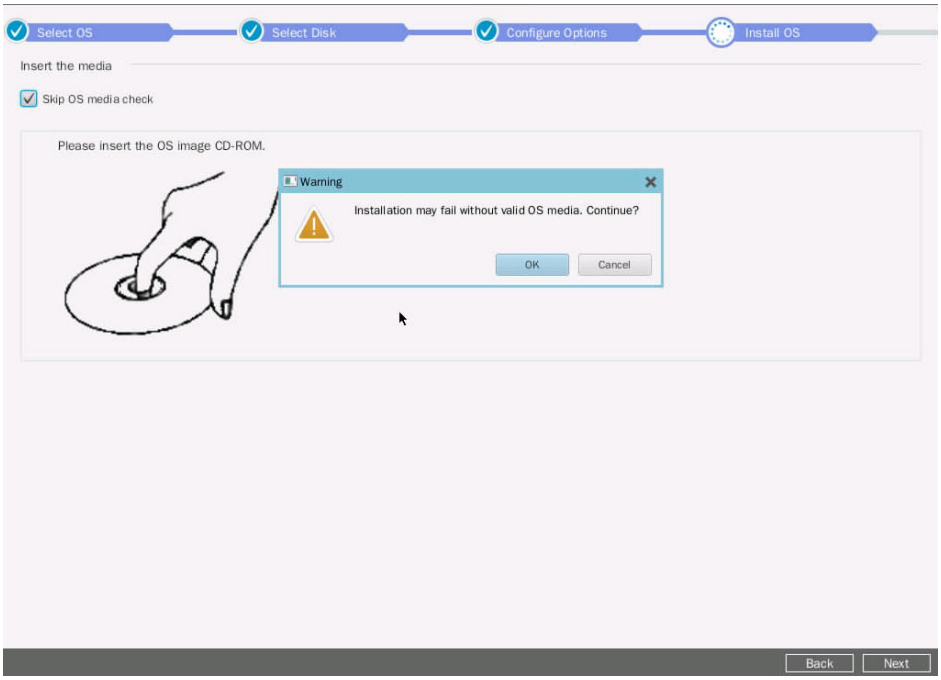


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-37**. Click **OK** or **Cancel** as required. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-37 Dialog box

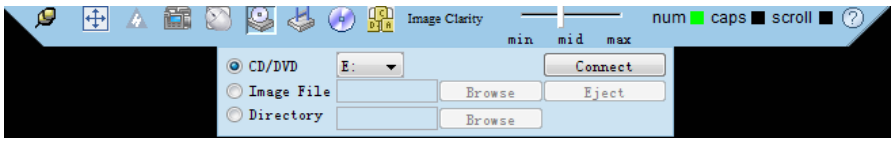


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-38**.

Figure 4-38 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

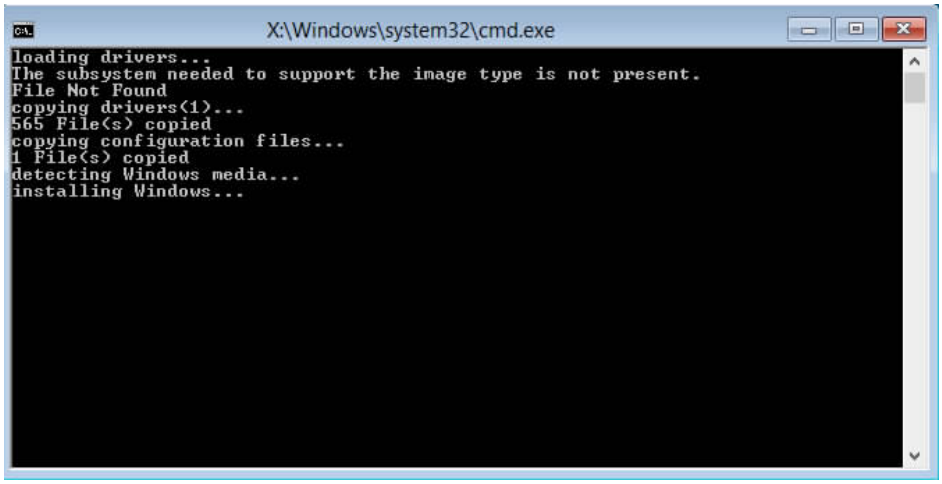
The OS installation starts, as shown in **Figure 4-39**.

Figure 4-39 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the server downloads the system configuration file automatically, as shown in **Figure 4-40**.

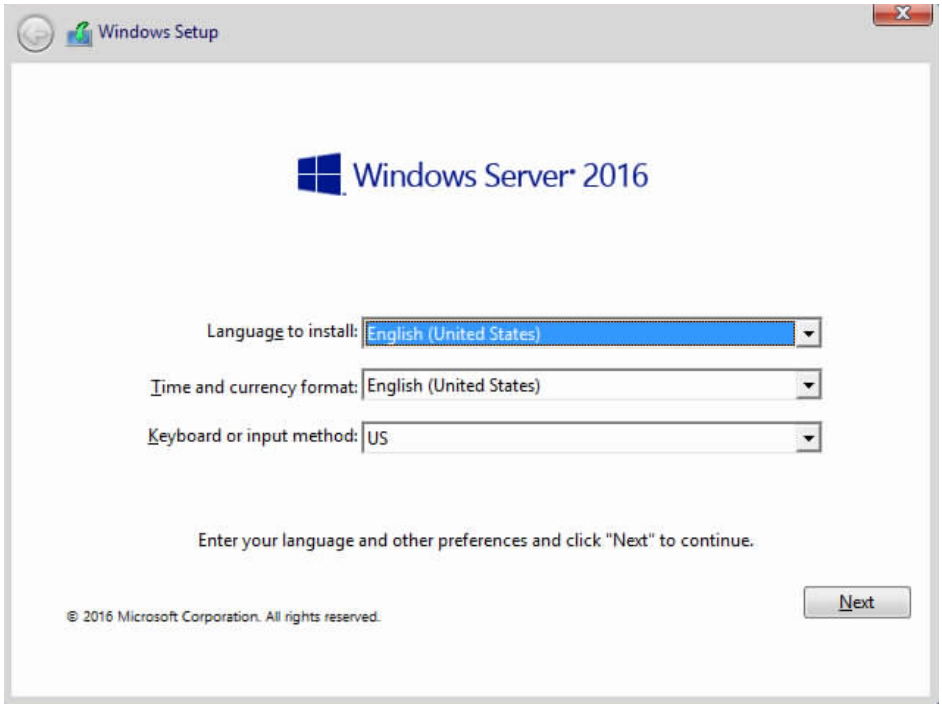
Figure 4-40 Downloading the system configuration file



After the system configuration file is downloaded, the window for setting the OS language, time zone, and keyboard is displayed, as shown in **Figure 4-41**.

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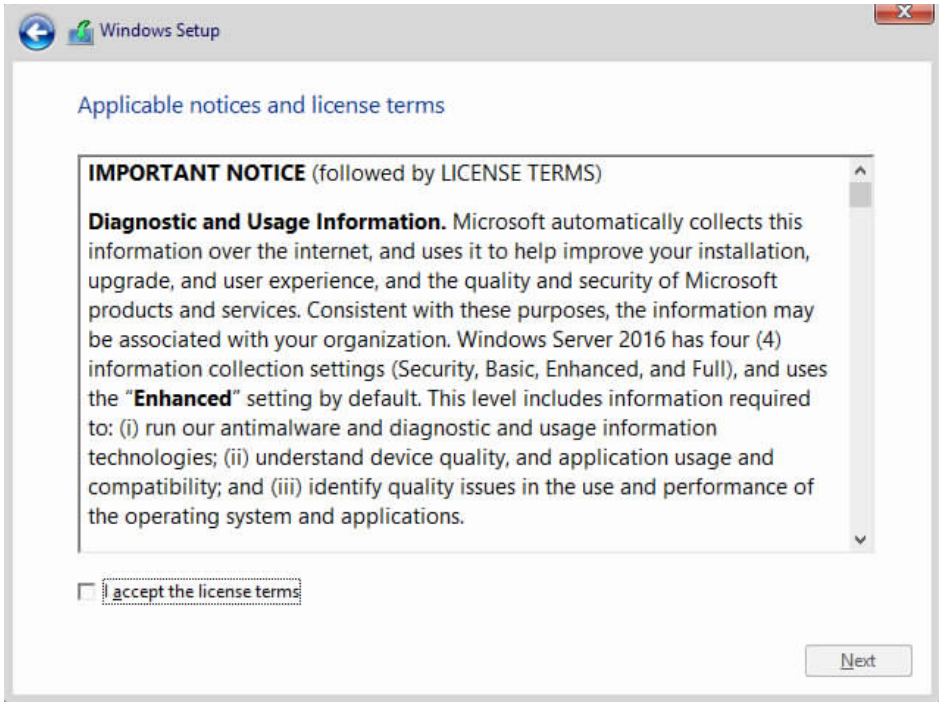
Figure 4-41 Setting the OS language, time zone, and keyboard



Step 10 Set the OS language, time zone, and keyboard, and click **Next**.

The license window is displayed, as shown in **Figure 4-42**.

Figure 4-42 License window

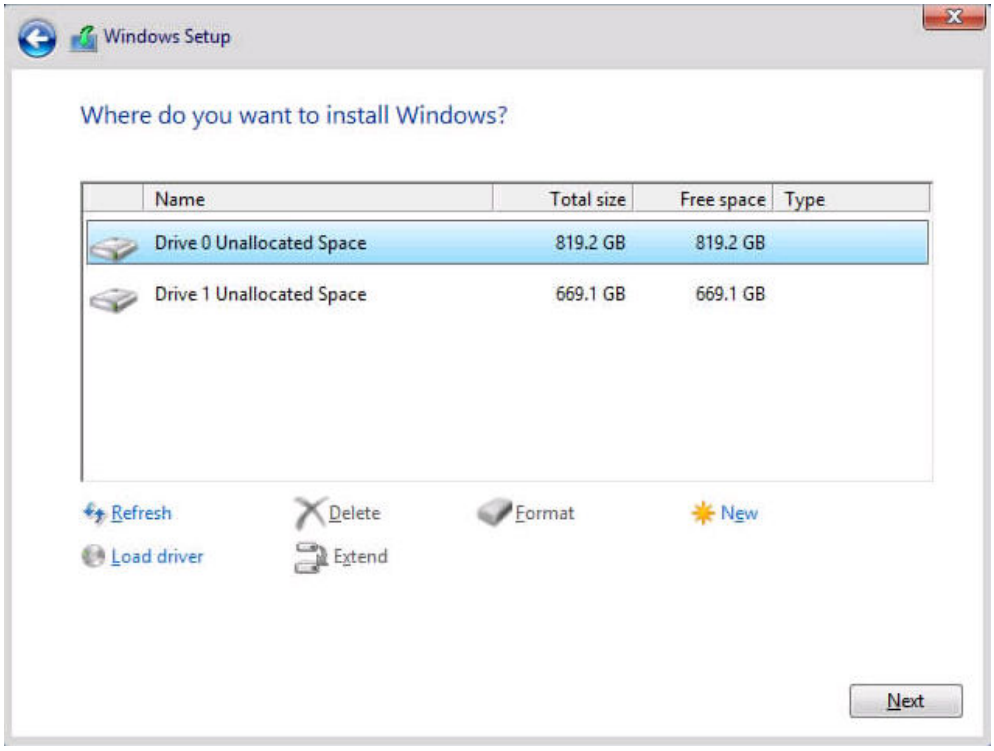


Step 11 Select **I accept the license terms**, and click **Next**.

The hard disk partition selection window is displayed, as shown in **Figure 4-43**.

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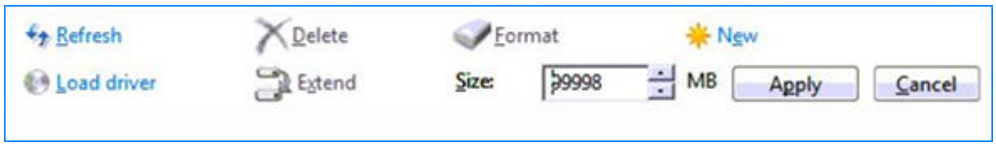
Figure 4-43 Selecting a hard disk partition



Step 12 Select a hard disk of which the size is the same as that of the hard disk selected in **5**, and click New to create partitions (at least one partition needs to be created).

Create a system partition, as shown in **Figure 4-44**.

Figure 4-44 Creating a system partition

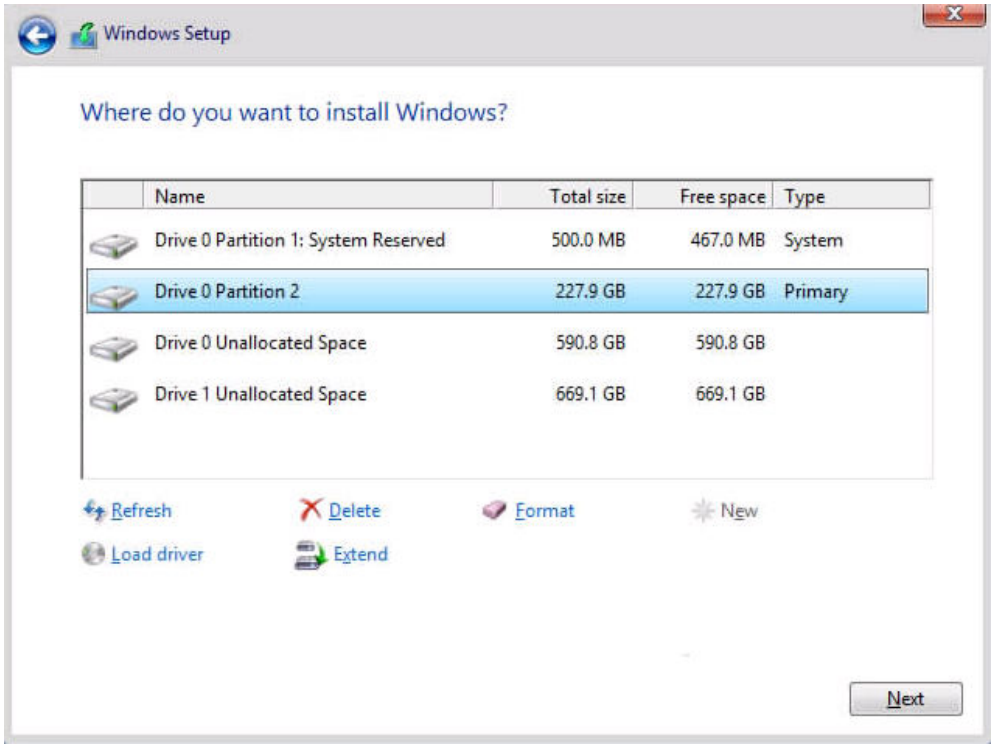


Step 13 Enter the size of the system partition, and click **Apply**.

The system partition is created, as shown in **Figure 4-45**.

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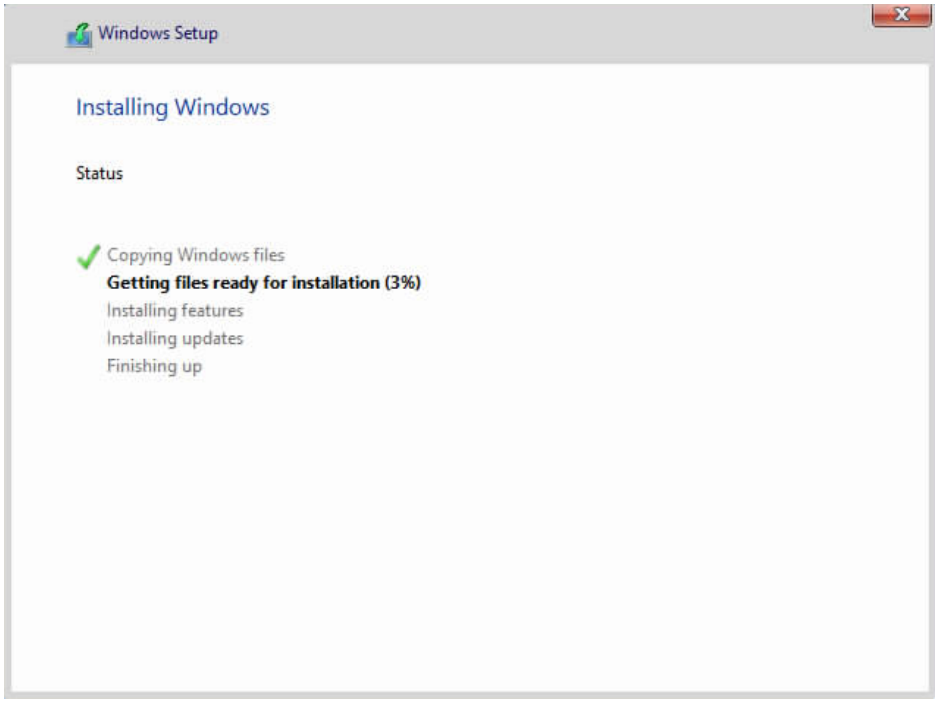
Figure 4-45 System partition created



Step 14 Select the partition of the **Primary** type created in the preceding **Step 13**, and click **Next**.

The OS installation starts, as shown in **Figure 4-46**.

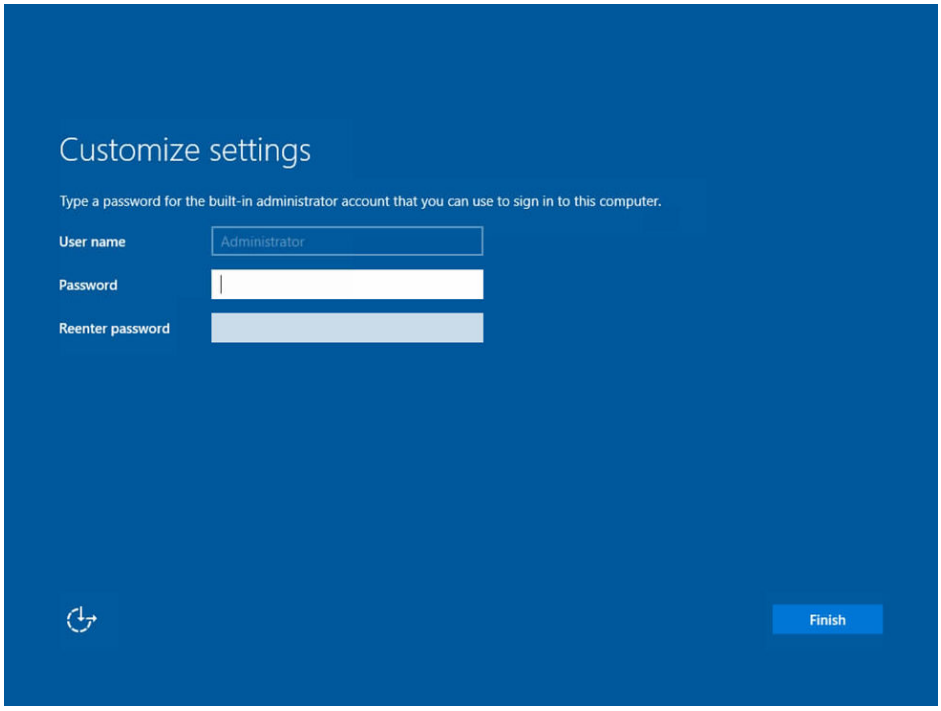
Figure 4-46 Installing the OS



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After the OS is installed, the server automatically restarts. After the server restarts, the window for setting an OS password is displayed, as shown in **Figure 4-47**.

Figure 4-47 Setting an OS password



NOTE

The password must contain at least six characters.

Step 15 Set an OS password, and click **Finish**.

The OS configuration window is displayed.

Step 16 Press **Ctrl**+**Alt**+**Delete** and enter a user name and password to log in to the OS.

To check whether the driver is successfully installed, go to the the system drive to view the installation logs in **C:\drivers\result.txt**.

----End

4.4.1.3 Installing an SLES OS

4.4.1.3.1 Installing an SLES OS in Default Mode

Install an SLES OS on a server by using Smart Provisioning in default mode. In the following operations, SLES 12 SP3 and the BIOS UEFI mode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-48**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.

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- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

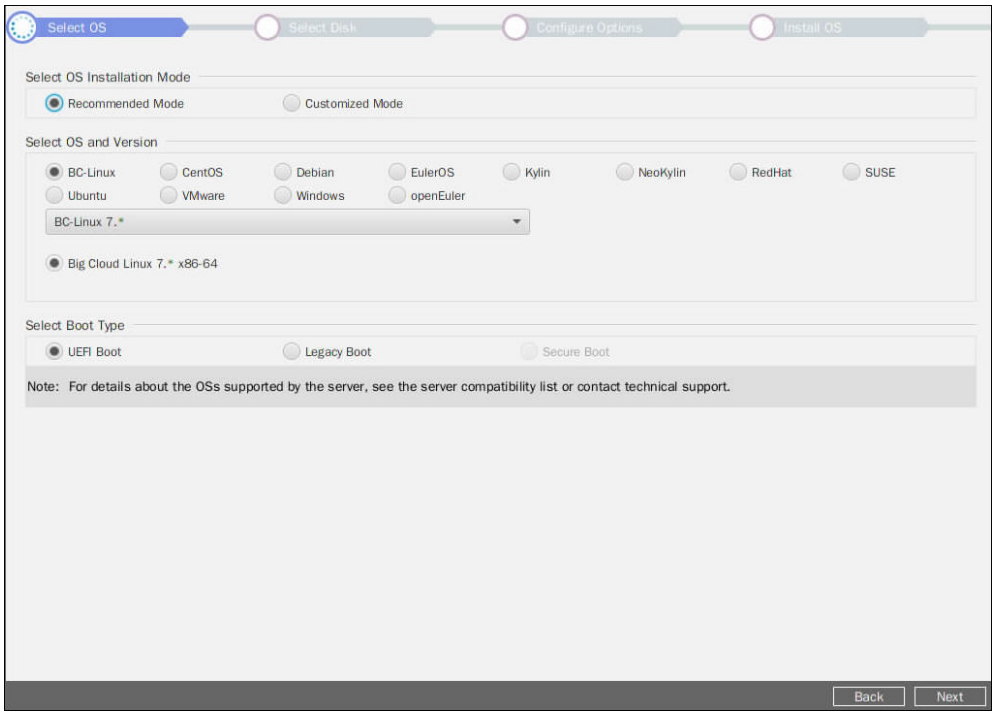
Figure 4-48 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-49**.

Figure 4-49 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

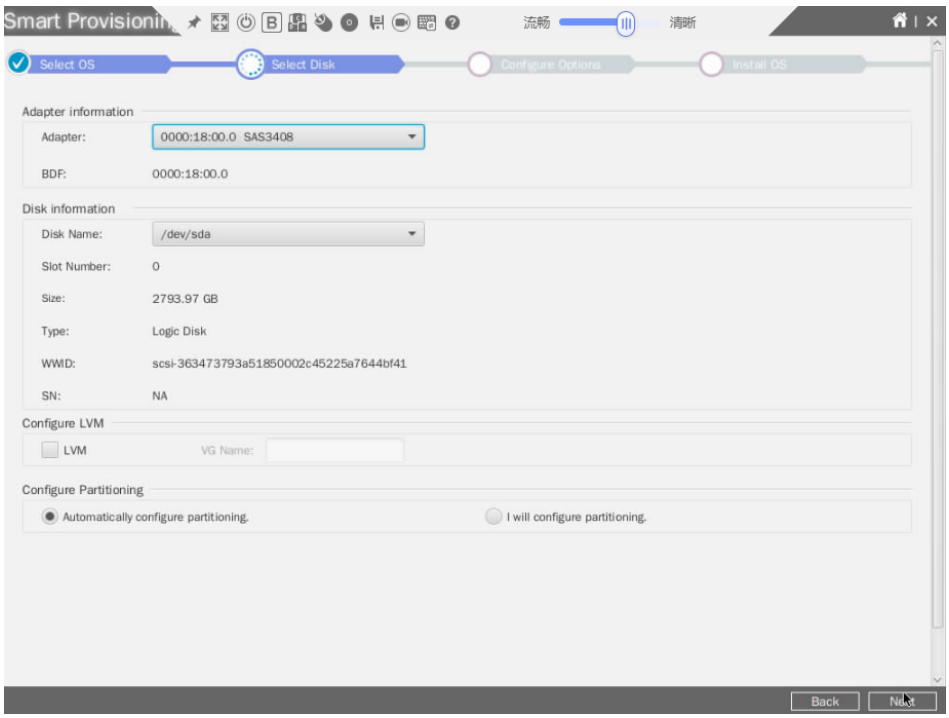
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file. For example, if the OS version selected in **Step 2** is SLES 12 SP3, the version of the inserted DVD-ROM or mounted image file in **Step 11** must be SLES 12 SP3.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series, for example, SLES-12. * indicates all OSs of SLES 12.
- If you select an OS marked with *, insert the OS medium of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS medium. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-50**.

Figure 4-50 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

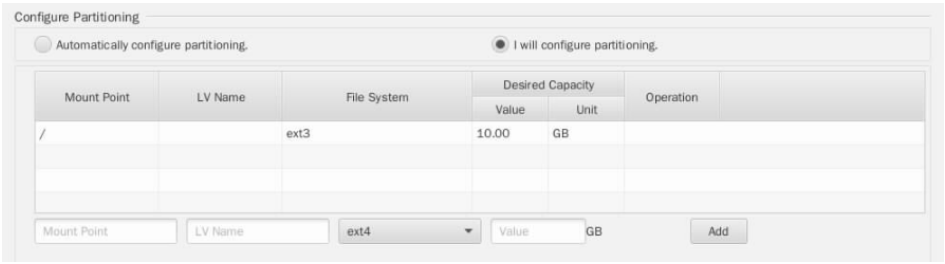
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Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select **Automatically configure partitioning**(automatic partitioning) or **I will configure partitioning**(manual partitioning). If automatic partitioning is selected, the system automatically creates partitions. If manual partitioning is selected, the window shown in **Figure 4-51** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 300 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-51 Manual partitioning

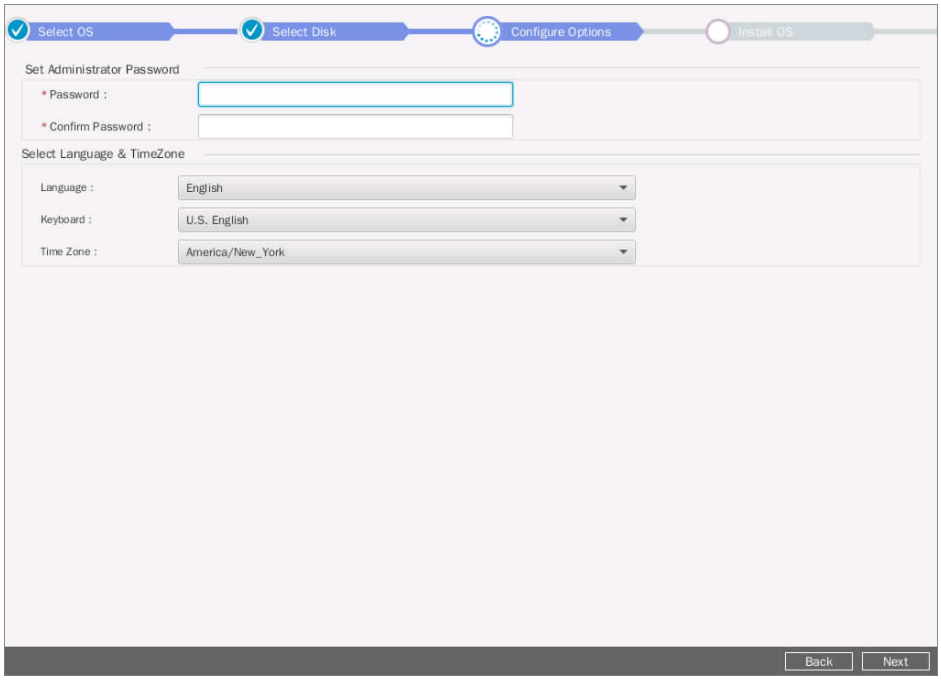


Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-52**.

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Figure 4-52 Setting the password of the root user, language, keyboard, and time zone



NOTE

- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-53** is displayed, indicating that the OS version does not support the installation of third-party software.

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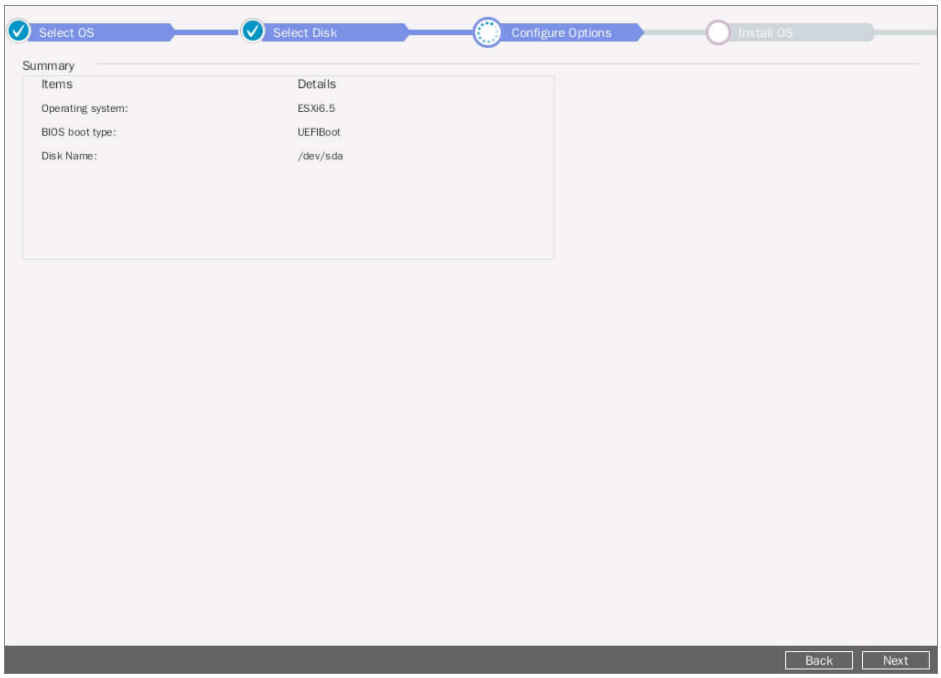
Figure 4-53 Confirmation dialog box



Step 9 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-54**.

Figure 4-54 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-55**.For details about configuration,see **Table 4-18**.

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Figure 4-55 Viewing the configuration summary(2)

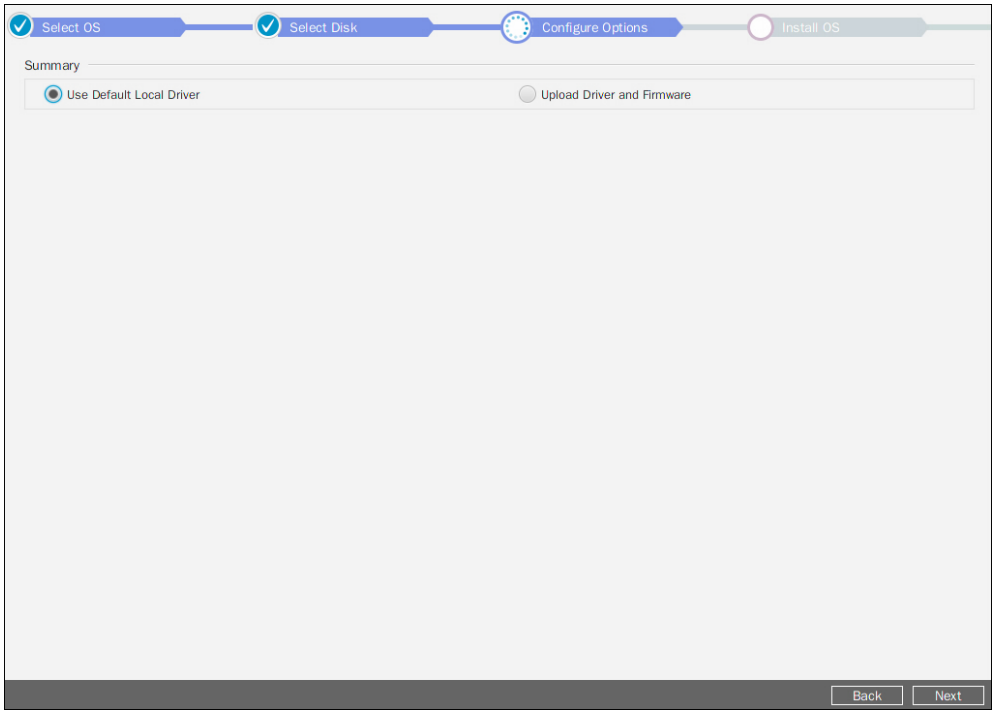


Table 4-18 Configuration Description

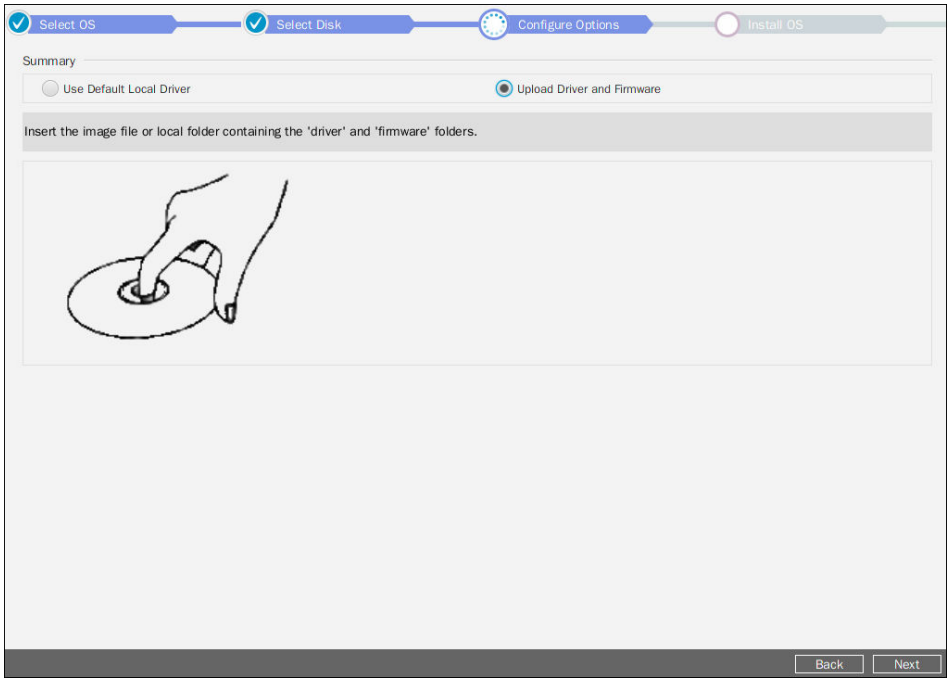
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-56**.

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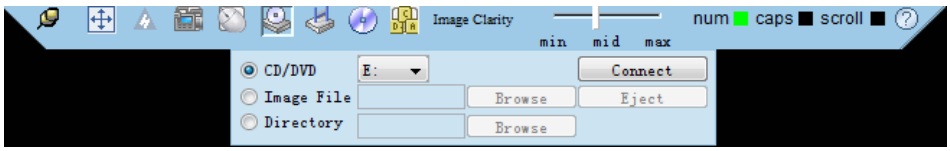
Figure 4-56 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-57**.

Figure 4-57 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

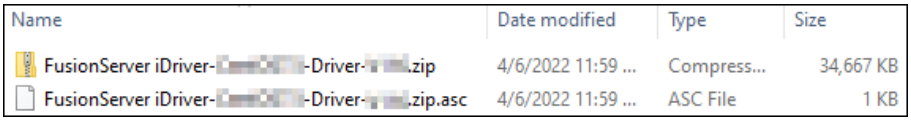
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-58**.

Figure 4-58 Folder



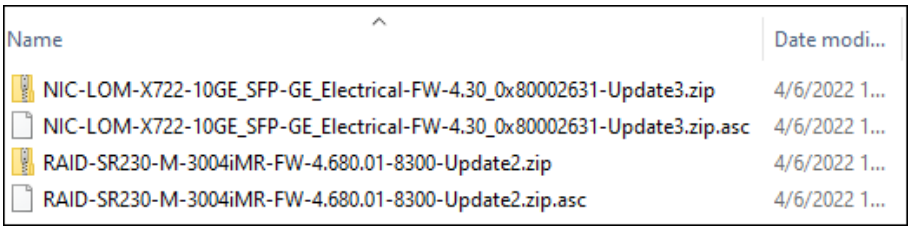
The **driver** folder is shown in **Figure 4-59**.

Figure 4-59 The **driver** folder



The **firmware** folder is shown in **Figure 4-60**.

Figure 4-60 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

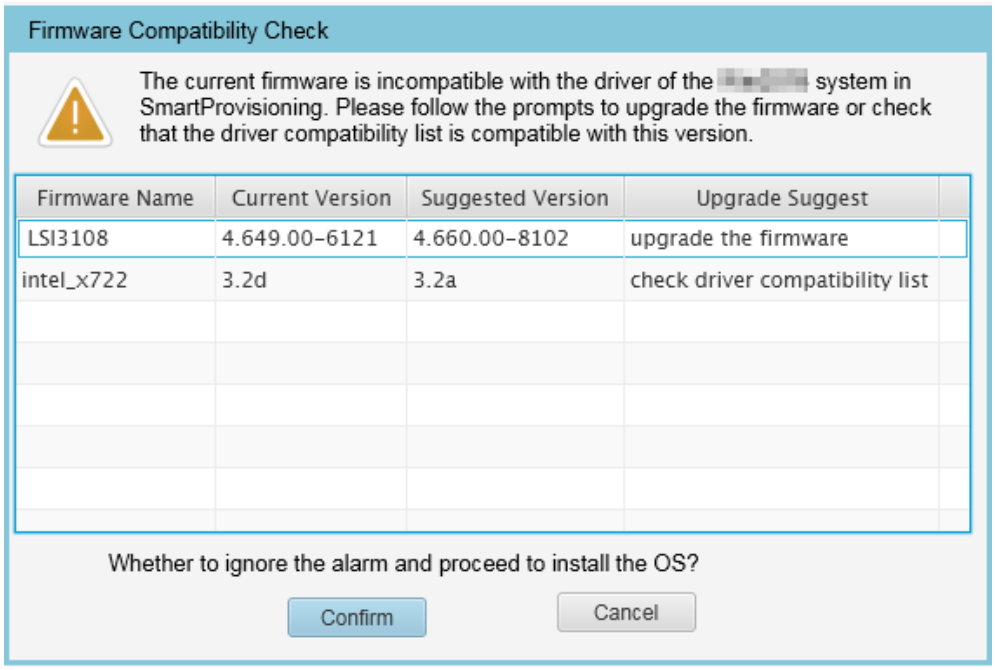
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-63** is displayed. If not, the dialog box shown in **Figure 4-61** is displayed.

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Figure 4-61 Dialog box



- If the current firmware version is earlier than the target version, upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

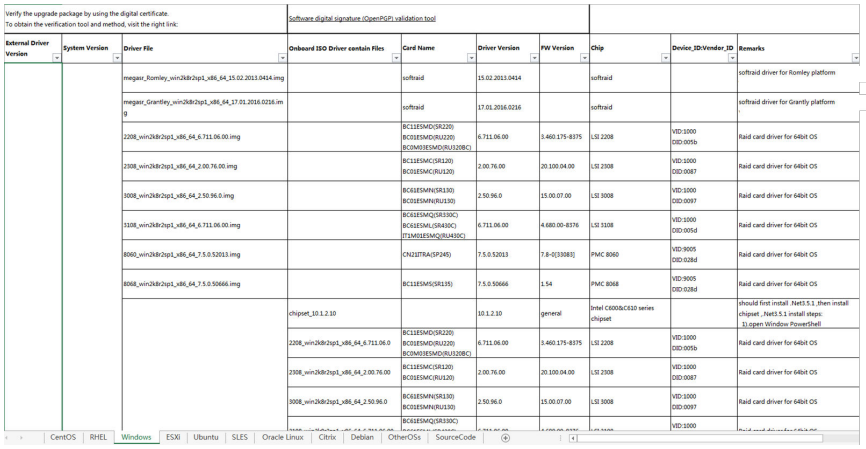
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-62**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the corresponding version in the driver mapping table after installing the OS.

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Figure 4-62 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC01ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC01ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-63**.

Figure 4-63 Window prompting you to insert the OS medium

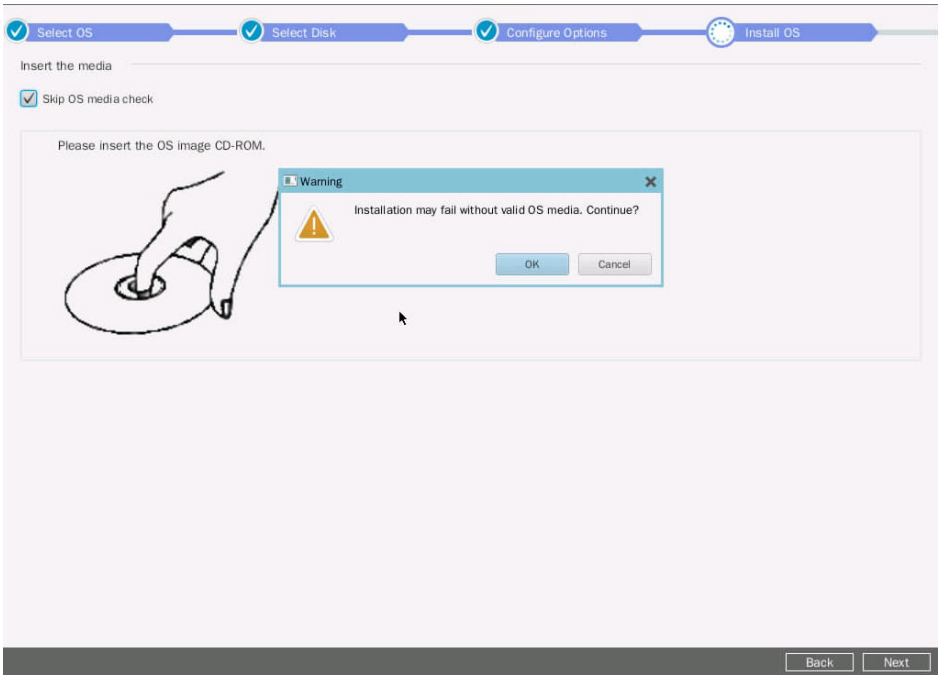


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-64**. Click **OK** or **Cancel** as required. If you do not select **Skip OS media check**, the time required for verifying the DVD-ROM depends on the content of the DVD-ROM. Wait patiently.

Figure 4-64 Confirmation dialog box

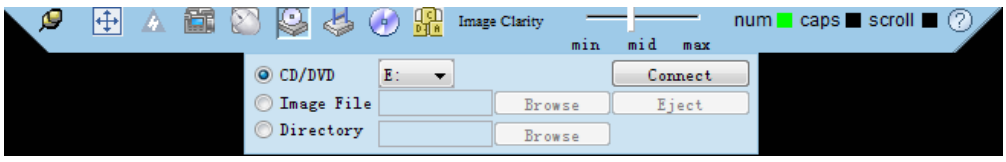


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-65**.

Figure 4-65 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD-ROM drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 12 Click **Next**.

The OS installation starts, as shown in **Figure 4-66**.

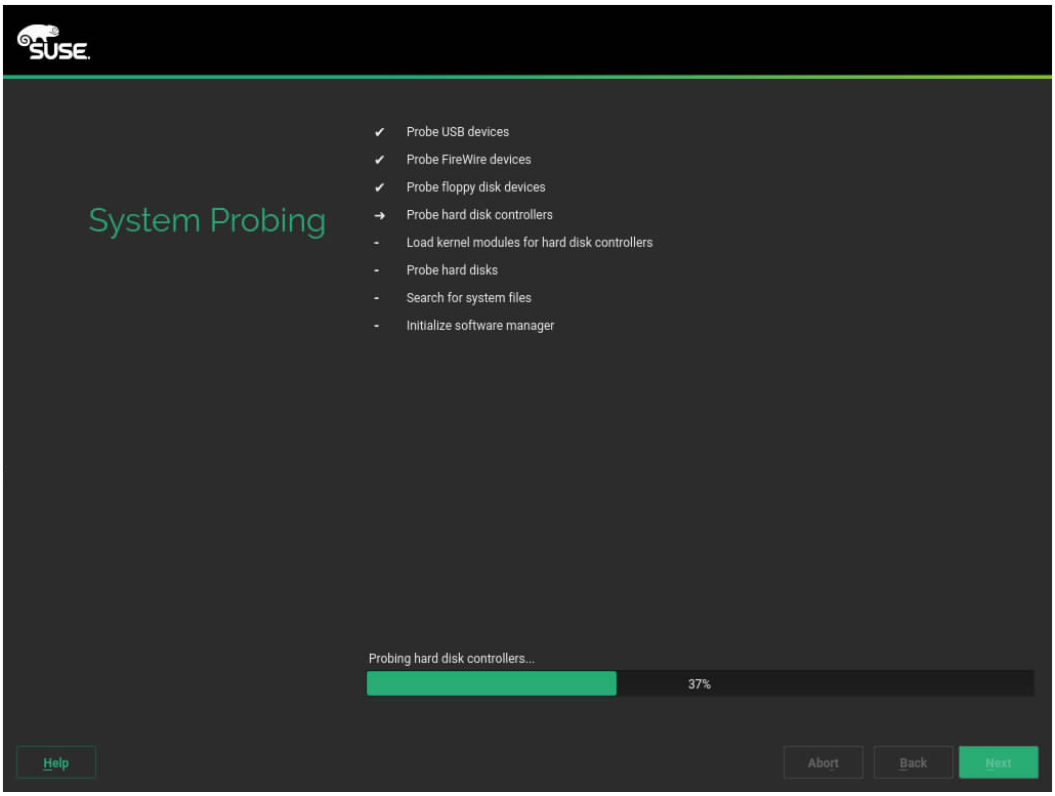
Figure 4-66 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the system initialization window is displayed automatically, as shown in **Figure 4-67**.

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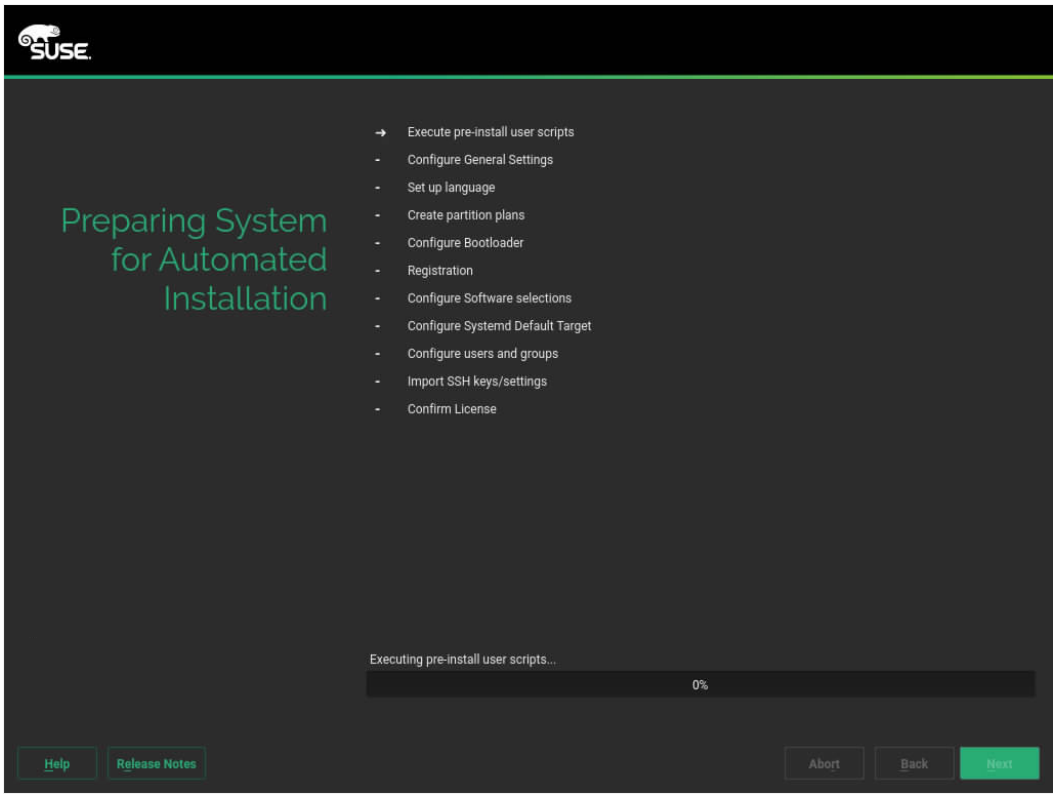
Figure 4-67 Initializing the system



After the system initialization is complete, the installation preparation starts automatically, as shown in **Figure 4-68**.

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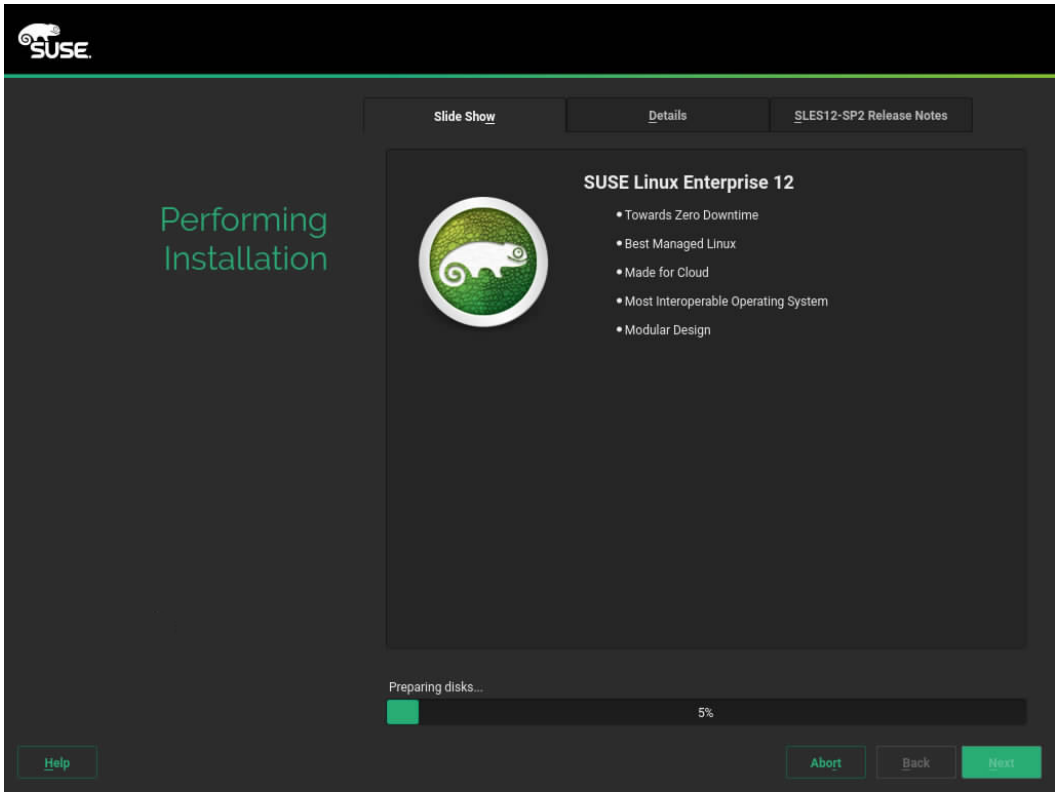
Figure 4-68 Preparing for the installation



After the installation preparation is complete, the OS installation is performed automatically, as shown in **Figure 4-69**.

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Figure 4-69 Installing the OS



NOTE

You can click **Details** to view details about the installation process.

After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.3.2 Installing an SLES OS in Customized Mode

Install an SLES OS on a server by using Smart Provisioning in customized mode. In the following operations, SLES 12 SP3 and the BIOS UEFI mode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-70**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

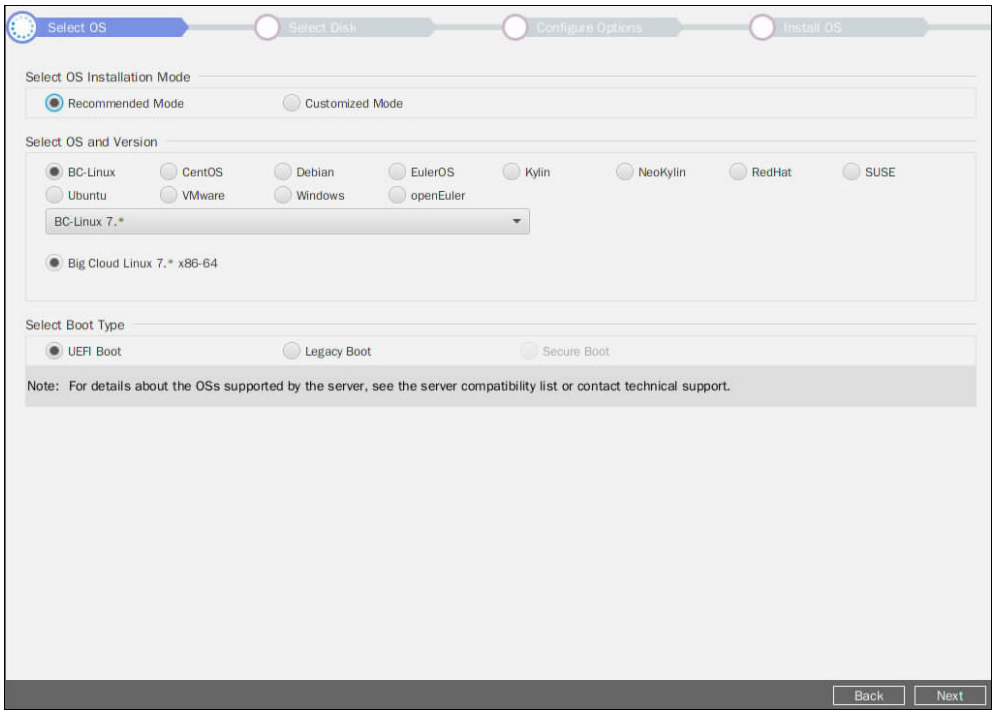
Figure 4-70 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-71**.

Figure 4-71 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

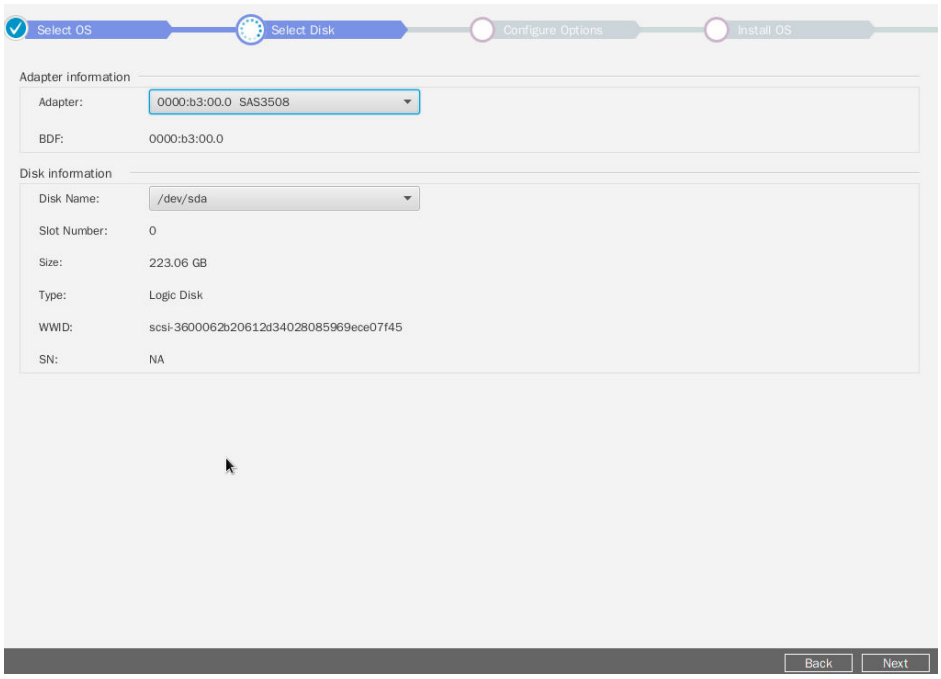
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is SLES 12 SP3, the version of the inserted installation DVD or mounted image file in **Step 8** must be SLES 12 SP3.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series, for example, SLES-12. * indicates all OSs of SLES 12.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-72**.

Figure 4-72 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

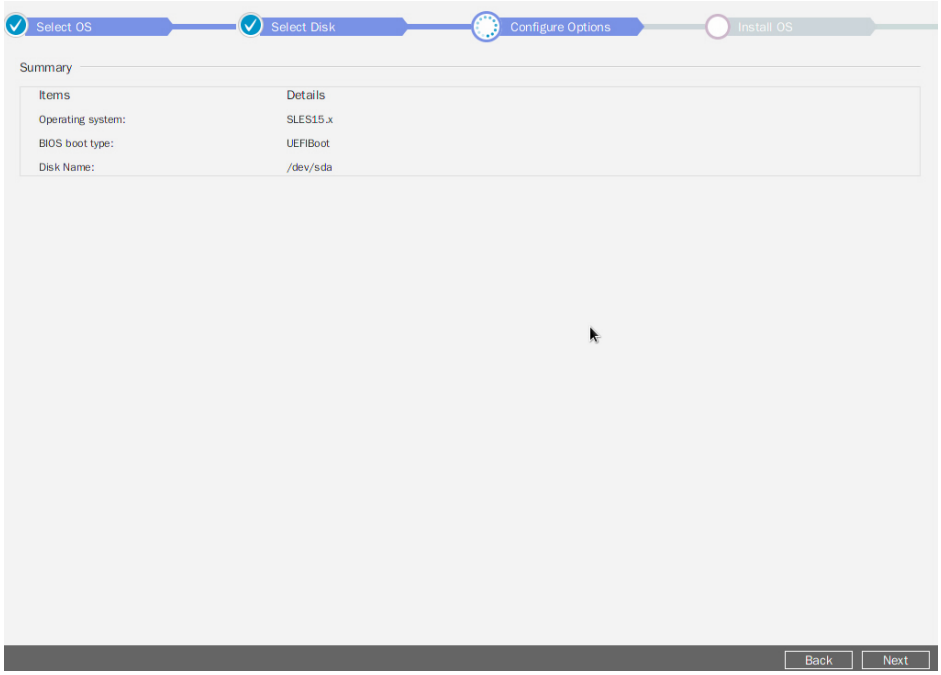
- During the installation process, Smart Provisioning sets the selected hard disk as the boot disk.
- After an installation hard disk is selected, record the value of **WWID**. This value will be used in **Step 12**.

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Step 6 Click **Next**.

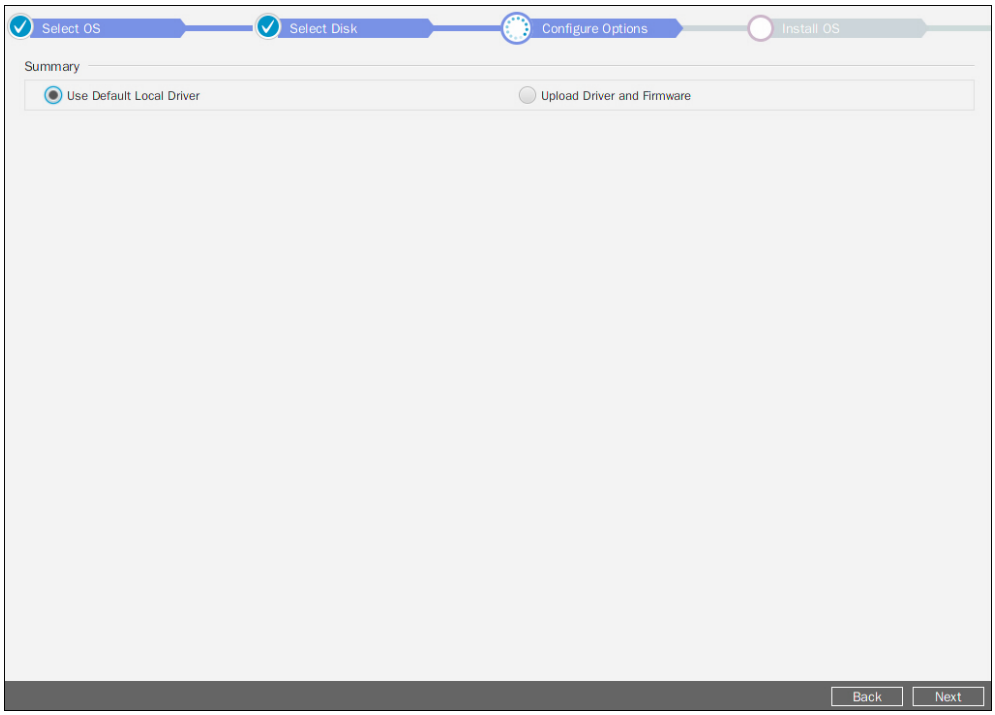
The configuration summary window is displayed, as shown in **Figure 4-73**.

Figure 4-73 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-74**.For details about configuration,see **Table 4-19**.

Figure 4-74 Viewing the configuration summary(2)



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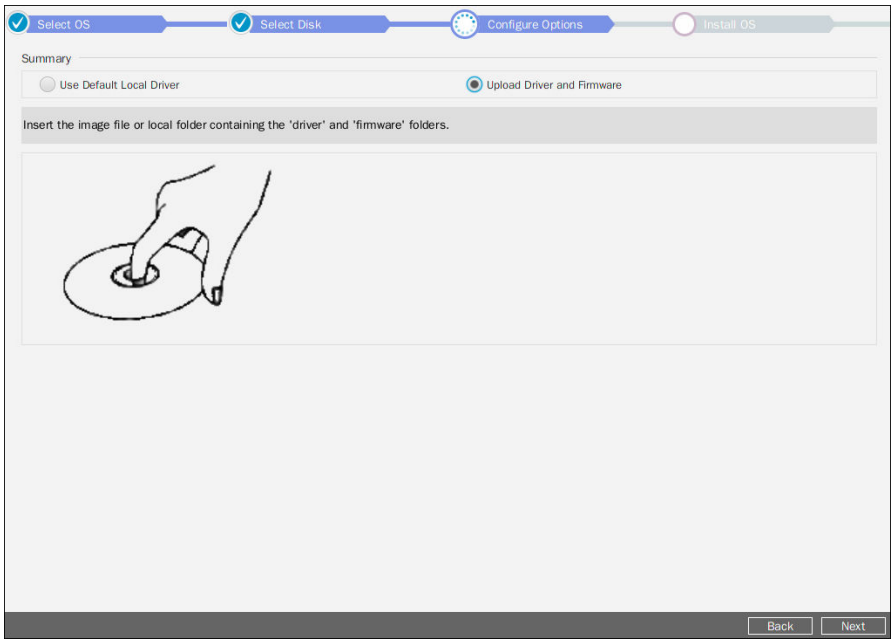
Table 4-19 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

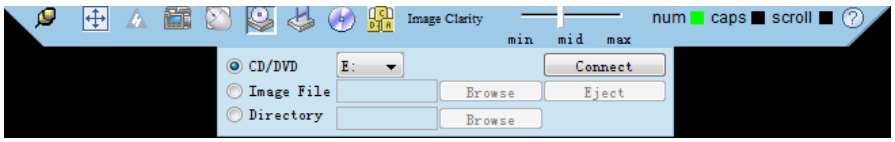
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-75**.

Figure 4-75 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-76**.

Figure 4-76 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

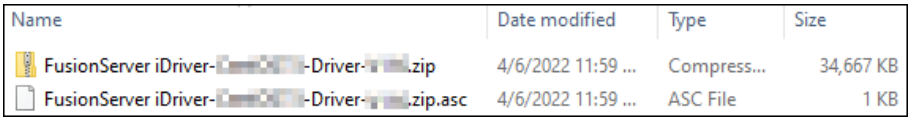
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-77**.

Figure 4-77 Folder



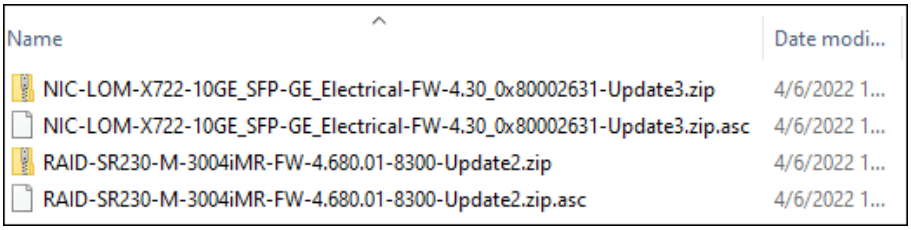
The **driver** folder is shown in **Figure 4-78**.

Figure 4-78 The **driver** folder



The **firmware** folder is shown in **Figure 4-79**.

Figure 4-79 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

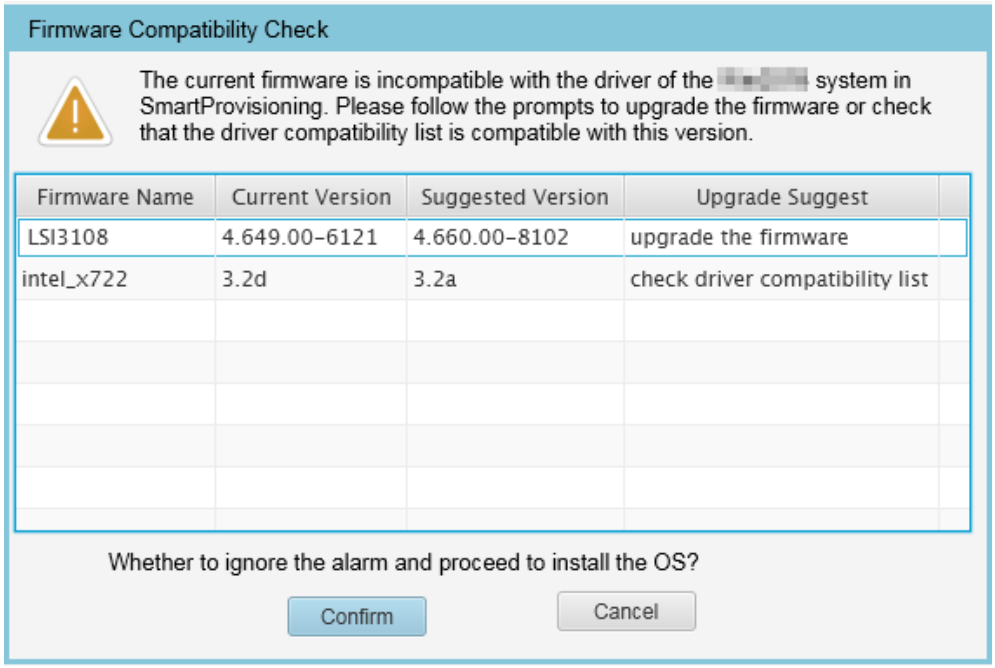
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-82** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-80** is displayed.

Figure 4-80 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

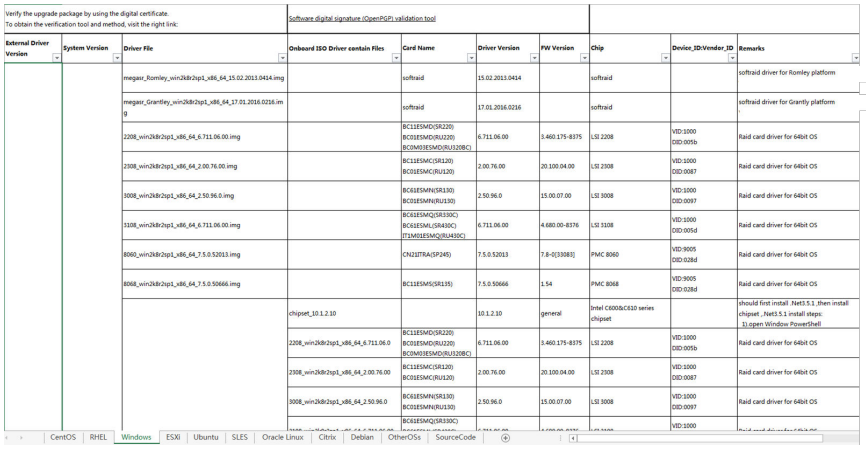
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-81**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-81 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vender_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-82**.

Figure 4-82 Window prompting you to insert the OS medium

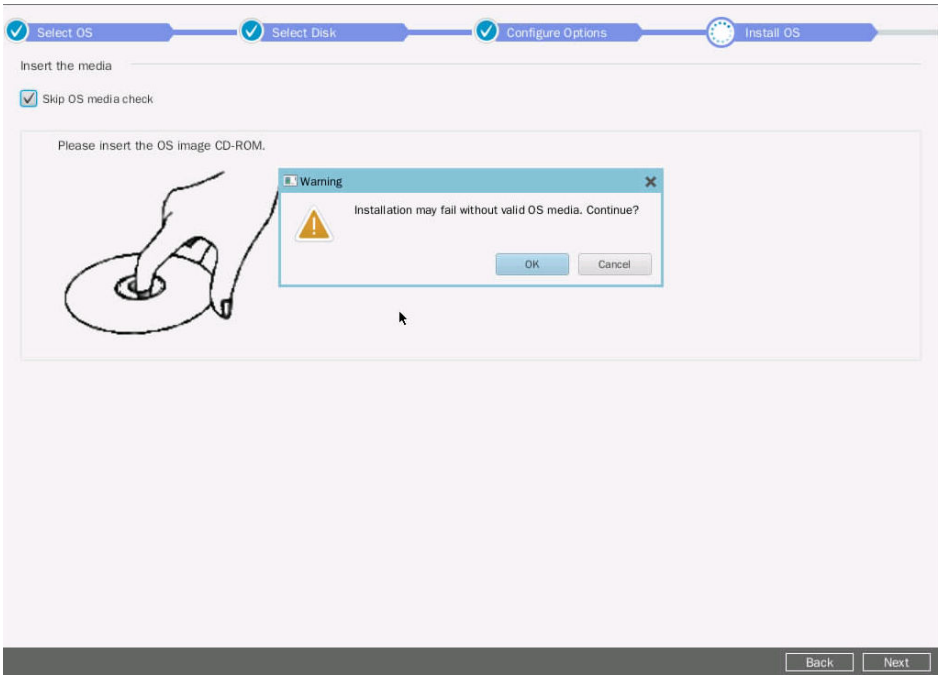


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-83**. Click **OK** or **Cancel** as required. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-83 Dialog box

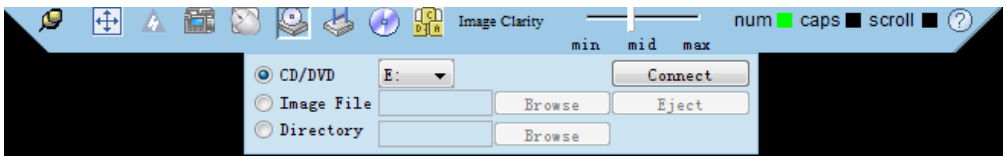


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-84**.

Figure 4-84 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-85**.

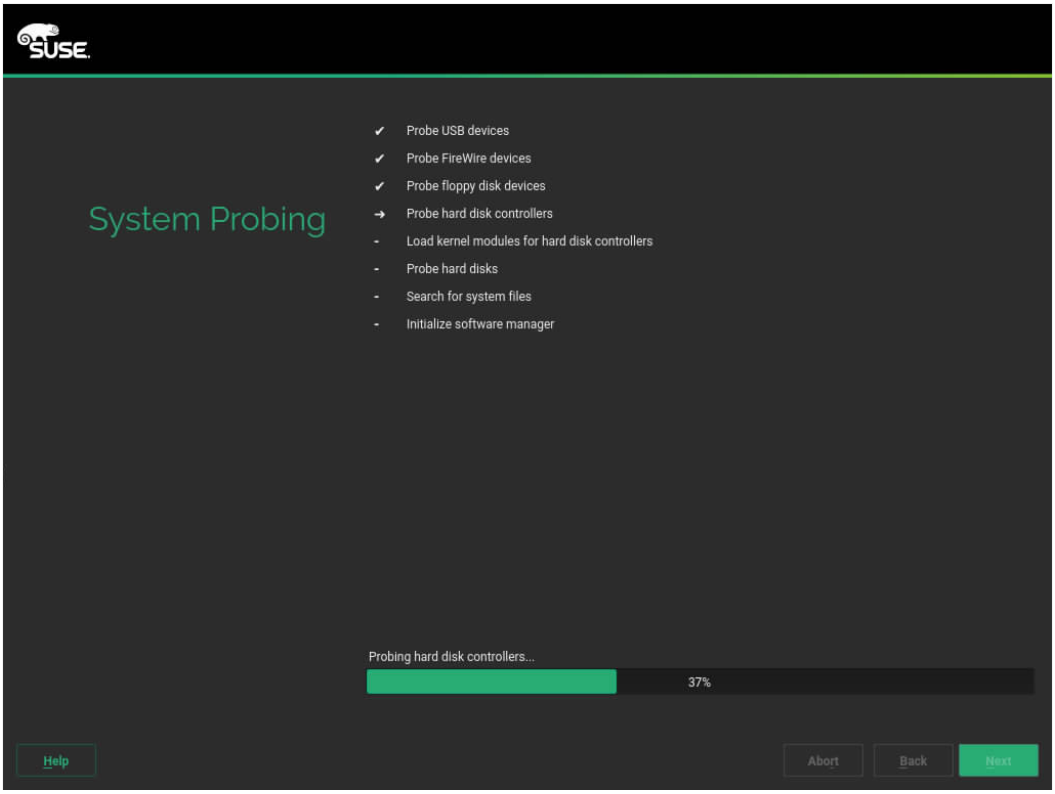
Figure 4-85 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the system initialization starts automatically, as shown in **Figure 4-86**.

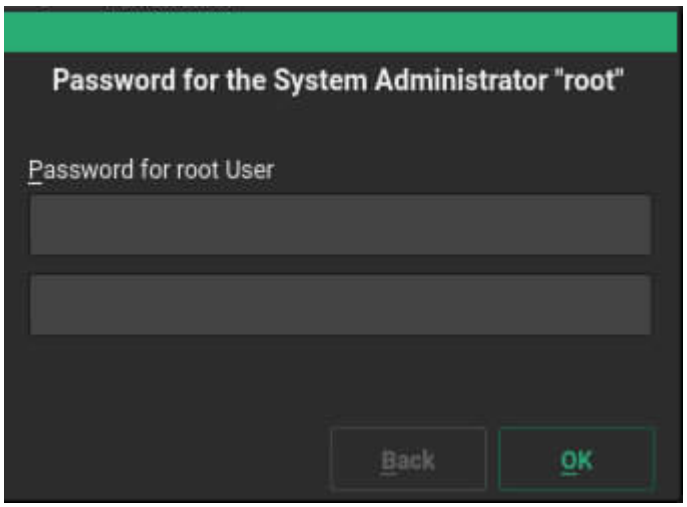
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Figure 4-86 Initializing the system



After the initialization is complete, the window for setting the password of user **root** is displayed, as shown in **Figure 4-87**.

Figure 4-87 Setting the password of user **root**



NOTE

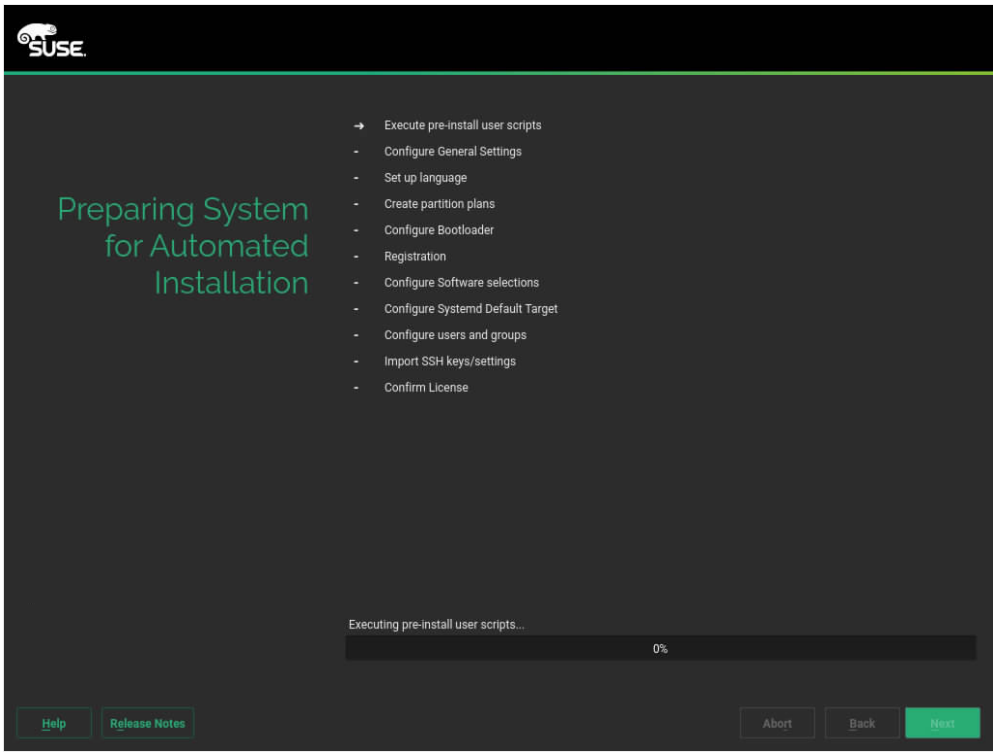
The password must contain at least six characters.

Step 10 Set the password of user **root**, and click **OK**.

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The **Preparing System for Automated Installation** window is displayed, as shown in **Figure 4-88**.

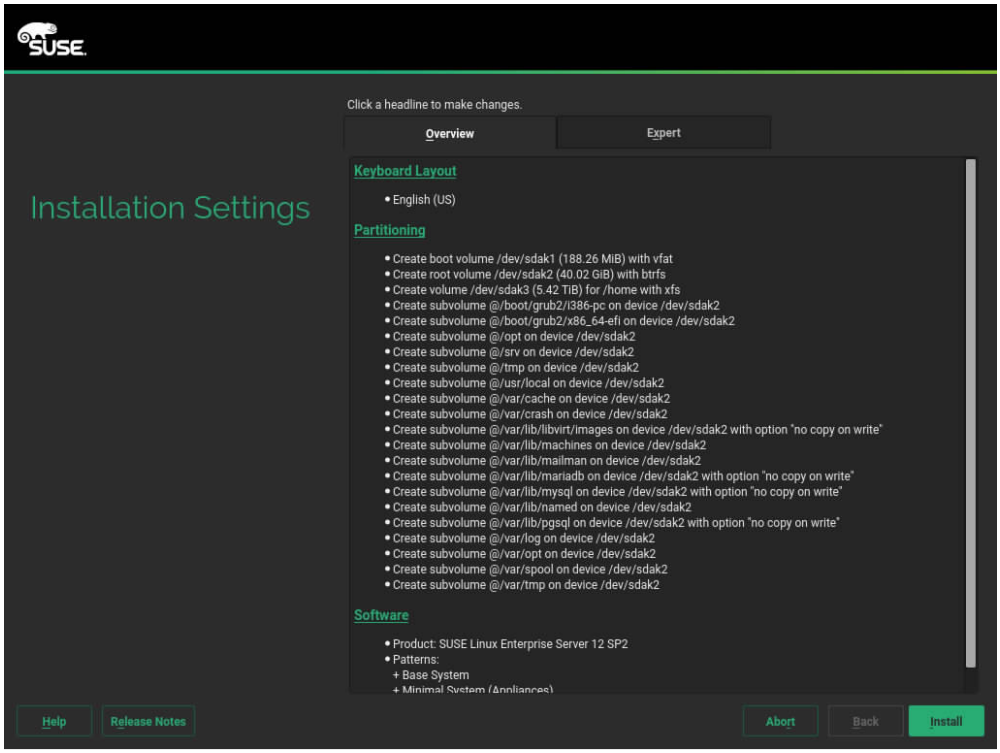
Figure 4-88 Preparing System for Automated Installation



After the installation preparation is complete, the **Installation Settings** window is displayed, as shown in **Figure 4-89**.

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Figure 4-89 Installation Settings



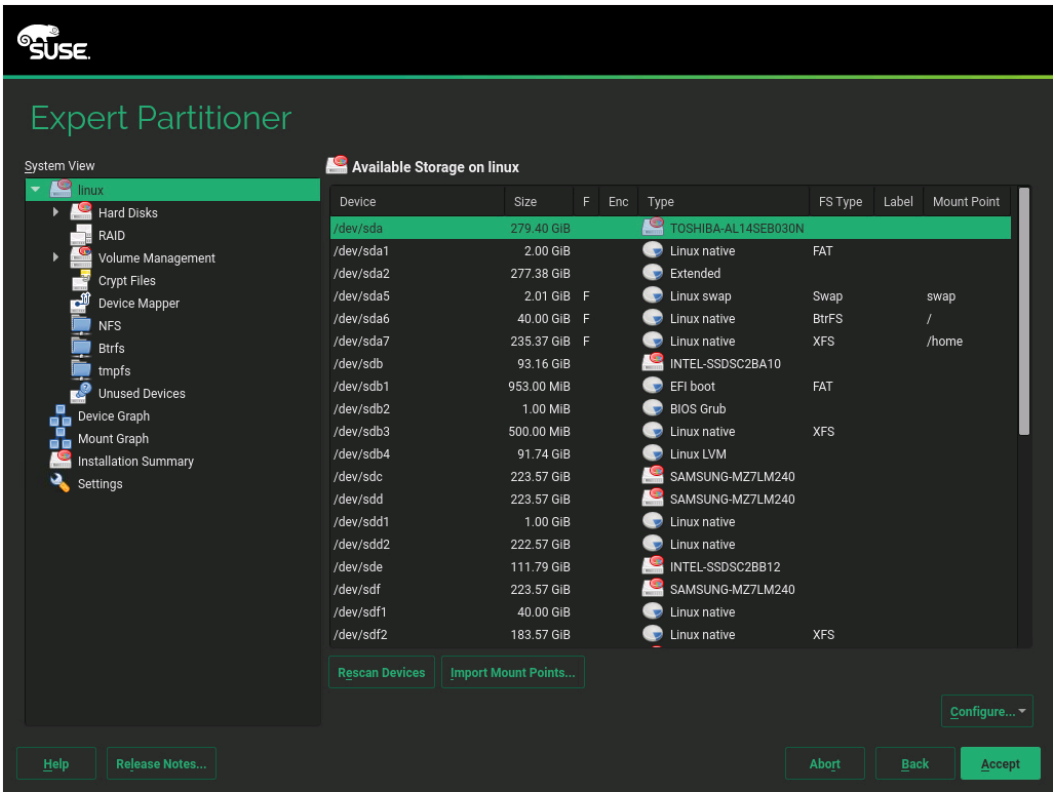
NOTE

In this window, you can customize the time zone, language, network, and components.

Step 11 Click **Partitioning**.

The **Expert Partitioner** window is displayed, as shown in **Figure 4-90**.

Figure 4-90 Expert Partitioner

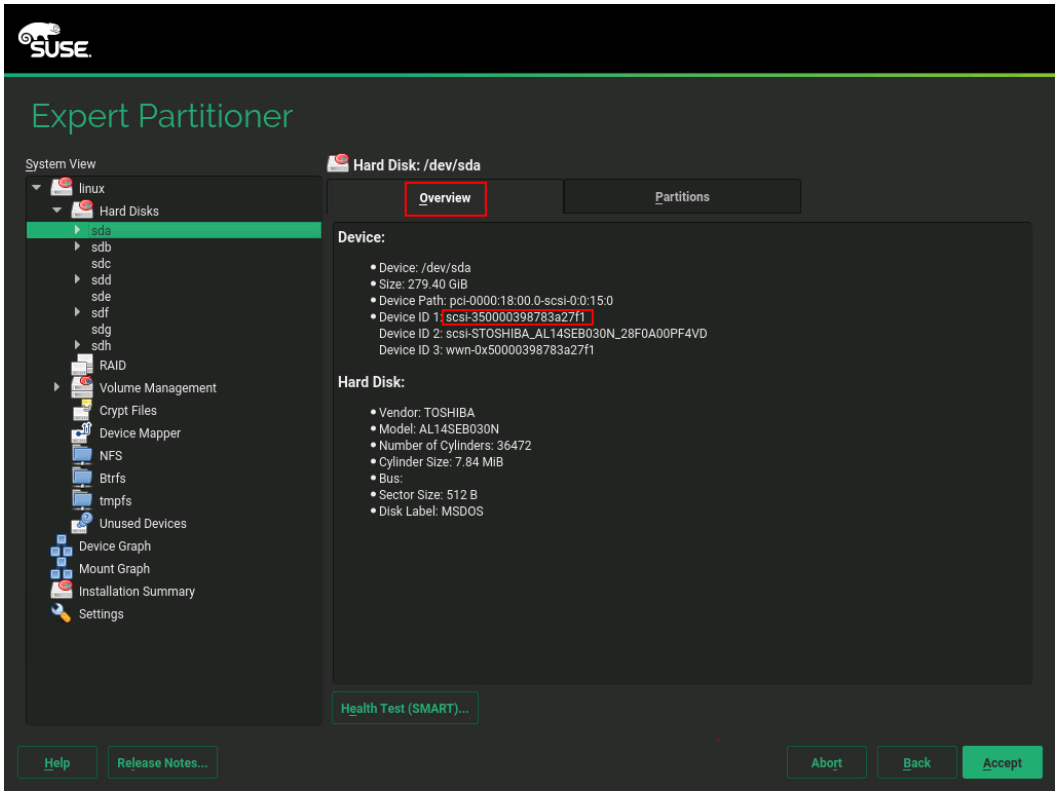


Step 12 In the navigation tree, choose **linux** > **Hard Disks**. Select a hard disk from the **Hard Disks** drop-down list, and click **Overview**.

The **Overview** tab of the hard disk is displayed, as shown in **Figure 4-91**. The value of **Device ID 1** of the selected hard disk must be the same as the value of **WWID** of the selected hard disk selected in **Step 5**.

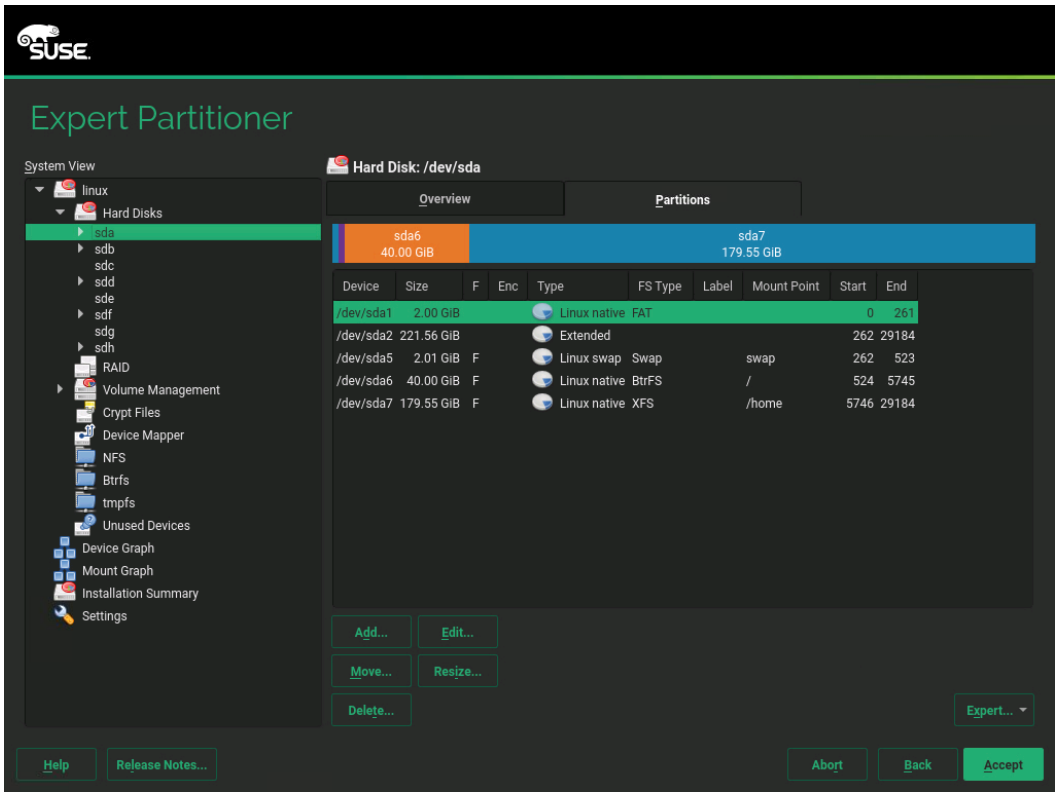
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Figure 4-91 Overview



Step 13 Click **Partitions** to create hard disk partitions.

Figure 4-92 Partition information



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- If the existing partitions meet site requirements, go to **Step 14**.
- If the existing partitions do not meet site requirements, perform the operations described in **Table 4-20** to delete or create partitions.

Table 4-20 Creating and deleting hard disk partitions

Operation	Step
(Optional) Delete an existing partition.	Select a partition and click **Delete** to delete it.
Create a root partition.	1. Click **Add**. 2. Select **Primary Partition** as the partition type and click **Next**. 3. Set **Custom Size** to an appropriate value, for example, 20 GB. Then click **Next**. 4. Set **Role** to **Operating System**. 5. Retain the default value **Format partition** for **Formatting Options** and the default value **BtrFS** for **File System**. 6. Retain the default value **Mount partition** for **Mounting Options** and the default value **/** for **Mount Point**. 7. Click **Finish**.
Create a swap partition.	1. Click **Add**. 2. Select **Primary Partition** as the partition type and click **Next**. 3. Set **Custom Size** to an appropriate value, for example, 4 GB. Then click **Next**. 4. Set **Role** to **Swap**. 5. Retain the default value **Format partition** for **Formatting Options** and the default value **Swap** for **File System**. 6. Retain the default value **Mount partition** for **Mounting Options** and the default value **swap** for **Mount Point**. 7. Click **Finish**.

Step 14 Click **Accept**.

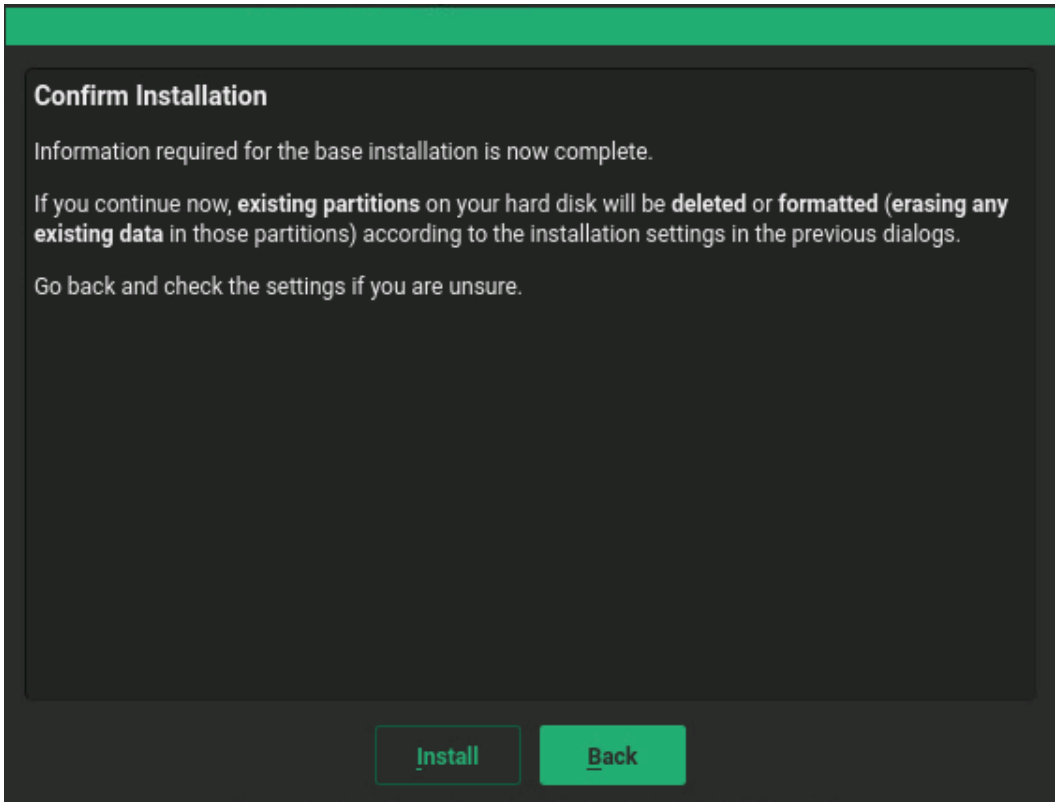
The **Installation Settings** window is displayed.

Step 15 Click **Install**.

A confirmation dialog box is displayed, as shown in **Figure 4-93**.

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Figure 4-93 Dialog box

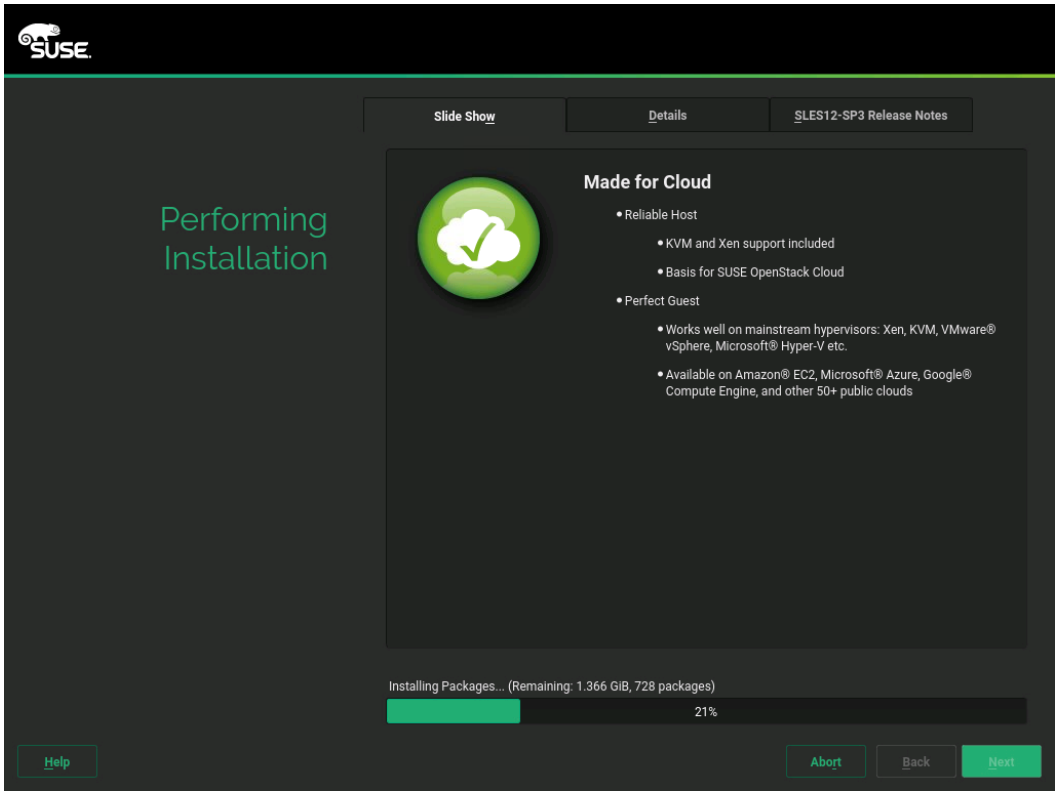


Step 16 Click **Install**.

The OS installation starts, as shown in **Figure 4-94**.

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Figure 4-94 Starting the OS installation



NOTE

You can click **Details** to view details about the installation process.

After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.4 Installing an RHEL/CentOS/RockyLinux OS

4.4.1.4.1 Installing RHEL/CentOS/RockyLinux OS in Default Mode

Install an RHEL/CentOS/RockyLinux OS on a server by using Smart Provisioning in default mode. In the following operations, RHEL 7.3 and the BIOS UEFI mode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-95**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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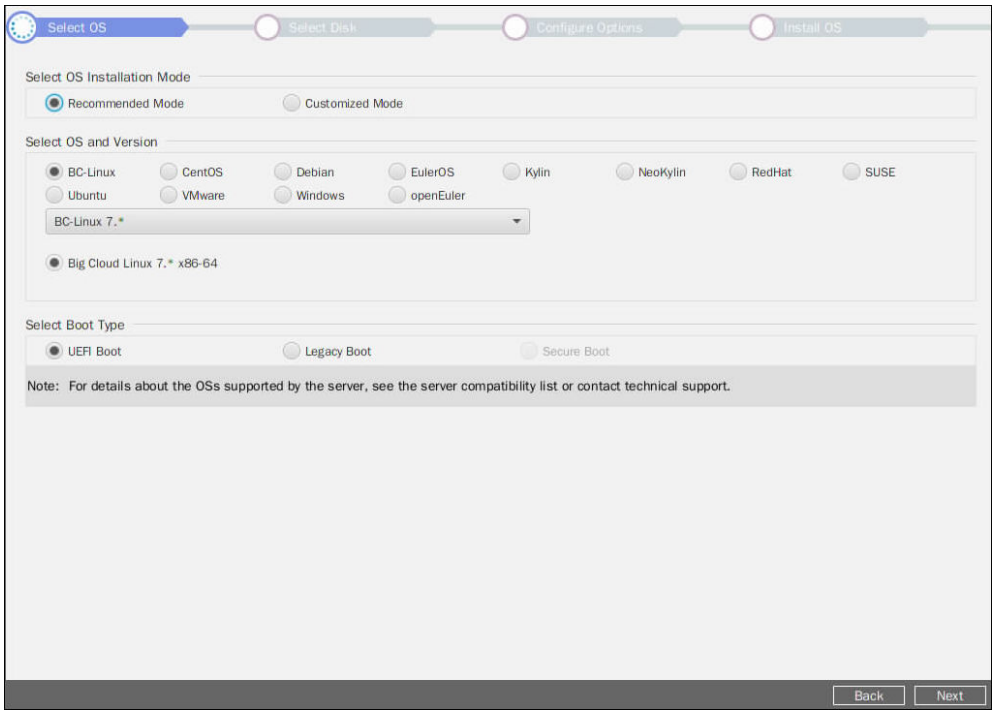
Figure 4-95 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-96**.

Figure 4-96 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

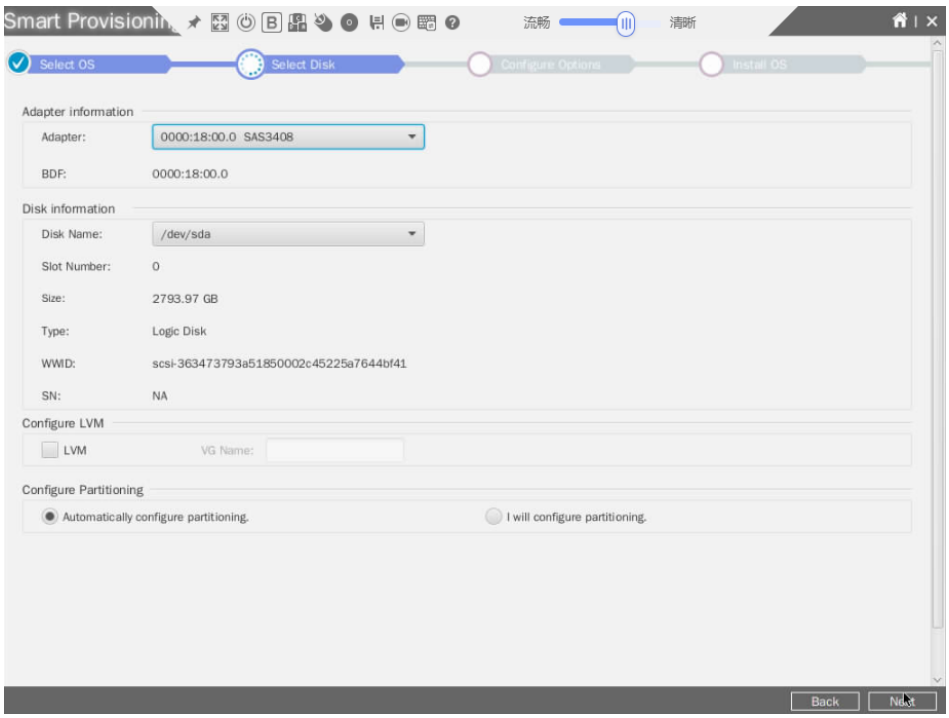
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is RHEL 7.3, the version of the inserted installation DVD or mounted image file in **Step 11** must be RHEL 7.3.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, CentOS 7.* indicates all OSs of CentOS 7.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-97**.

Figure 4-97 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

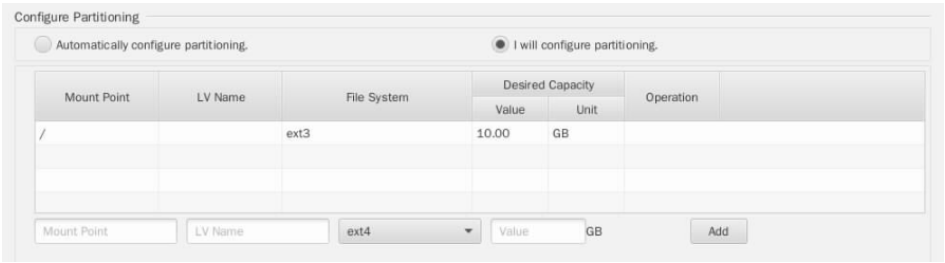
 Copyright © XFUSION INTERNATIONAL PTE. LTD.

Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During installation, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select the automatic partitioning mode (by selecting **Automatically configure partitioning**) or manual partitioning mode (by selecting **I will configure partitioning**). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-98** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized. When the **/boot** partition is customized in the RockyLinux OS, the partition size must be greater than or equal to 300 MB.
- If CentOS 6.9/CentOS 6.10/Red Hat 6.9/Red Hat6.10 is installed in Legacy and UEFI deployment modes, the XFS file system is not supported when you manually set the **/** and **/boot** partitions.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-98 Manual partitioning

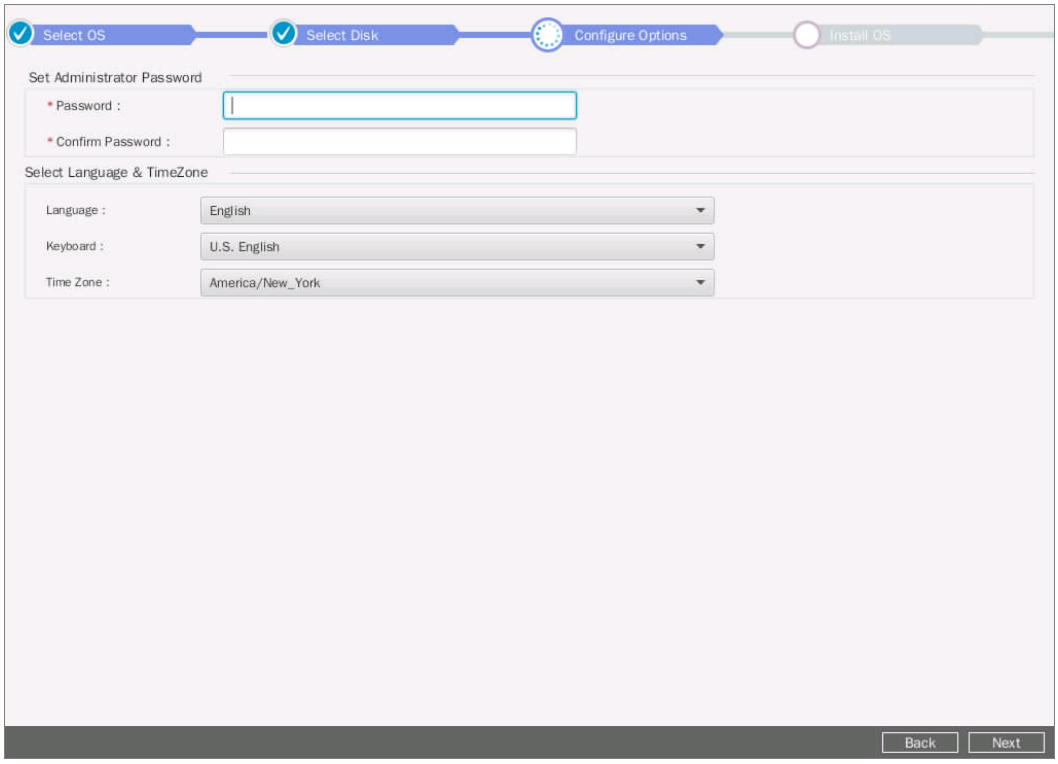


Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-99**.

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Figure 4-99 Setting the password of the root user, language, keyboard, and time zone



NOTE

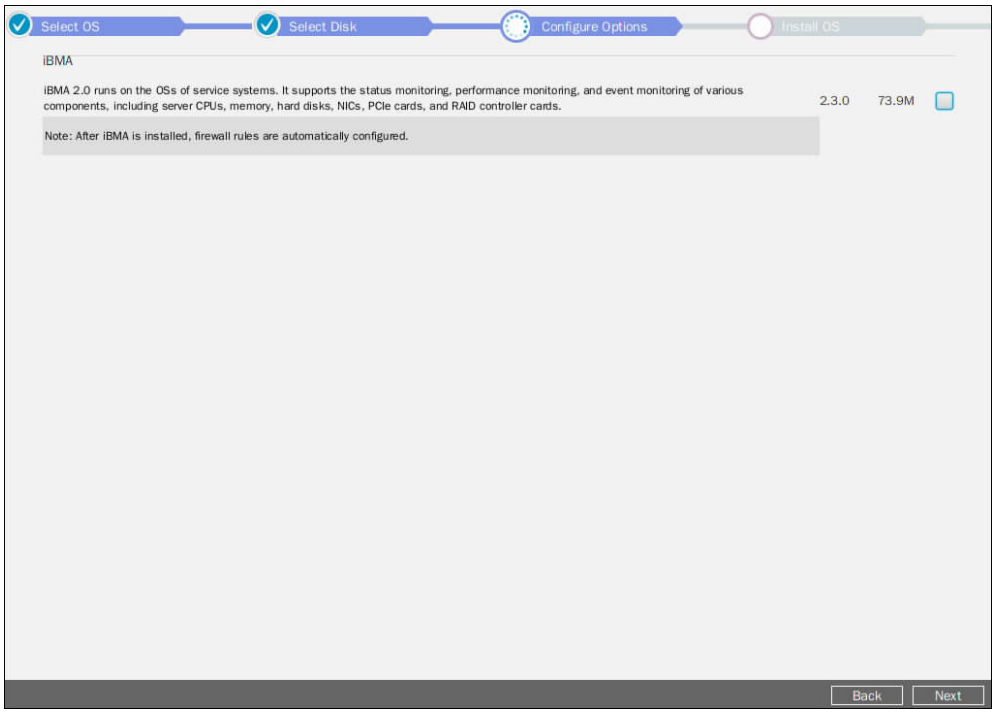
- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure Dialog box** is displayed, asking you whether to install the iBMA.

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Figure 4-100 Dialog box



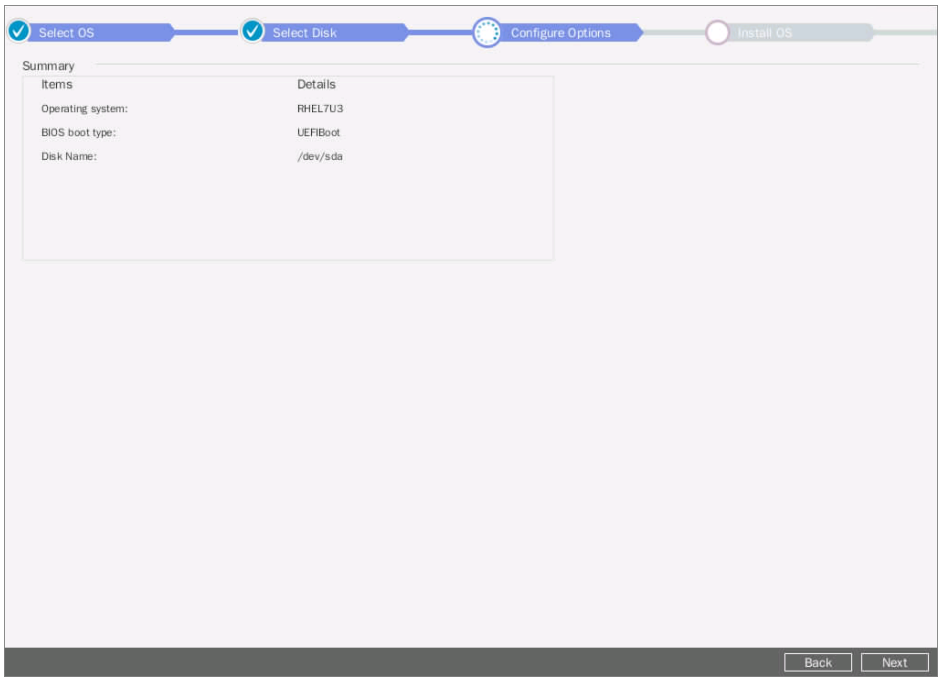
NOTE

For details about the compatibility of the iBMA, see the ***iBMA User Guide***.

Step 9 To install the iBMA, select the check box on the right and click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-101**.

Figure 4-101 Viewing the configuration summary(1)



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Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-102**.For details about configuration,see **Table 4-21**.

Figure 4-102 Viewing the configuration summary(2)

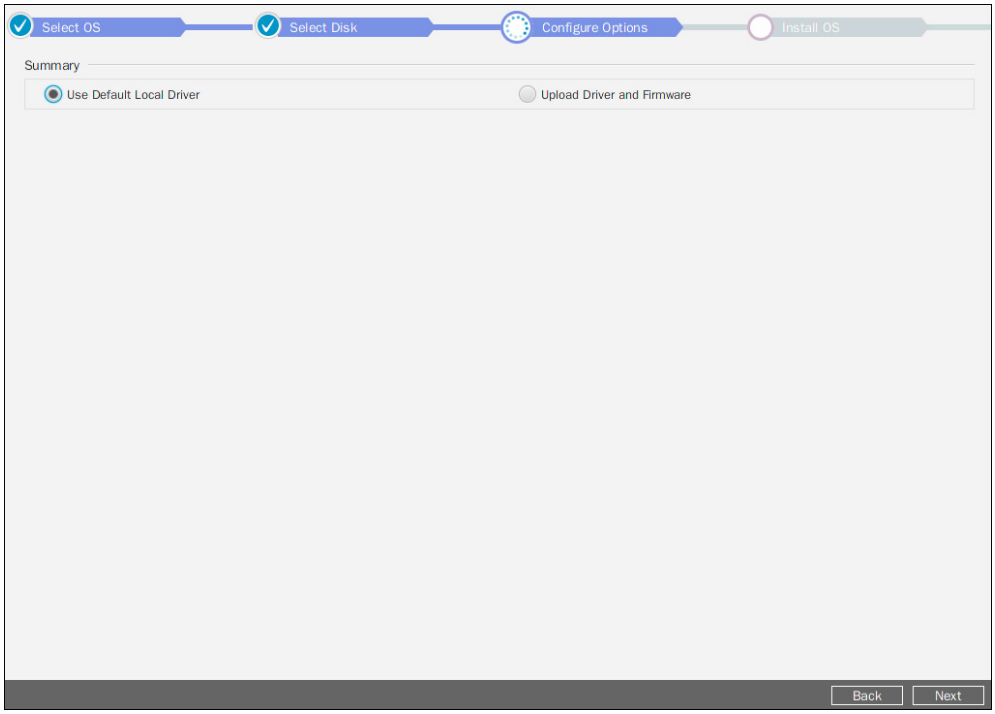


Table 4-21 Configuration Description

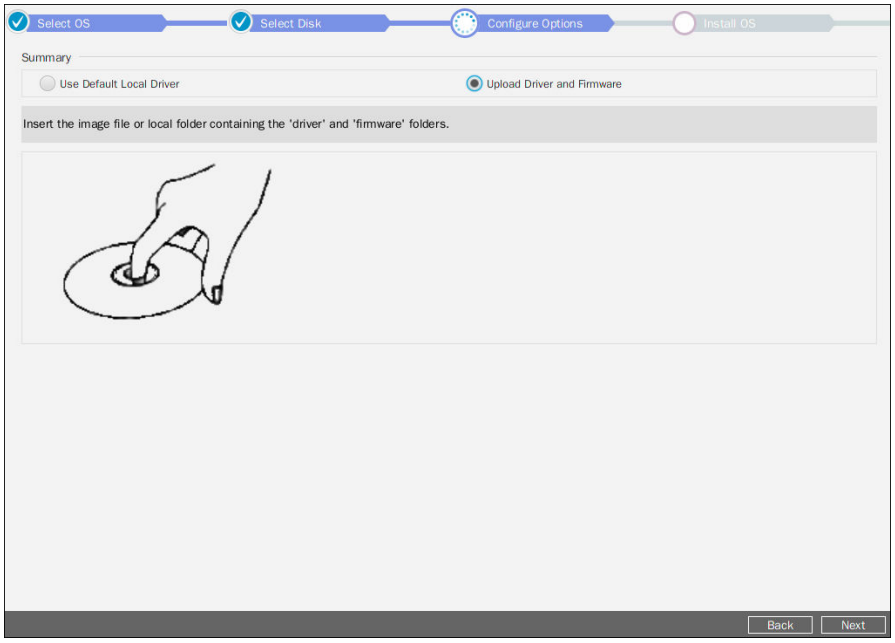
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-103**.

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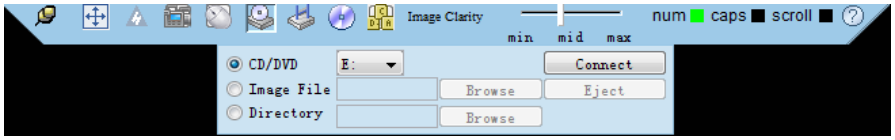
Figure 4-103 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-104**.

Figure 4-104 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

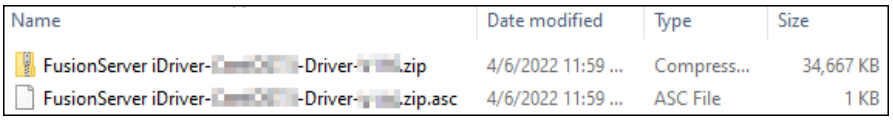
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-105**.

Figure 4-105 Folder



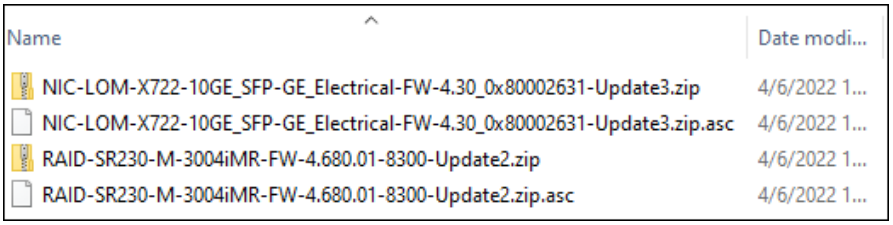
The **driver** folder is shown in **Figure 4-106**.

Figure 4-106 The **driver** folder



The **firmware** folder is shown in **Figure 4-107**.

Figure 4-107 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

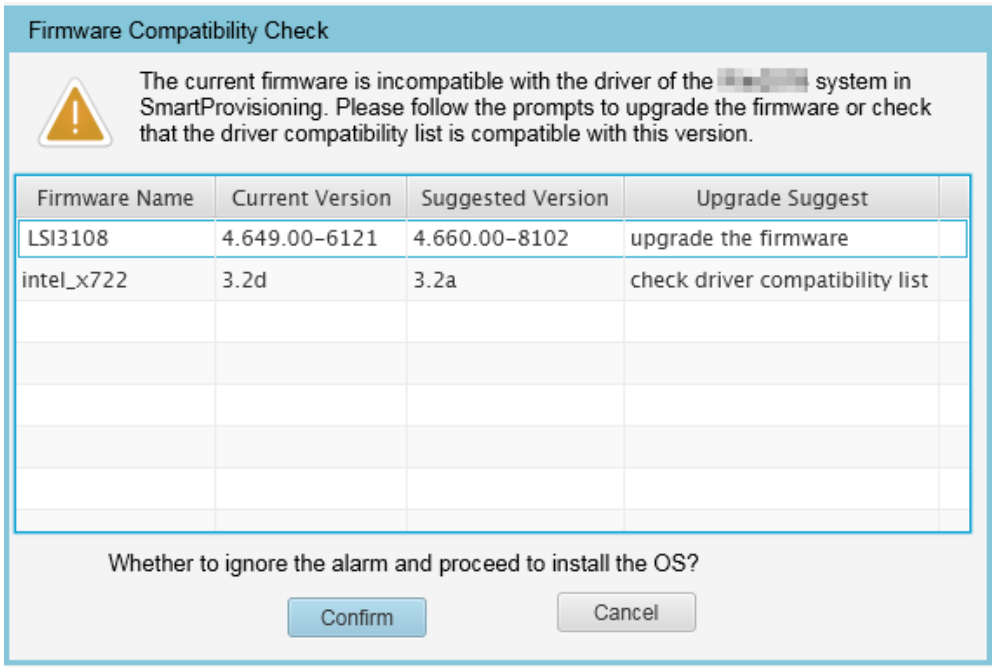
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-110** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-108** is displayed.

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Figure 4-108 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

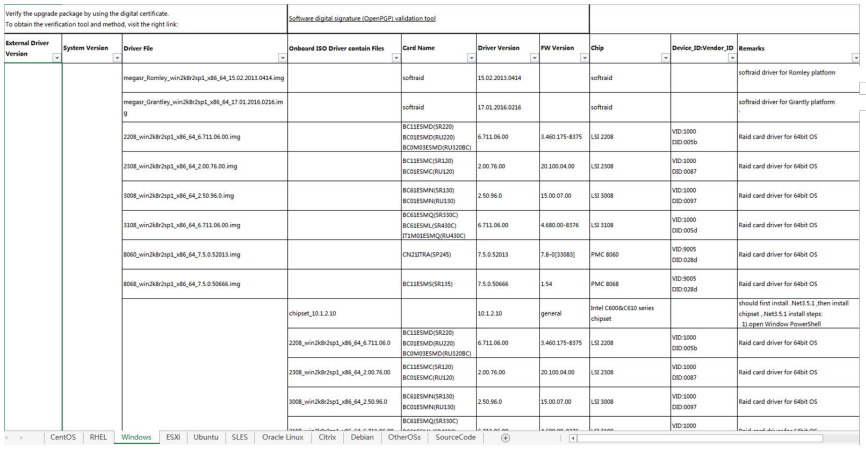
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-109**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-109 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC01ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC01ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-110**.

Figure 4-110 Window prompting you to insert the OS medium

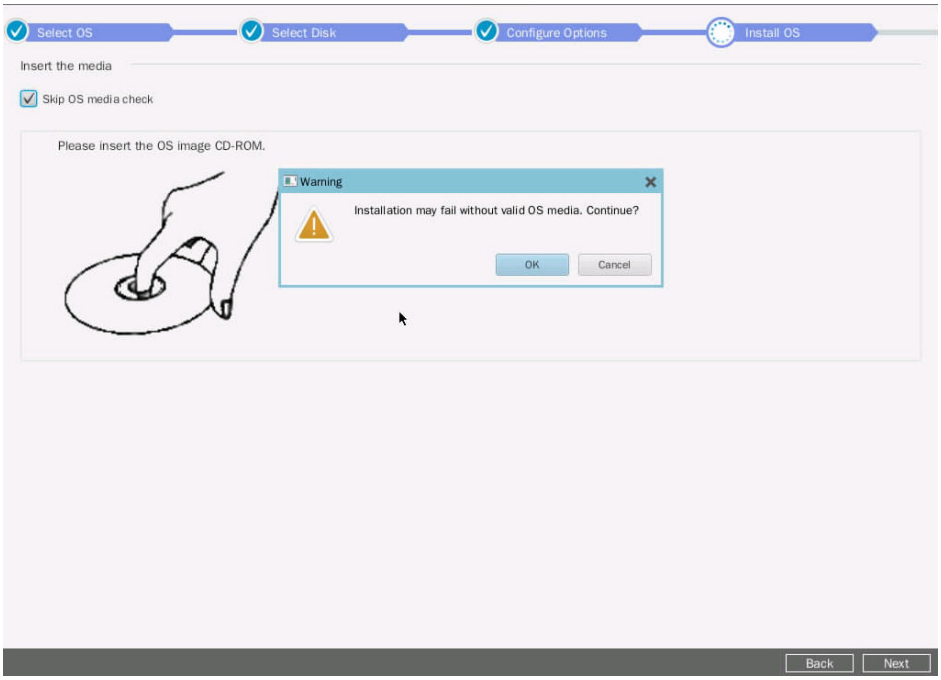


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-111**. Click **OK** or **Cancel** as required. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-111 Dialog box

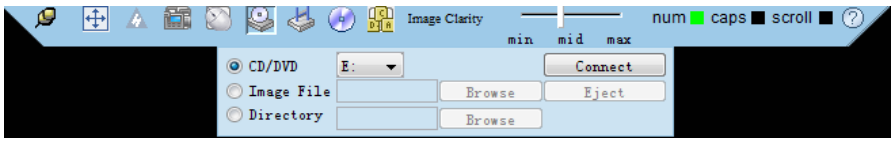


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-112**.

Figure 4-112 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 12 Click **Next**.

The OS installation starts, as shown in **Figure 4-113**.

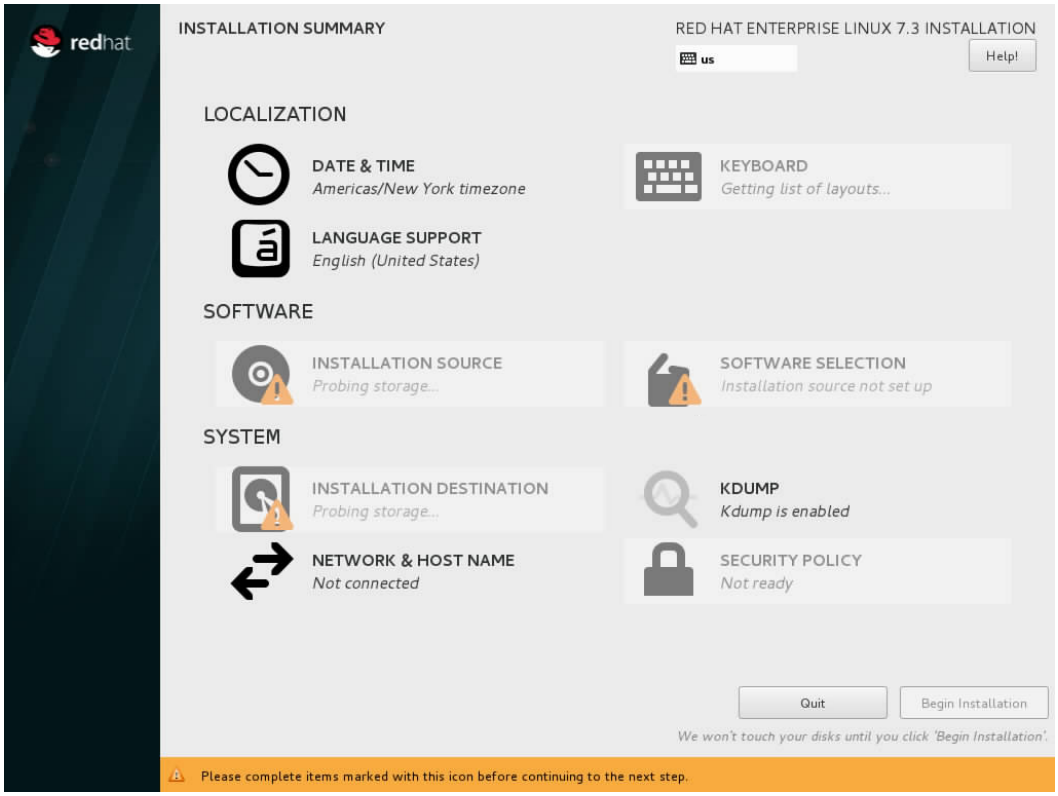
Figure 4-113 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **Figure 4-114** is displayed.

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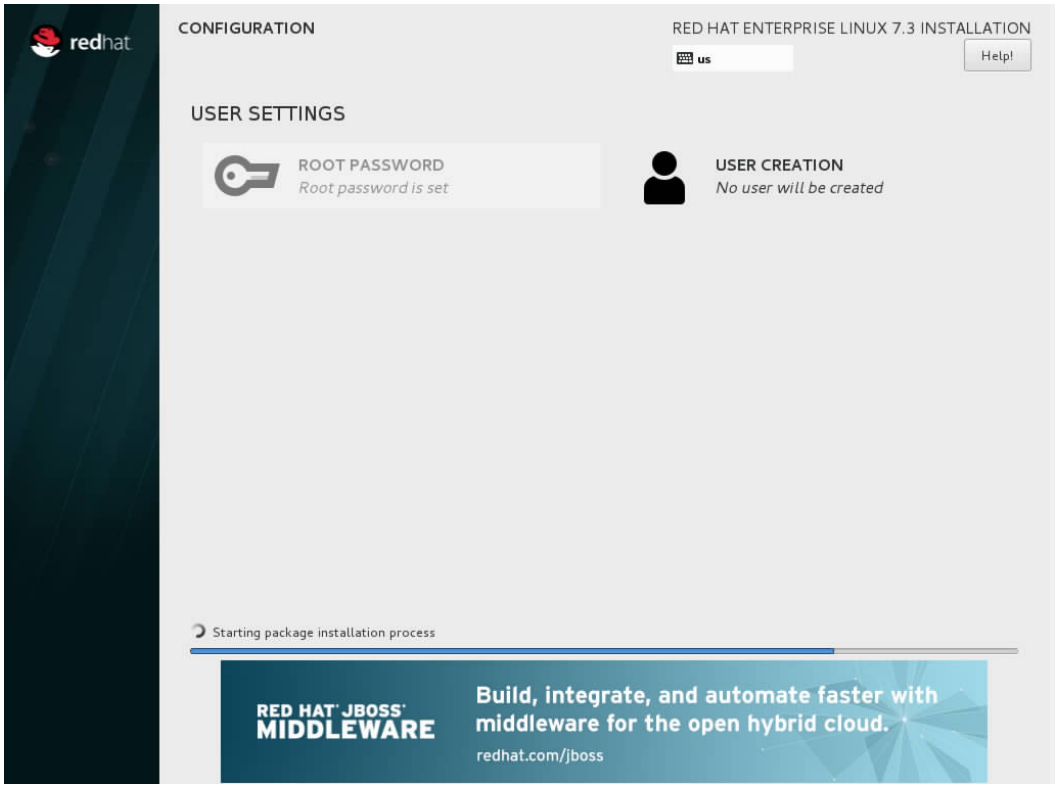
Figure 4-114 INSTALLATION SUMMARY



After about 2 minutes, the OS installation is performed automatically, as shown in **Figure 4-115**.

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Figure 4-115 Installing the OS



NOTE

During RHEL/CentOS/RockyLinux installation, if an OS of the same type has been installed, a prompt will be displayed. You need to confirm the prompt information manually.

After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.4.2 Installing an RHEL/CentOS/RockyLinux OS in Customized Mode

Install an RHEL/CentOS/RockyLinux OS on a server by using Smart Provisioning in customized mode. In the following operations, RHEL 7.3 and the BIOS UEFI ode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-116**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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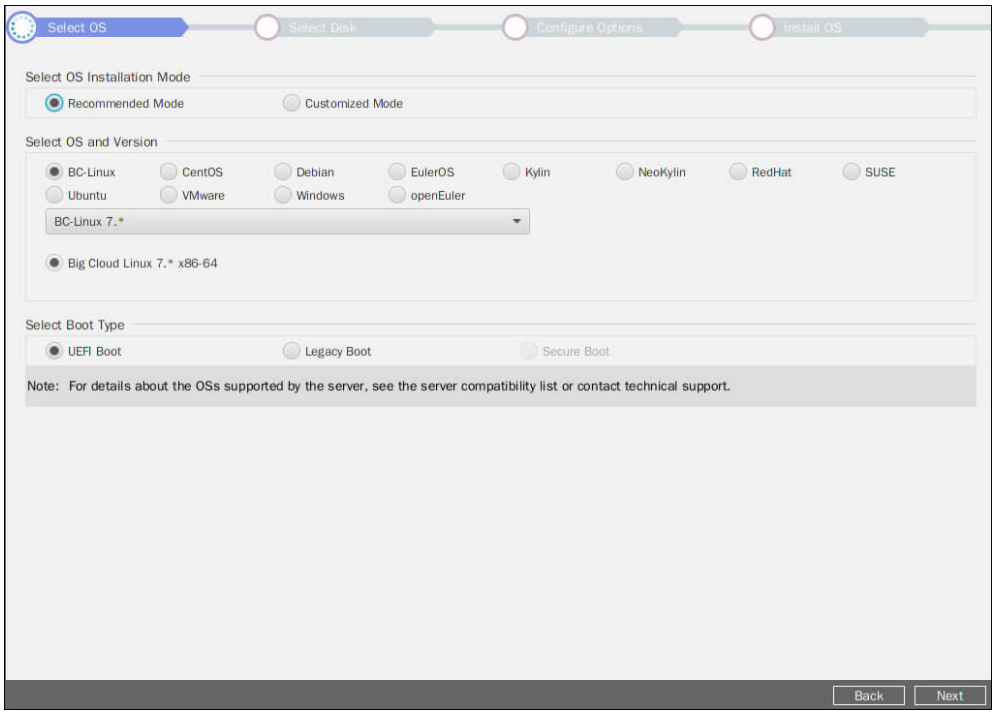
Figure 4-116 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-117**.

Figure 4-117 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

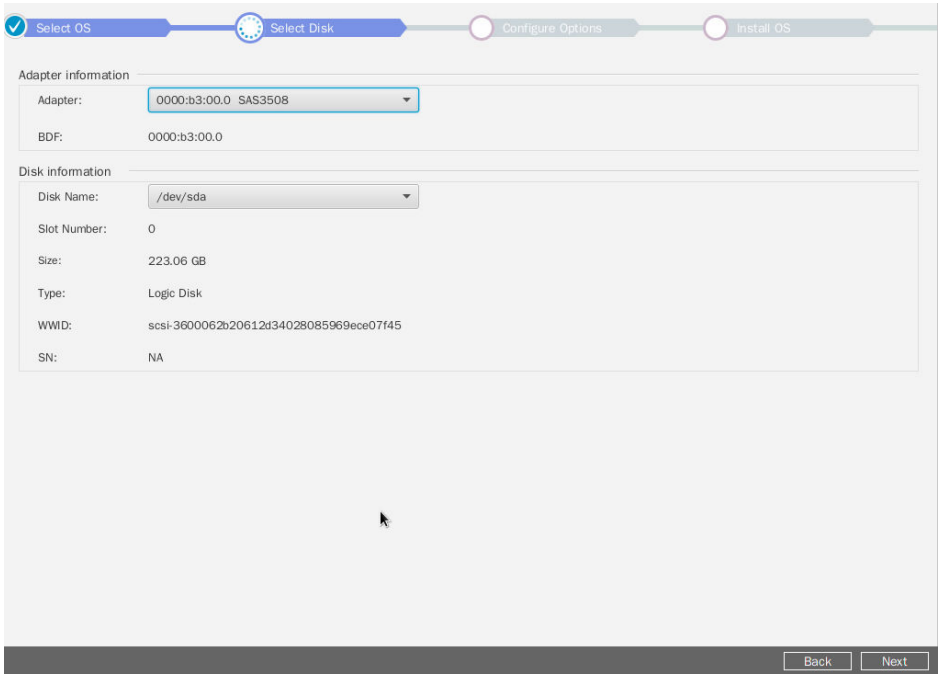
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is RHEL 7.3, the version of the inserted installation DVD or mounted image file in **Step 8** must be RHEL 7.3.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, CentOS 7.* indicates all OSs of CentOS 7.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-118**.

Figure 4-118 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

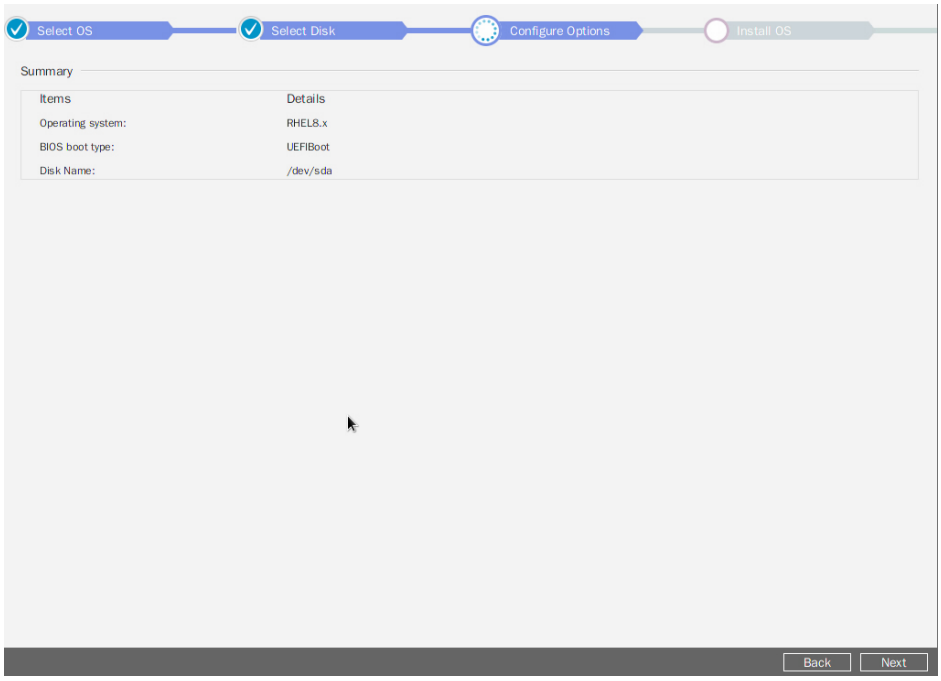
- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- After an installation hard drive is selected, record the value of **WWID**. This value will be used in **Step 16**.

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Step 6 Click **Next**.

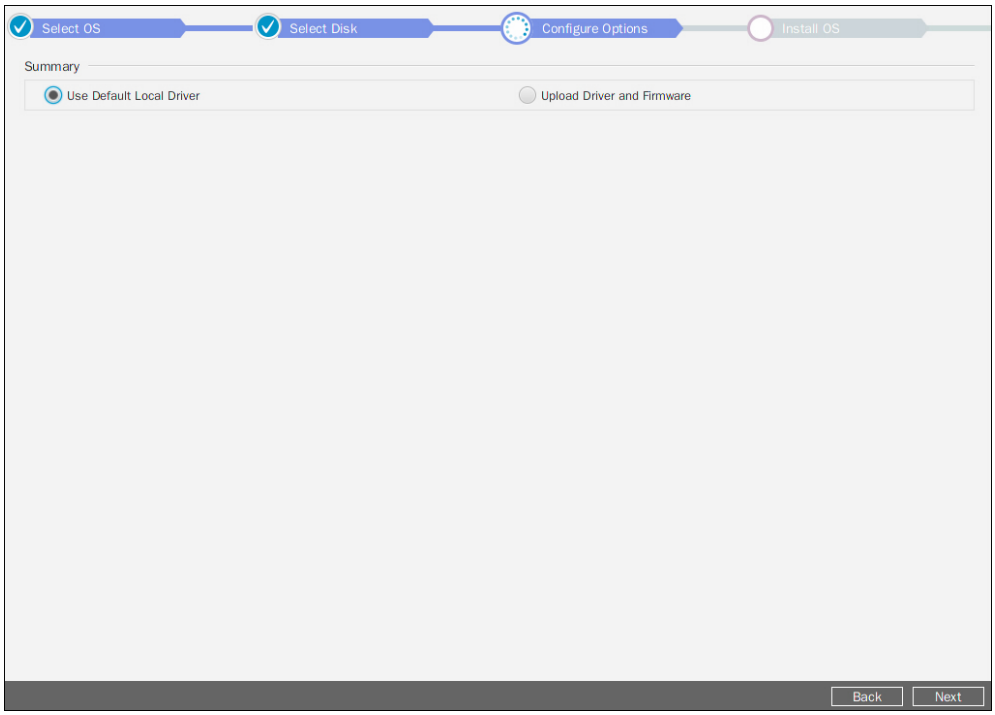
The configuration summary window is displayed, as shown in **Figure 4-119**.

Figure 4-119 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-120**.For details about configuration,see **Table 4-22**.

Figure 4-120 Viewing the configuration summary(2)



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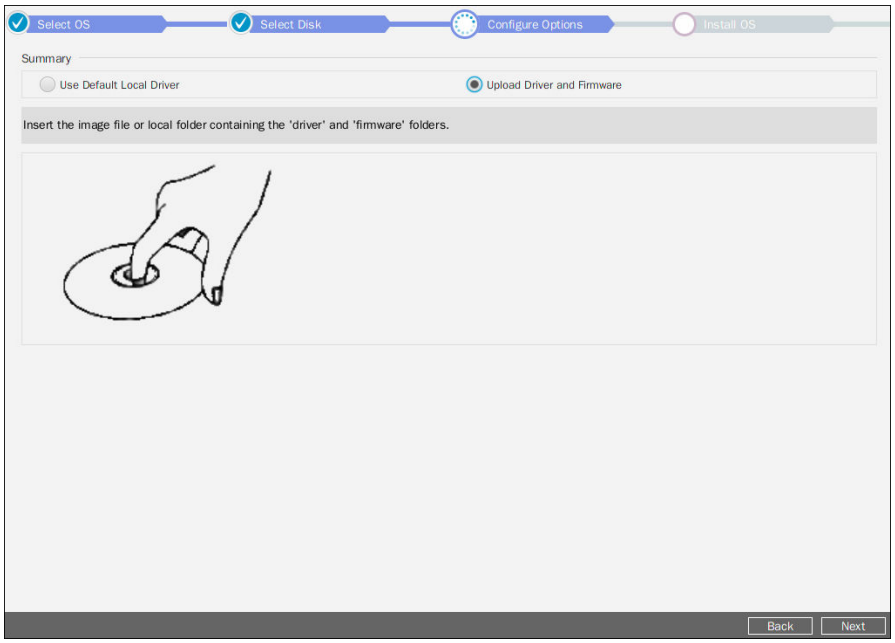
Table 4-22 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

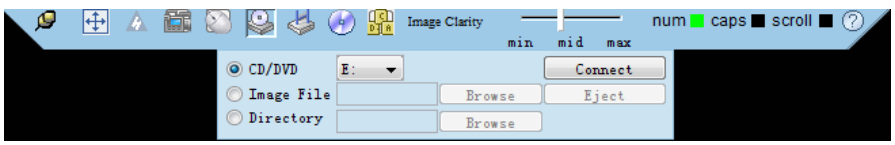
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-121**.

Figure 4-121 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-122**.

Figure 4-122 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

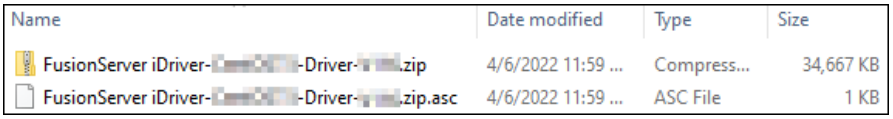
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-123**.

Figure 4-123 Folder



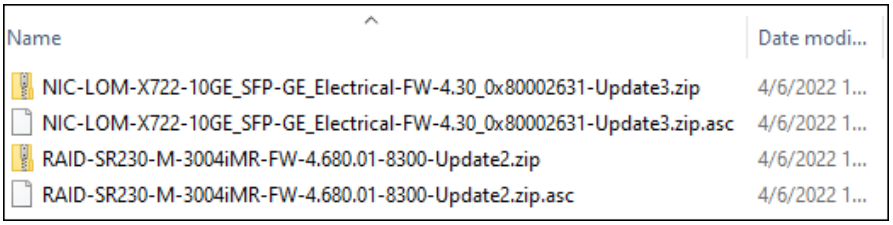
The **driver** folder is shown in **Figure 4-124**.

Figure 4-124 The **driver** folder



The **firmware** folder is shown in **Figure 4-125**.

Figure 4-125 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

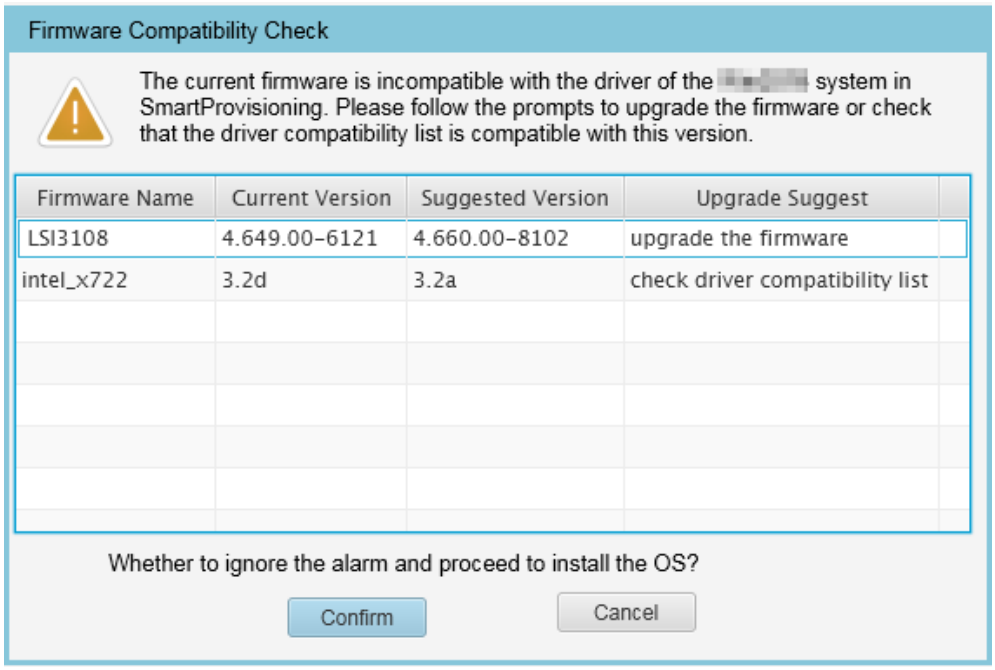
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

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Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-128** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-126** is displayed.

Figure 4-126 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

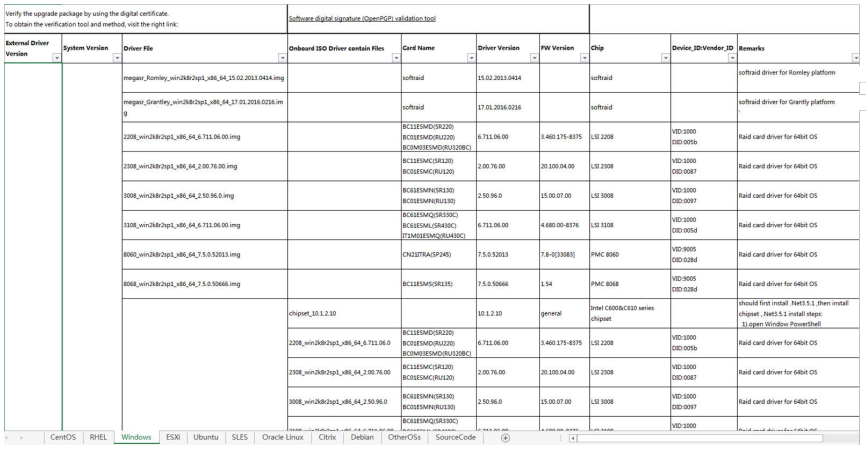
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-127**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-127 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-128**.

Figure 4-128 Window prompting you to insert the OS medium

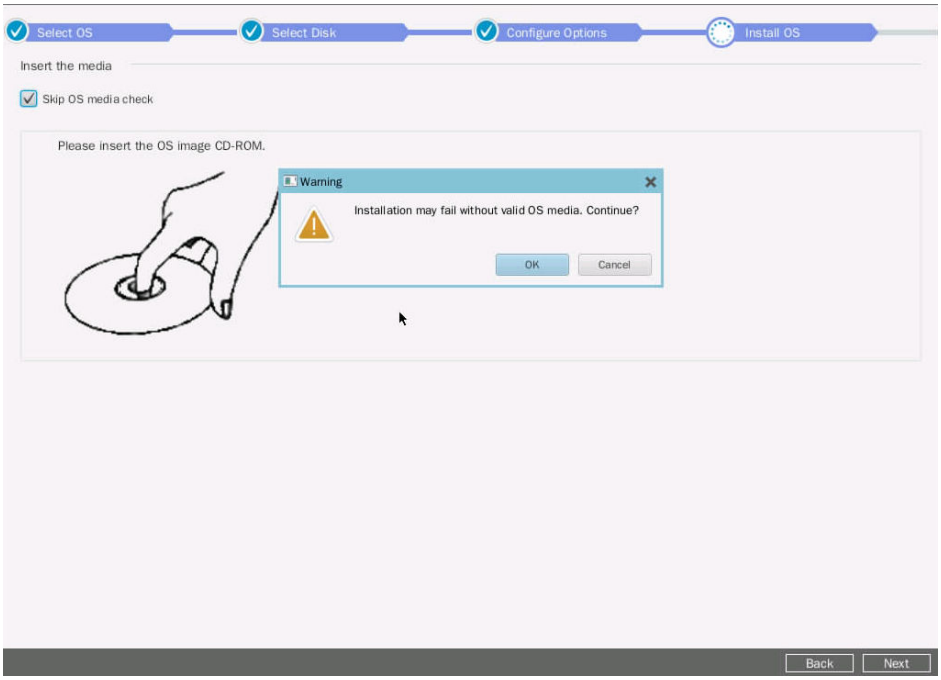


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-129**. Click **OK** or **Cancel** according to the actual situation. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-129 Dialog box

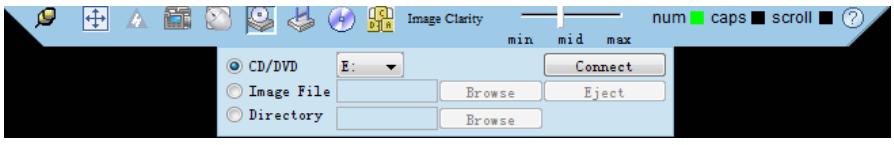


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-130**.

Figure 4-130 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-131**.

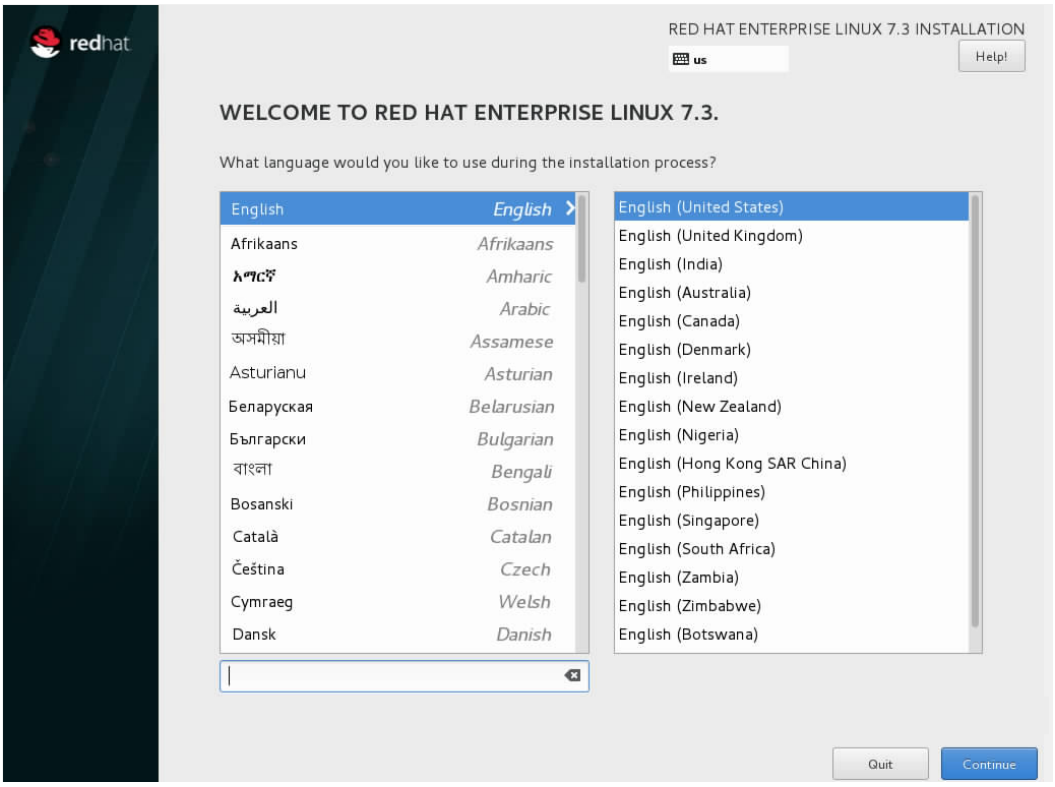
Figure 4-131 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **Figure 4-132** is displayed.

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Figure 4-132 Selecting an installation language

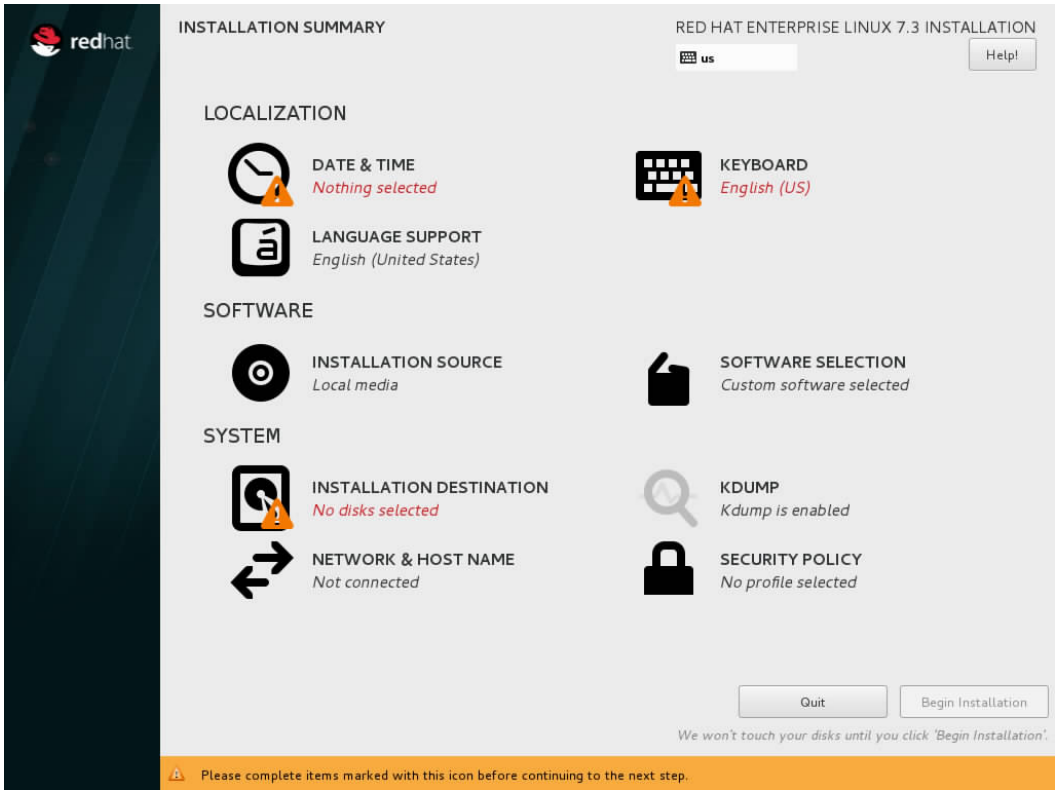


Step 10 Select an installation language and click **Continue**.

The **INSTALLATION SUMMARY** window is displayed, as shown in **Figure 4-133**.

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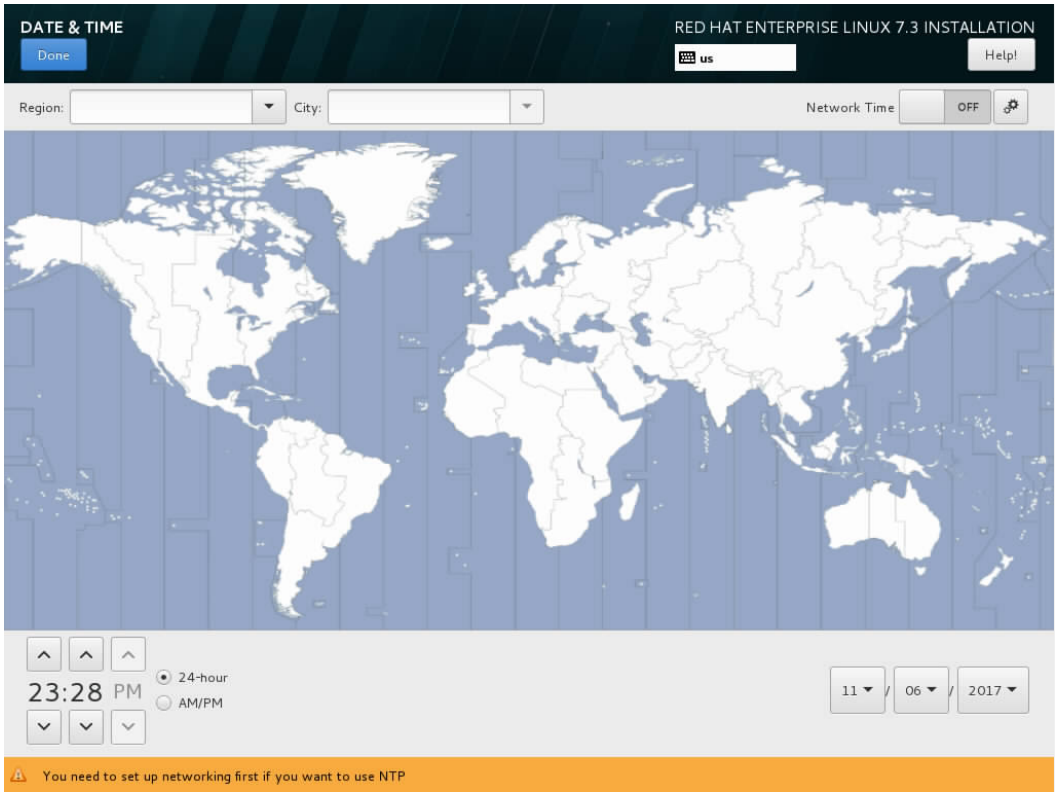
Figure 4-133 INSTALLATION SUMMARY



Step 11 Click **DATE & TIME**.

The window for setting the date and time zone is displayed, as shown in **Figure 4-134**.

Figure 4-134 Setting the date and time zone



Step 12 Set the date and time zone, and click **Done**.

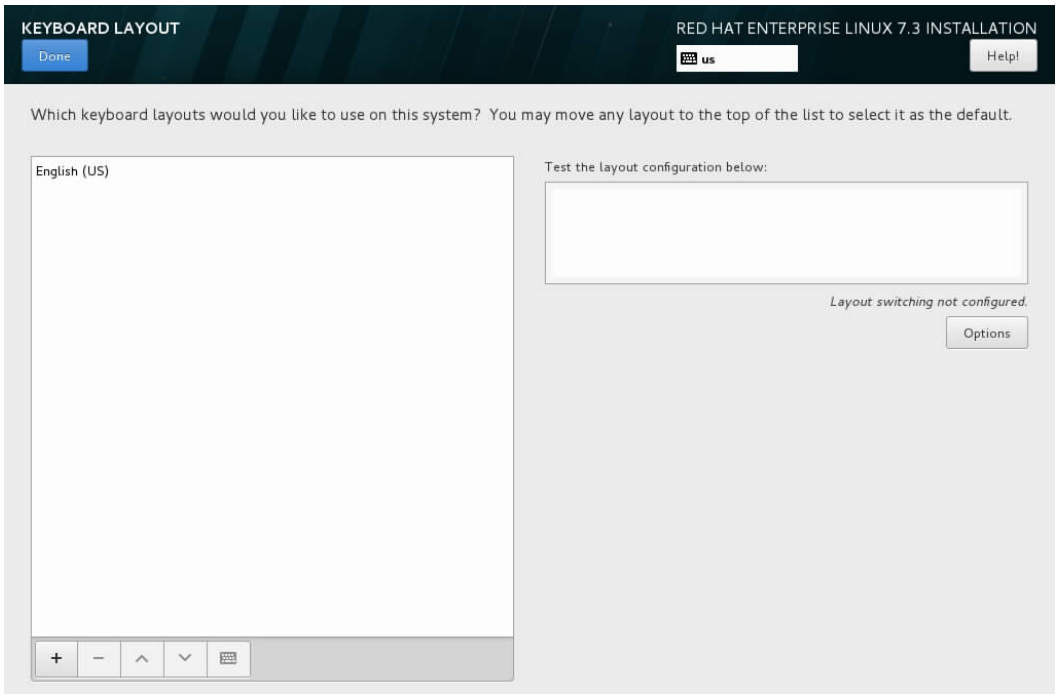
The **INSTALLATION SUMMARY** window is displayed.

Step 13 Click **KEYBOARD**.

The window for setting the keyboard is displayed, as shown in **Figure 4-135**.

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Figure 4-135 Setting the keyboard



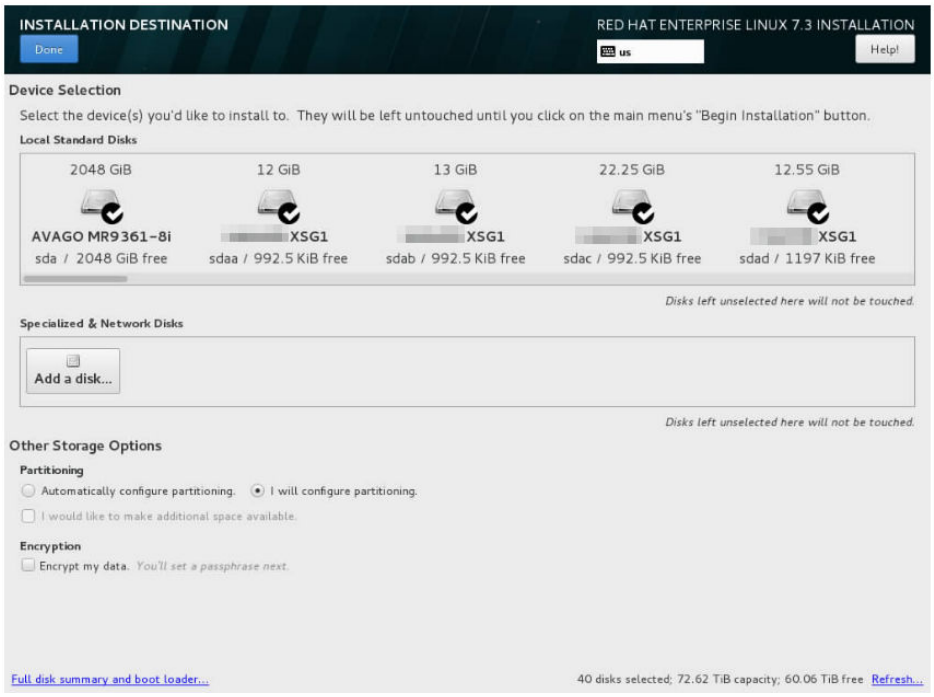
Step 14 Set the keyboard, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 15 Click **INSTALLATION DESTINATION**.

The hard drive selection window is displayed, as shown in **Figure 4-136**.

Figure 4-136 Selecting a hard drive



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Step 16 Choose **Other Storage Options** > **Local Standard Disks**, select the hard drive selected in **Step 5** and deselect other hard drives.

Move the cursor to the icon, name, or drive letter of the hard drive to view the hard drive ID, as shown in **Figure 4-137**. The ID must be the same as the character after **scsi-3** in the value of **WWID** of the hard drive selected in **Step 5**.

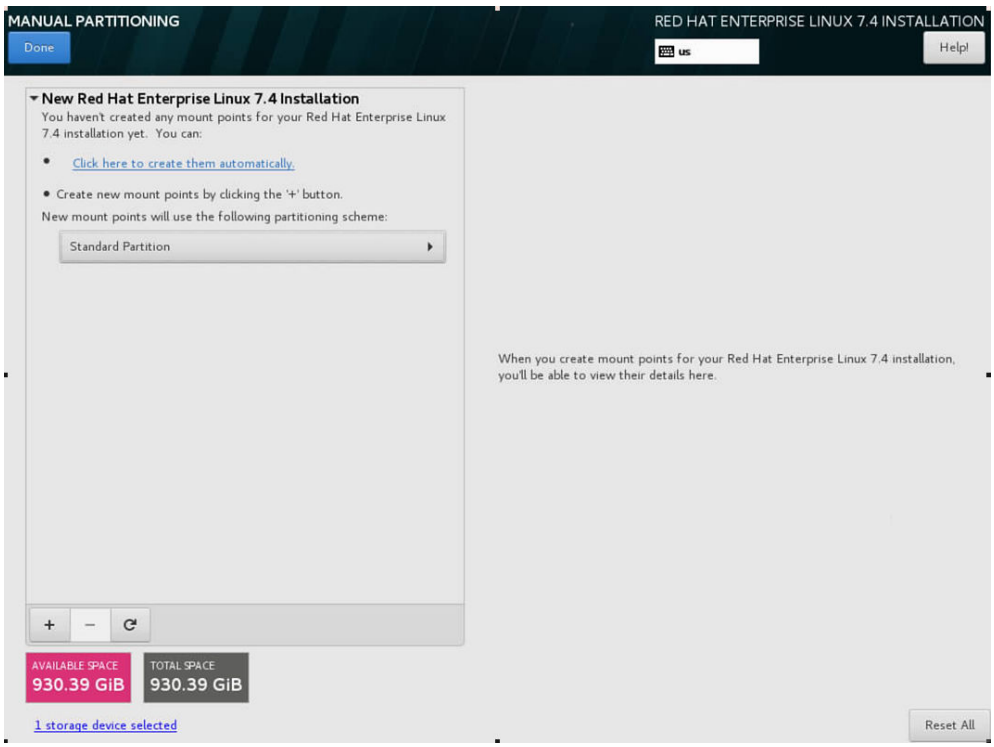
Figure 4-137 Hard drive ID



Step 17 Choose **Device Selection** > **Partitioning**, and select a partition mode. Automatic partitioning and customized partitioning are supported.

- To use the automatic partitioning mode, select **Automatically configure partitioning**.
- To use the customized partitioning mode, select **I will configure partitioning** and click **Done**. The window shown in **Figure 4-138** is displayed.

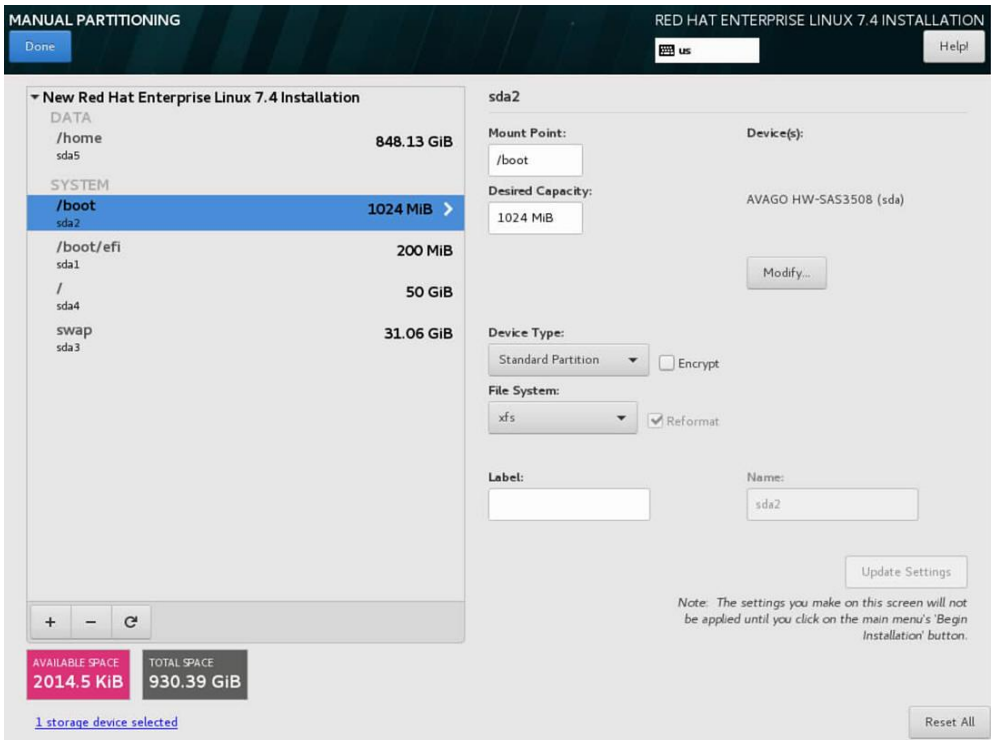
Figure 4-138 Customized partitioning



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You can click + to create partitions. At least four partitions are required, including **/boot/efi**, **/boot**, **swap**, and **/**. You can also click **Click here to create them automatically** to automatically create partitions, as shown in **Figure 4-139**.

Figure 4-139 Creating partitions

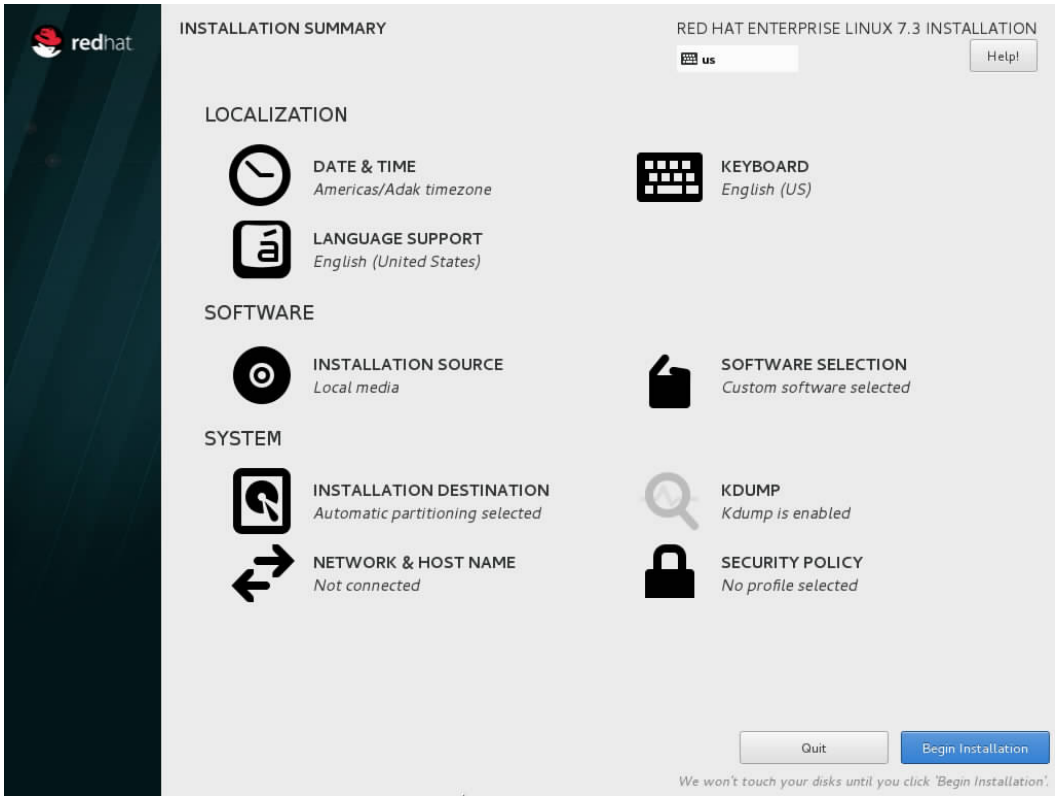


Step 18 Click **Done**.

The **INSTALLATION SUMMARY** window is displayed, as shown in **Figure 4-140**.

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Figure 4-140 INSTALLATION SUMMARY

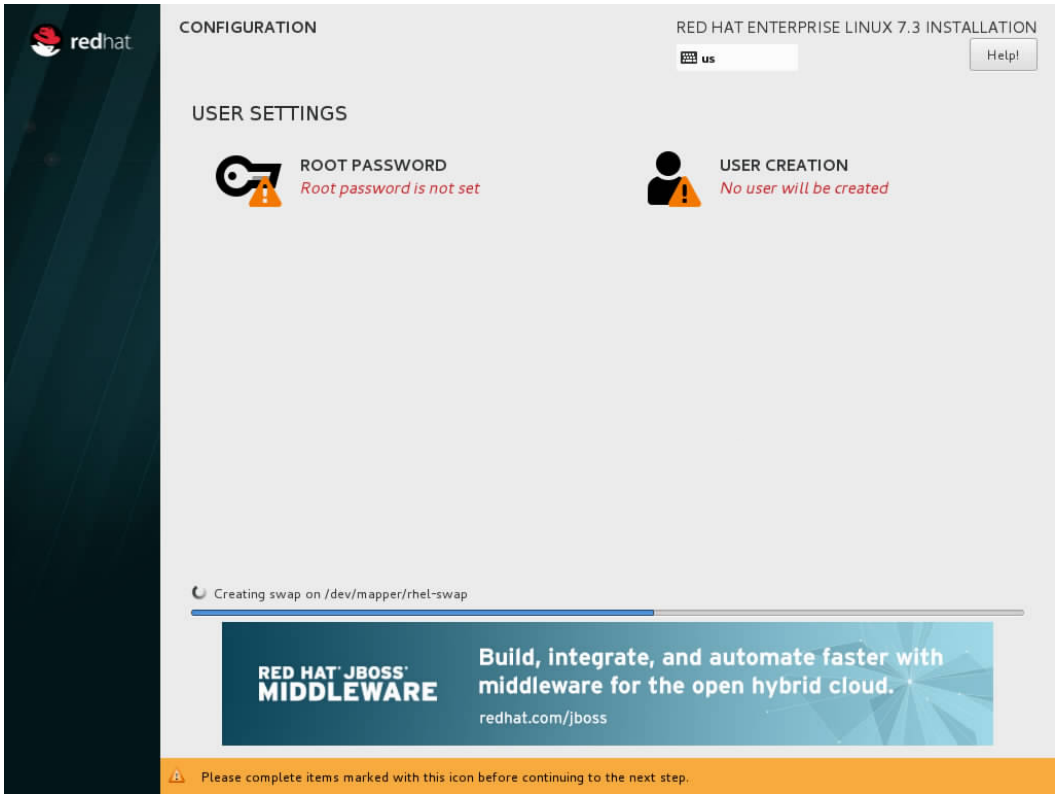


Step 19 Click **Begin Installation**.

The OS installation starts, as shown in **Figure 4-141**.

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Figure 4-141 Starting the OS installation

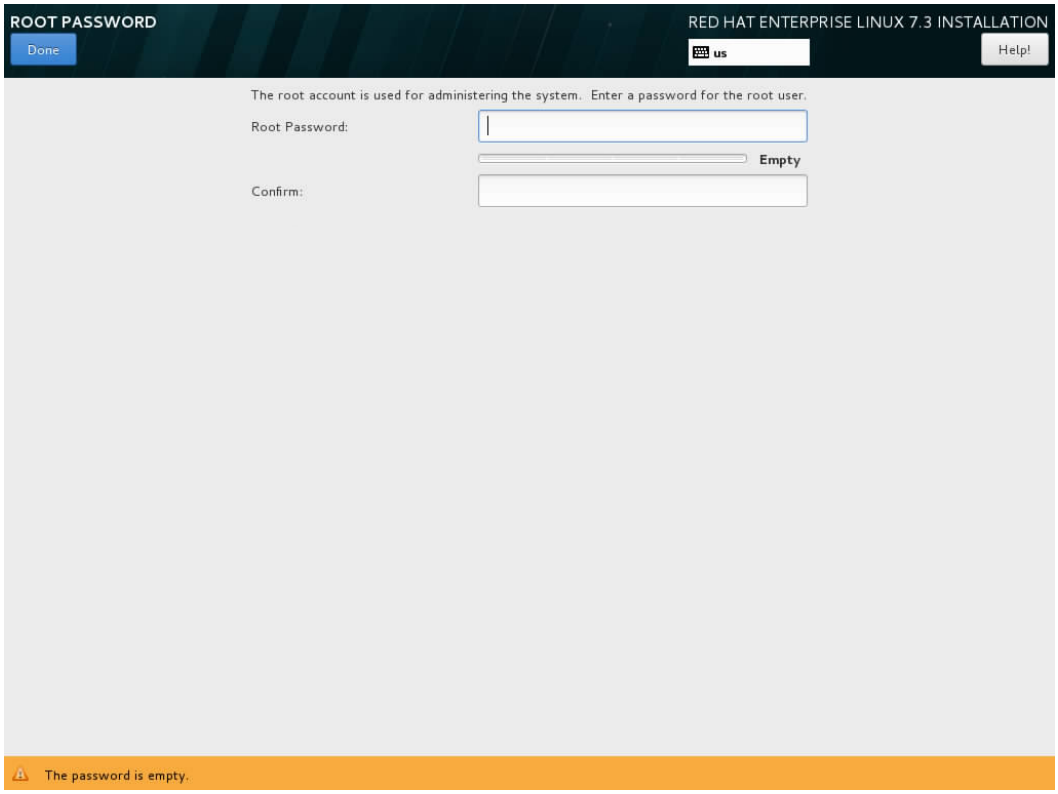


Step 20 Click **ROOT PASSWORD**.

The window for setting the password of user **root** is displayed, as shown in **Figure 4-142**.

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Figure 4-142 Setting the password of the root user



NOTE

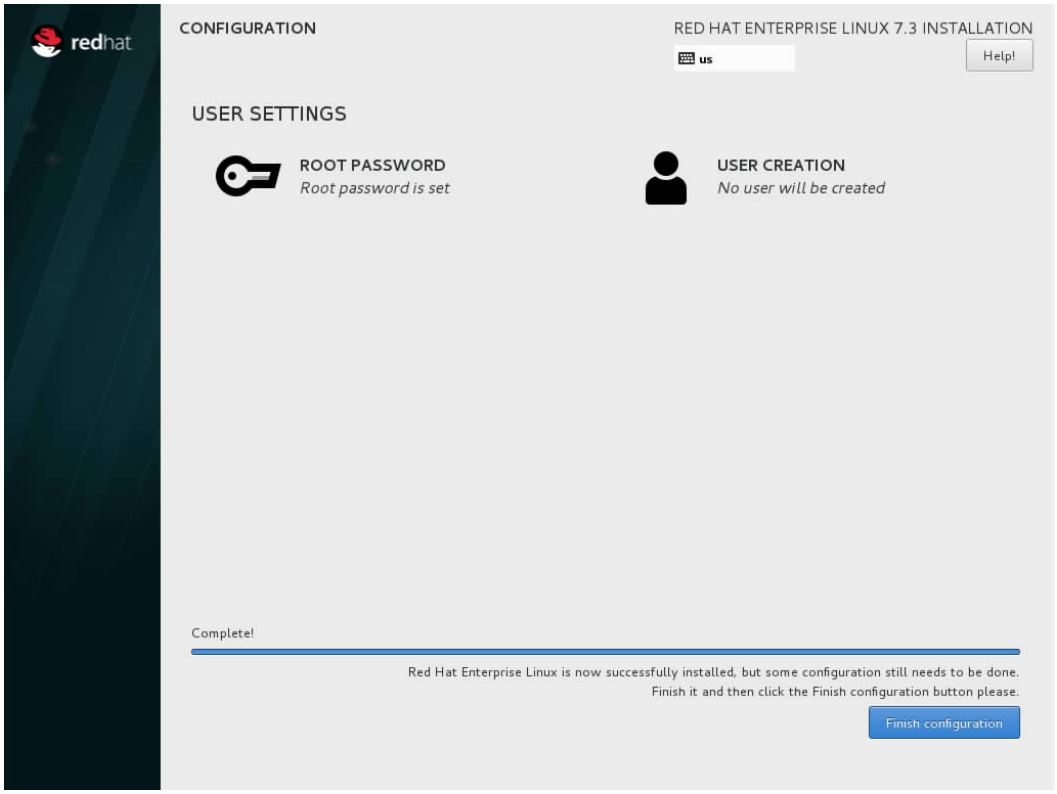
- The password must contain at least six characters.
- The password cannot contain spaces and #$.

Step 21 Set the password of the **root** user, and click **Done**.

The OS installation window is displayed. After the installation is complete, the window shown in **Figure 4-143** is displayed.

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Figure 4-143 Installation completed



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.5 Installing a VMware OS

4.4.1.5.1 Installing a VMware OS in Default Mode

Install a VMware OS on a server by using Smart Provisioning in default mode. In the following operations, VMware ESXi 6.5.0 and the BIOS UEFI mode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-144**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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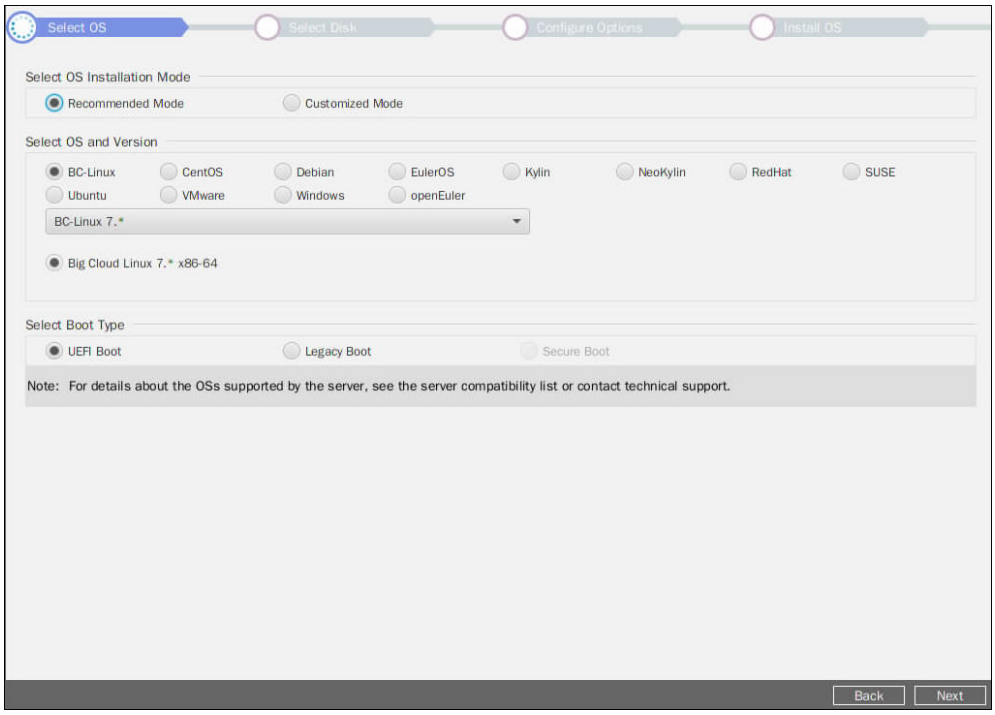
Figure 4-144 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-145**.

Figure 4-145 OS deployment main window



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NOTE

- In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.
- VMware OS cannot be deployed in Legacy Boot mode. To successfully deploy VMware OS, Smart Provisioning will automatically switch Legacy Boot to UEFI Boot. Therefore, you need manually switch the BIOS boot mode back to Legacy Boot after the deployment is complete.

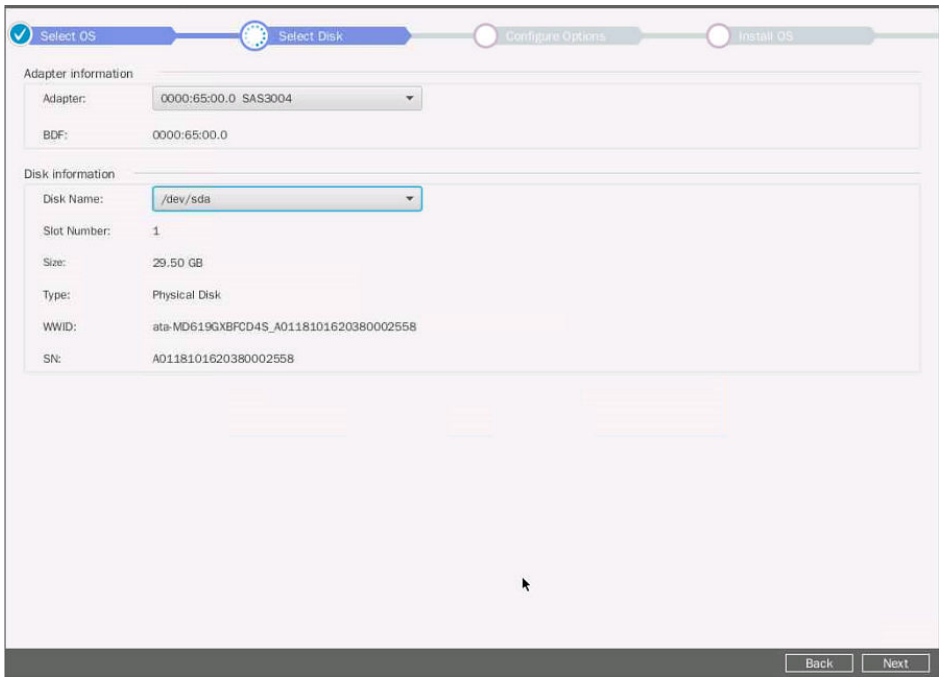
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as the version contained in the system installation medium (DVD or ISO image file). For example, if the OS version selected in **Step 2** is VMware ESXi 6.5.0, the version of the inserted installation DVD or mounted image file in **Step 10** must be VMware ESXi 6.5.0.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.

The **Select Disk** window is displayed, as shown in **Figure 4-146**.

Figure 4-146 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

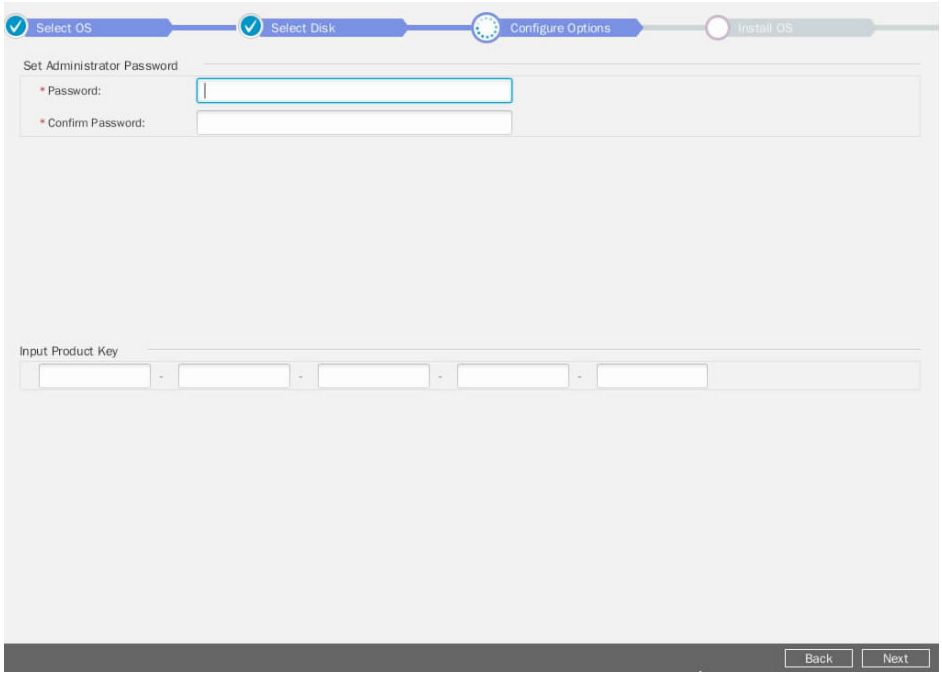
During the installation process, Smart Provisioning sets the selected hard disk to the boot disk.

Step 6 Click **Next**.

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The window for setting the password of user **root** is displayed, as shown in **Figure 4-147**.

Figure 4-147 Setting the password of user root



NOTE

- The password must contain at least seven characters.
- The password for logging in to the VMware ESXi 6.7 series and VMware ESXi 7.0 series OSs must contain letters, digits, and special characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 7 Set the password of user **root**, and click **Next**.

The window shown in **Figure 4-148** is displayed, indicating that the OS version does not support the installation of third-party software.

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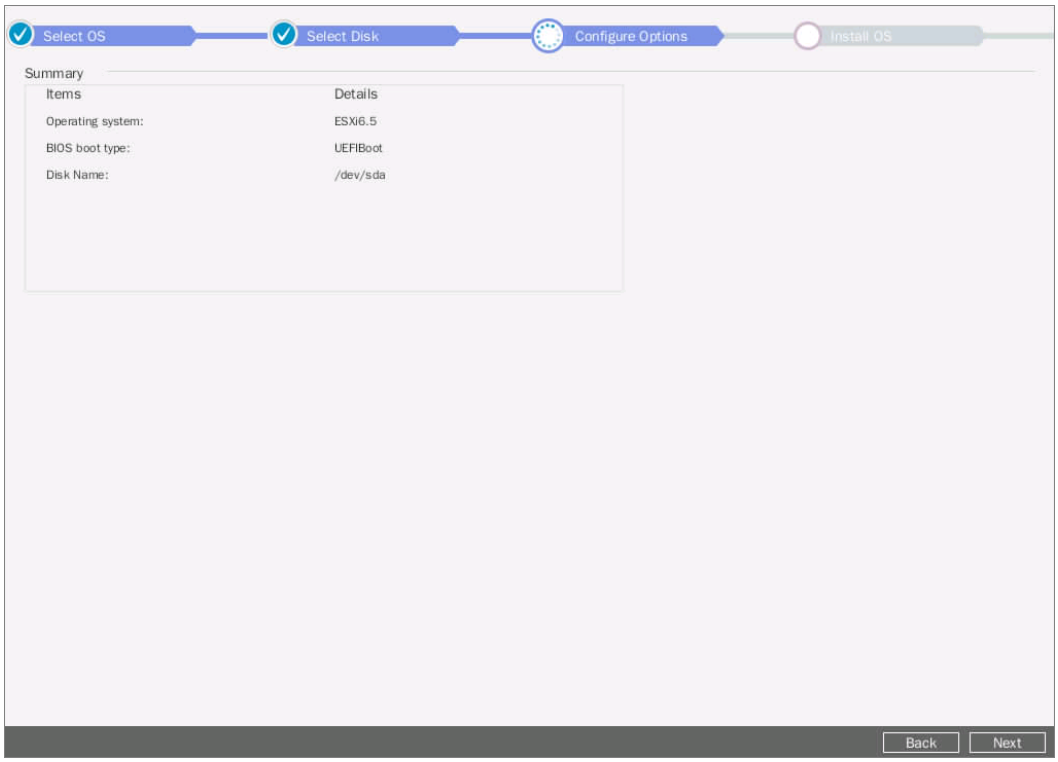
Figure 4-148 Window



Step 8 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-149**.

Figure 4-149 Viewing the configuration summary(1)



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Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-150**.For details about configuration,see **Table 4-23**.

Figure 4-150 Viewing the configuration summary(2)

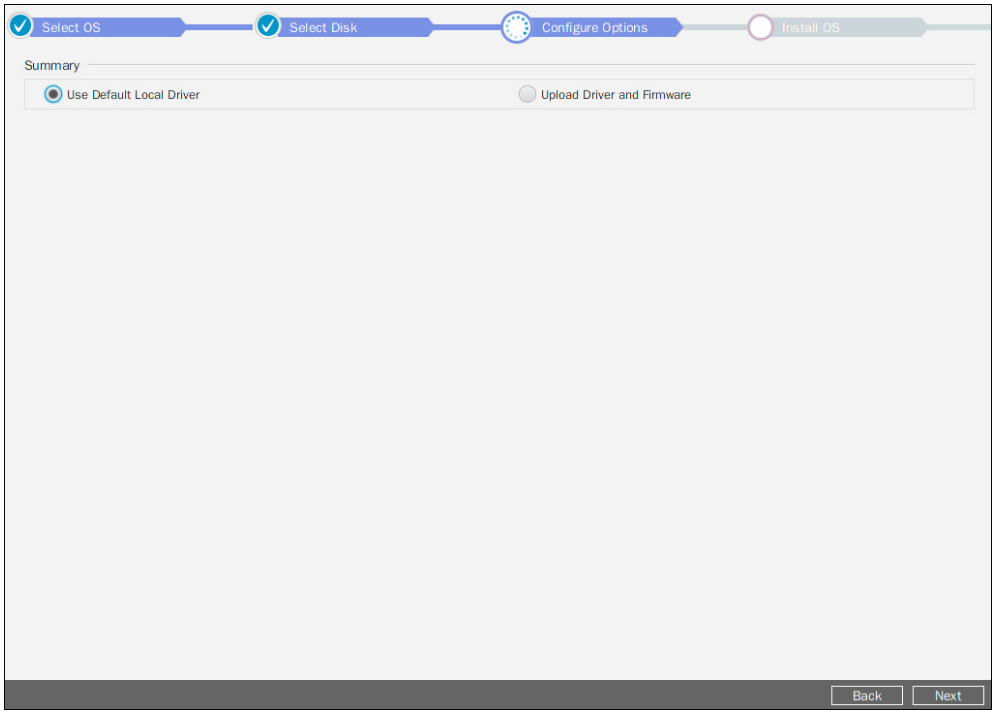


Table 4-23 Configuration Description

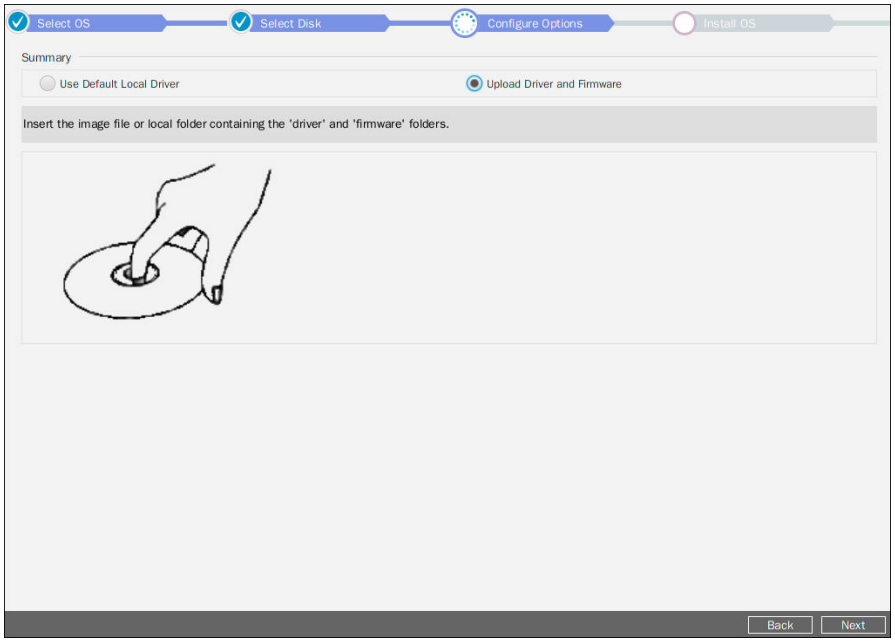
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-151**.

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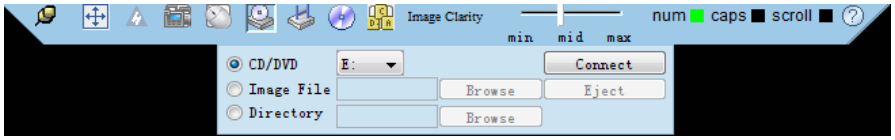
Figure 4-151 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-152**.

Figure 4-152 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

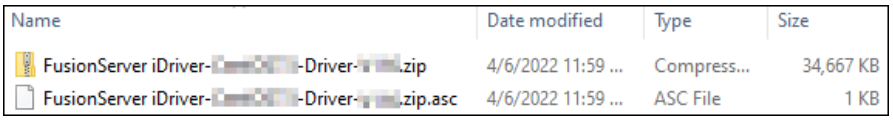
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-153**.

Figure 4-153 Folder



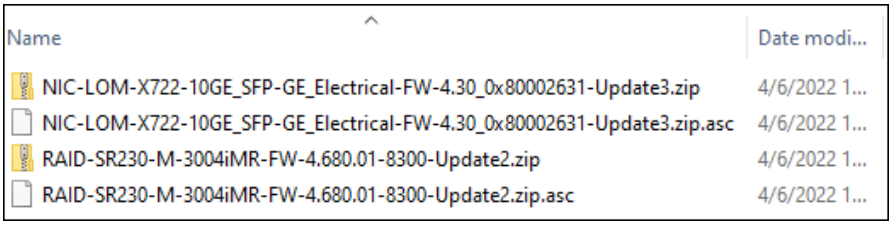
The **driver** folder is shown in **Figure 4-154**.

Figure 4-154 The **driver** folder



The **firmware** folder is shown in **Figure 4-155**.

Figure 4-155 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

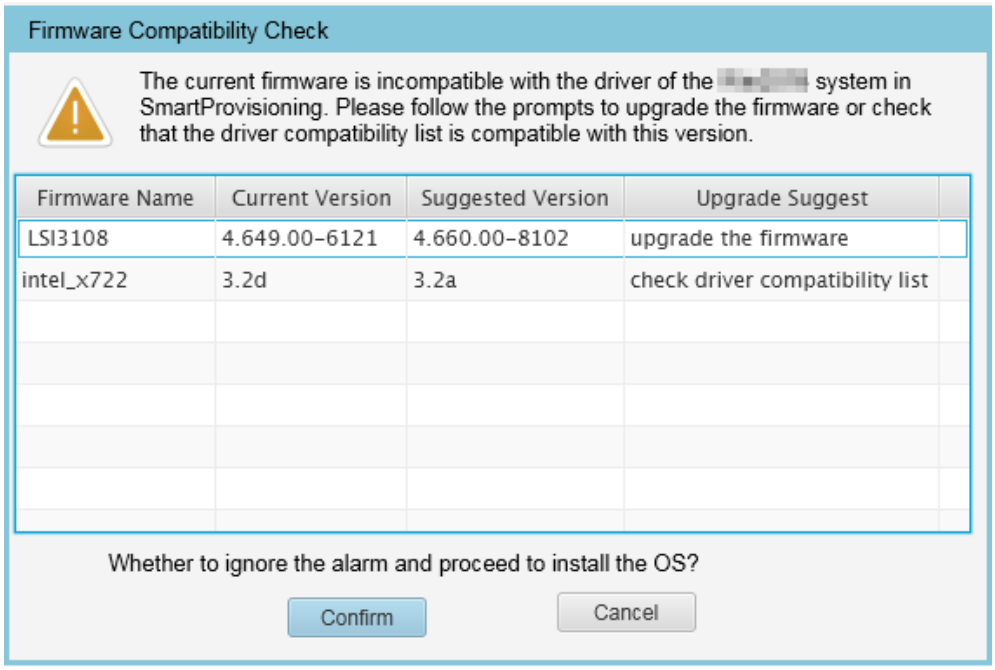
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the page shown in **Figure 4-158** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-156** is displayed.

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Figure 4-156 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

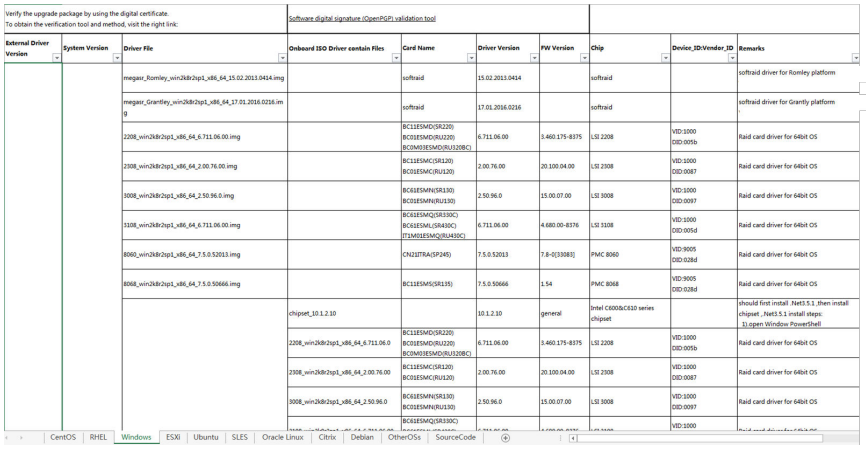
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 8.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-157**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-157 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 9 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-158**.

Figure 4-158 Window prompting you to insert the OS medium

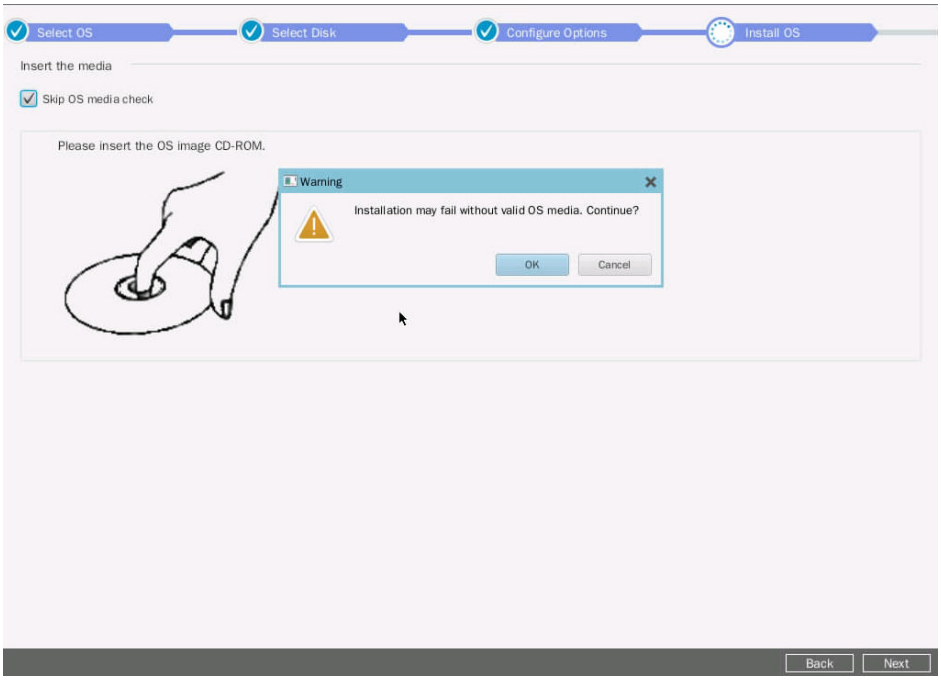


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-159**. Click **OK** or **Cancel** according to the actual situation. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-159 Dialog box

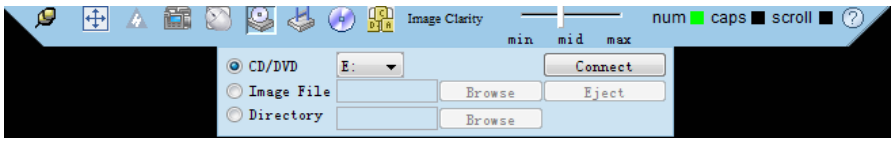


Step 10 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 10.2** to **Step 10.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-160**.

Figure 4-160 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 11 Click **Next**.

The OS installation starts, as shown in **Figure 4-161**.

Figure 4-161 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the server downloads the system configuration file, as shown in **Figure 4-162**.

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Figure 4-162 Downloading the system configuration file



After the system configuration file is downloaded, the OS installation starts automatically. See **Figure 4-163**.

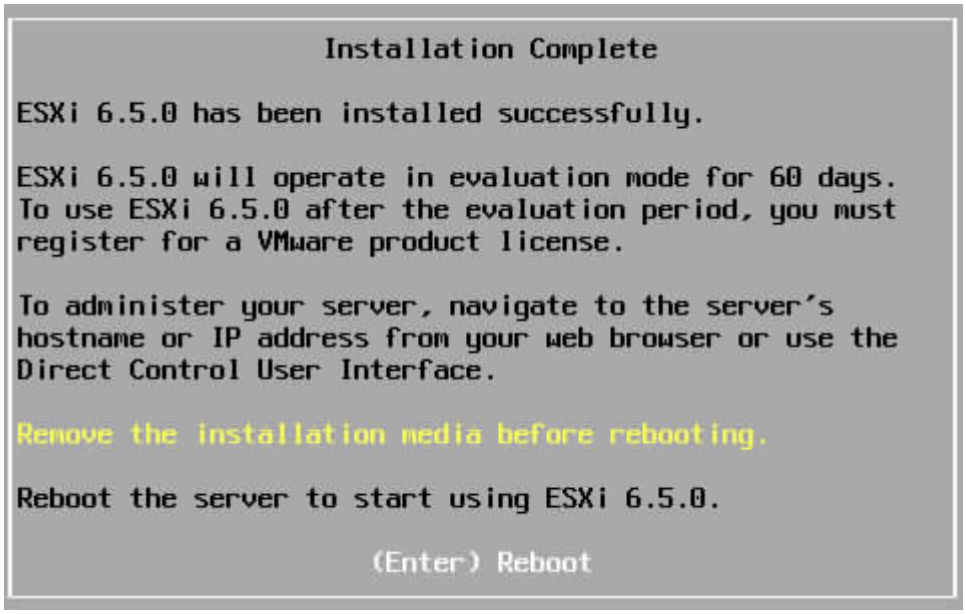
Figure 4-163 Installing the OS



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After the OS installation is complete, the information shown in **Figure 4-164** is displayed.

Figure 4-164 Installation completed



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /vmfs/volumes/datastore1/iDriver_install.log** command to view the installation logs.

----End

4.4.1.5.2 Installing a VMware OS in Customized Mode

Install a VMware OS on a server by using Smart Provisioning in customized mode. In the following operations, VMware ESXi 6.5.0 and the BIOS UEFI mode are used as an example.

Step 1 Access the Smart Provisioning main window, as shown in**Figure 4-165** .

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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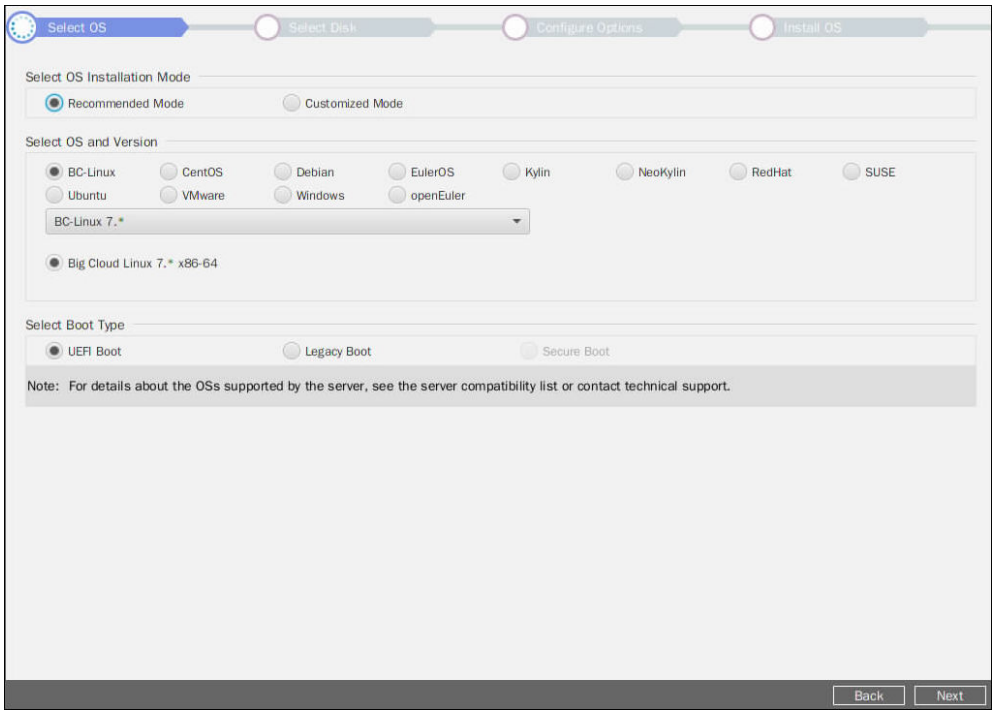
Figure 4-165 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-166**.

Figure 4-166 OS deployment main window



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NOTE

- In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.
- VMware OS cannot be deployed in Legacy Boot mode. To successfully deploy VMware OS, Smart Provisioning will automatically switch Legacy Boot to UEFI Boot. Therefore, you need manually switch the BIOS boot mode back to Legacy Boot after the deployment is complete.

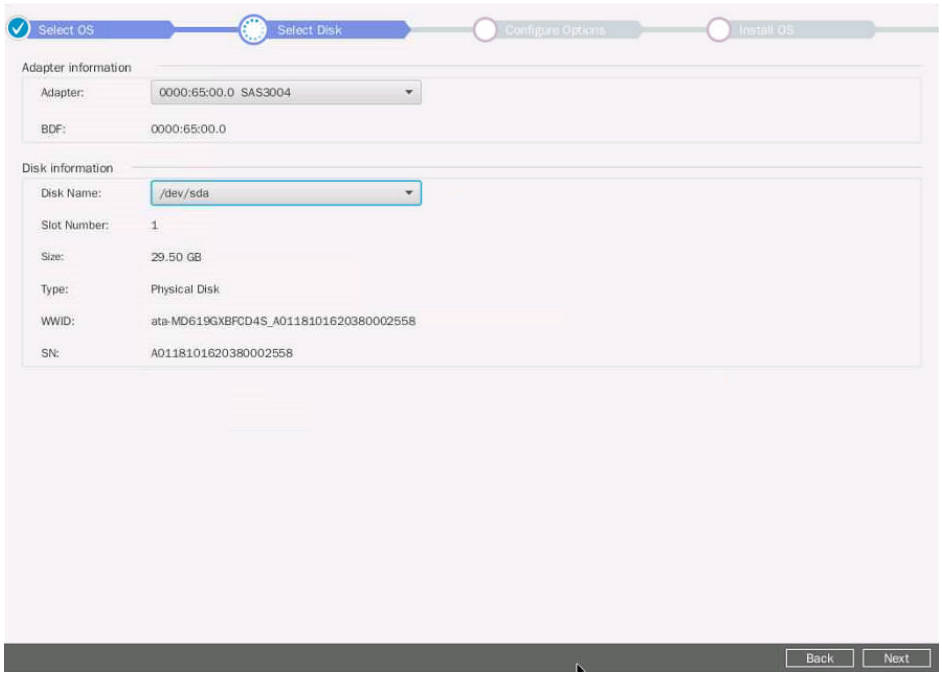
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as the version contained in the system installation medium (DVD or ISO image file). For example, if the OS version selected in **Step 2** is VMware ESXi 6.5.0, the version of the inserted installation DVD or mounted image file in **Step 8** must be VMware ESXi 6.5.0.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.

The **Select Disk** window is displayed, as shown in **Figure 4-167**.

Figure 4-167 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

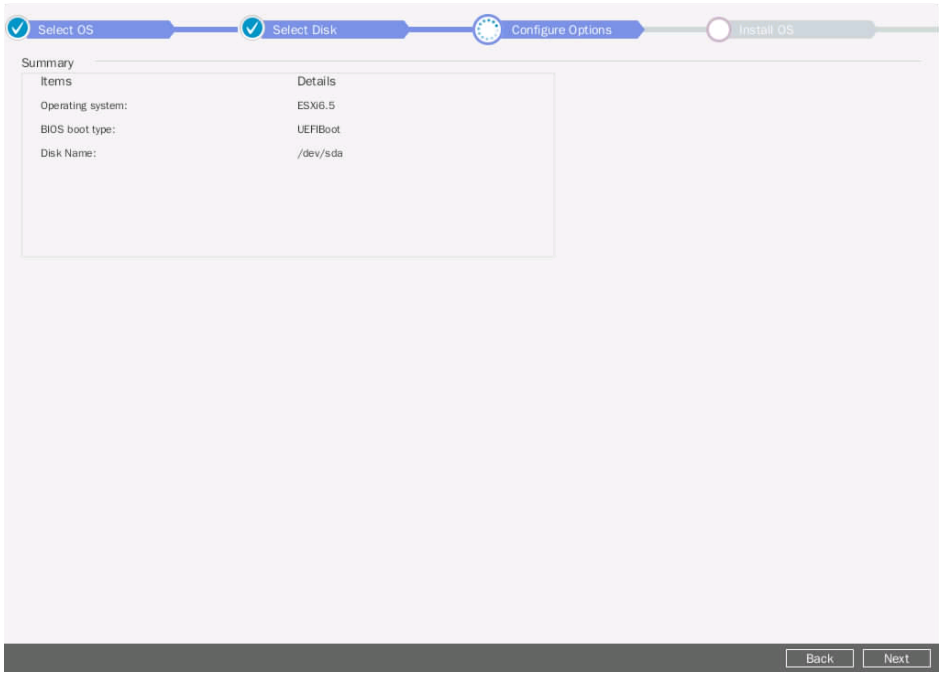
- During the installation process, Smart Provisioning sets the selected hard disk to the boot disk.
- After an installation hard disk is selected, record the value of **WWID**. This value will be used in **Step 11**.

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Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-168**.

Figure 4-168 Viewing the configuration summary(1)



NOTE

VMware OS cannot be deployed in Legacy Boot mode. To successfully deploy VMware OS, Smart Provisioning will automatically switch Legacy Boot to UEFI Boot. Therefore, you need manually switch the BIOS boot mode back to Legacy Boot after the deployment is complete.

Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-169**.For details about configuration,see **Table 4-24**.

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Figure 4-169 Viewing the configuration summary(2)

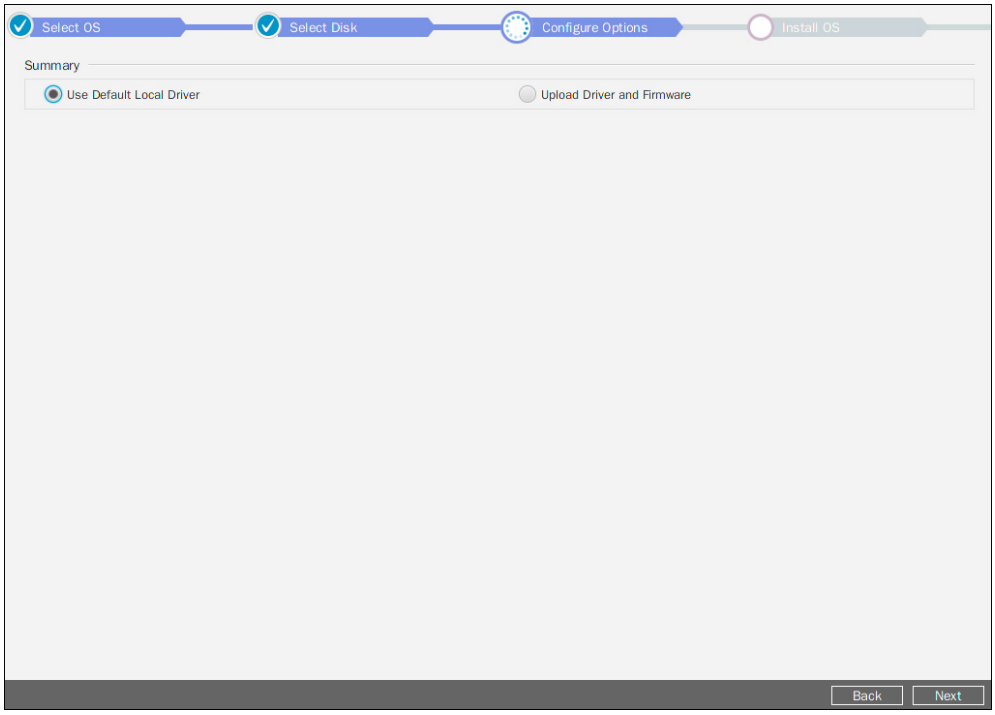


Table 4-24 Configuration Description

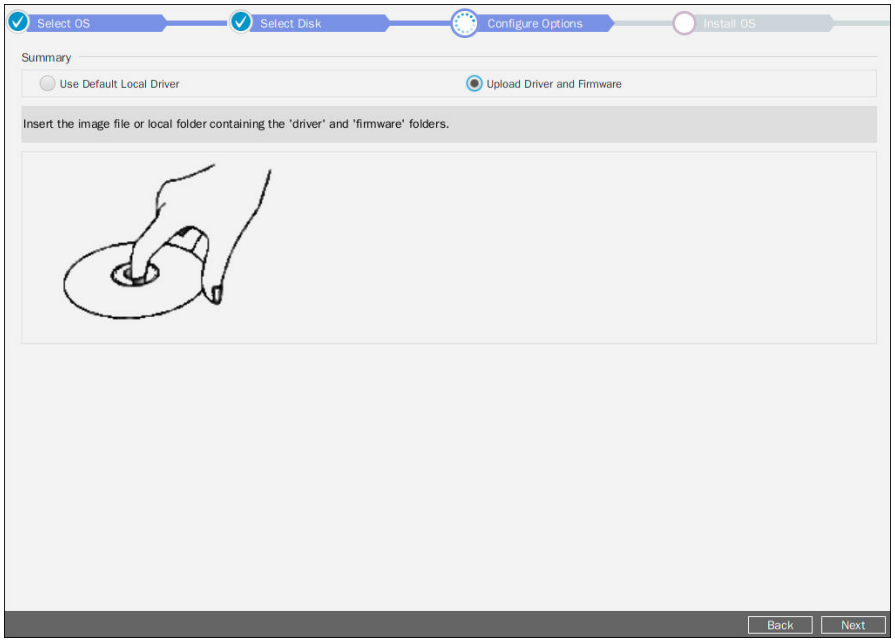
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-170**.

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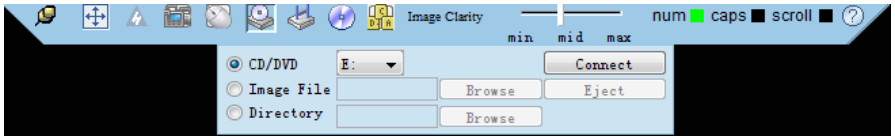
Figure 4-170 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-171**.

Figure 4-171 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

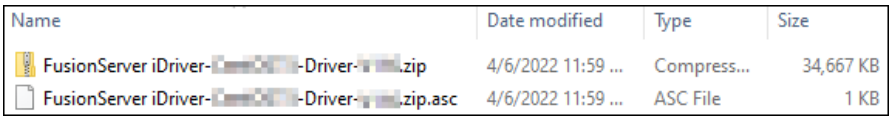
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-172**.

Figure 4-172 Folder



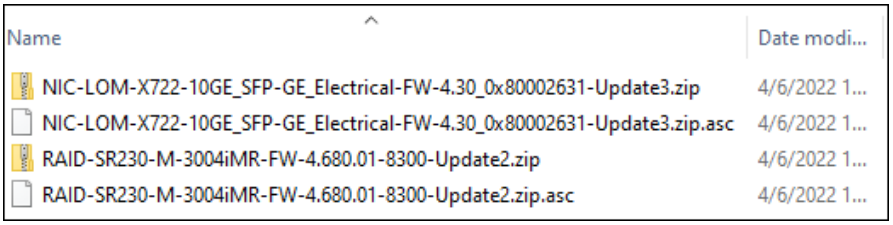
The **driver** folder is shown in **Figure 4-173**.

Figure 4-173 The **driver** folder



The **firmware** folder is shown in **Figure 4-174**.

Figure 4-174 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

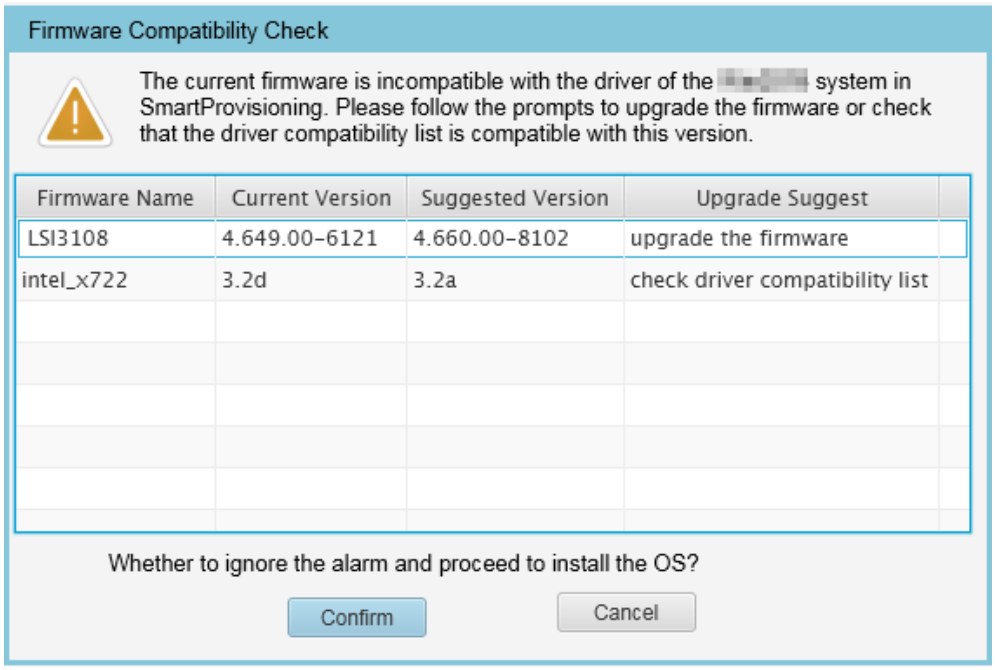
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the page shown in **Figure 4-177** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-175** is displayed.

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Figure 4-175 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

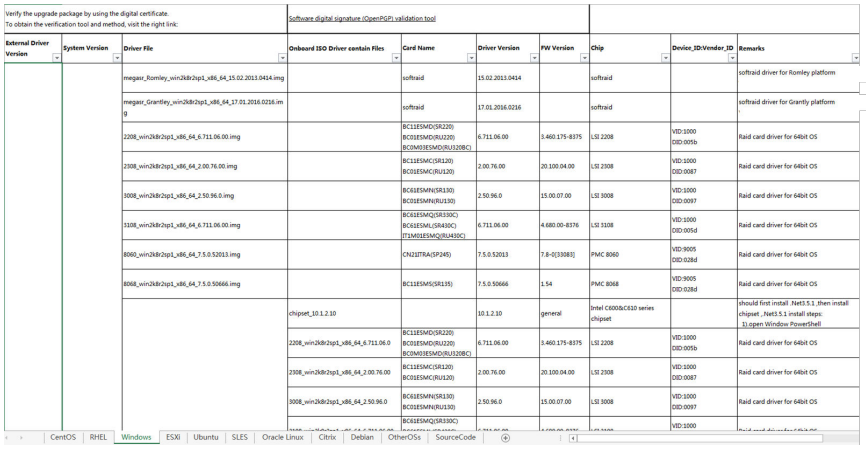
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-176**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-176 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-177**.

Figure 4-177 Window prompting you to insert the OS medium

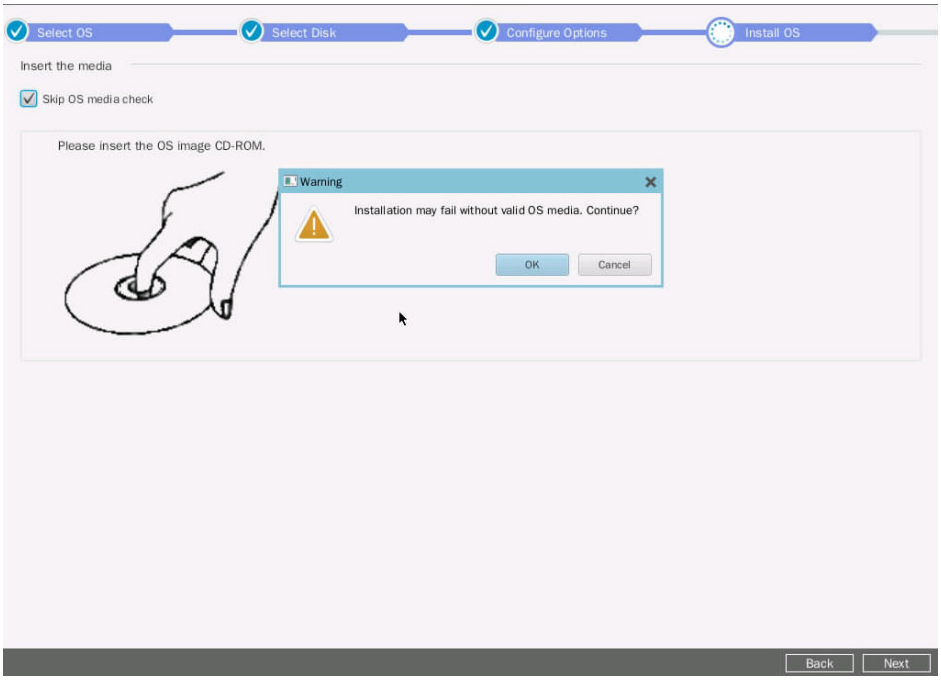


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-178**. Click **OK** or **Cancel** according to the actual situation. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-178 Dialog box

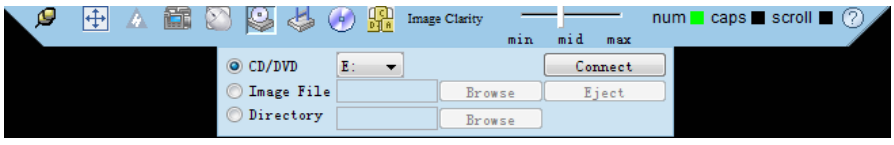


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-179**.

Figure 4-179 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

NOTE

Customized VMware image installation is not supported.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-180**.

Figure 4-180 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the server downloads the system configuration file, as shown in **Figure 4-181**.

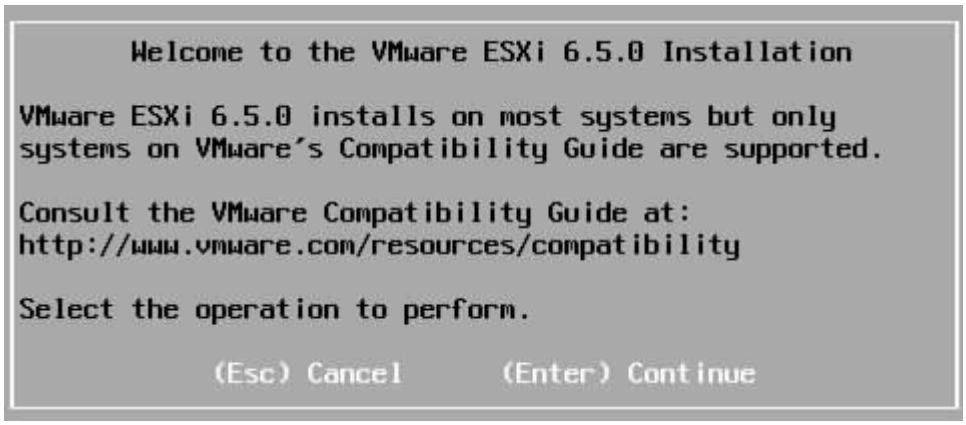
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Figure 4-181 Downloading the system configuration file



After the system configuration file is downloaded, the OS installation screen is displayed, as shown in **Figure 4-182**.

Figure 4-182 Installing the OS

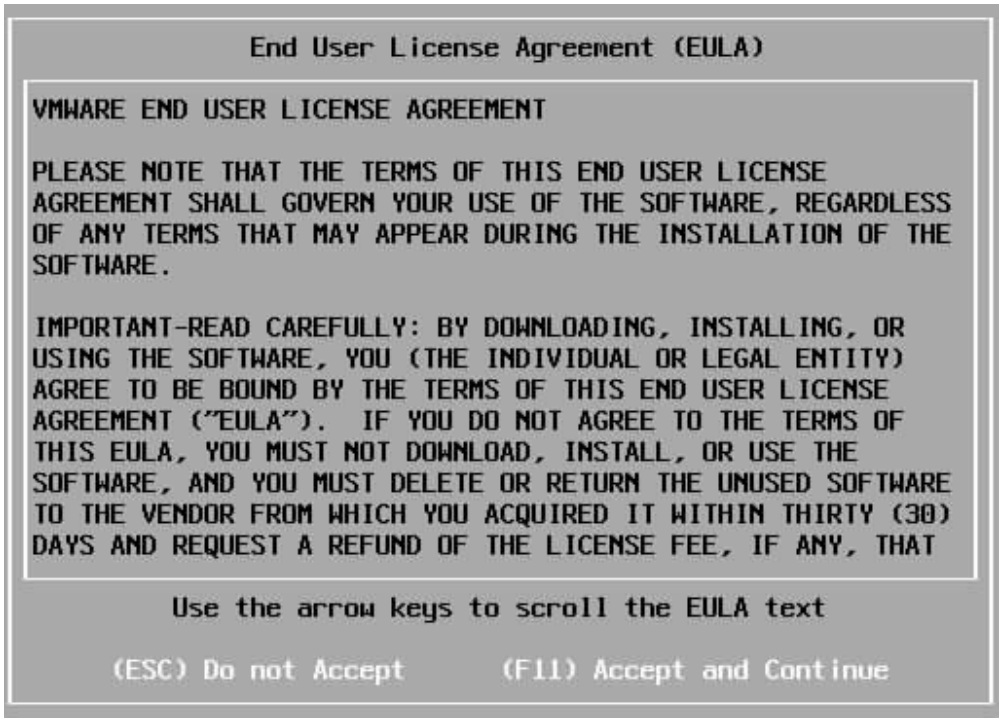


Step 10 Press **Enter**.

The **End User License Agreement** screen is displayed, as shown in **Figure 4-183**.

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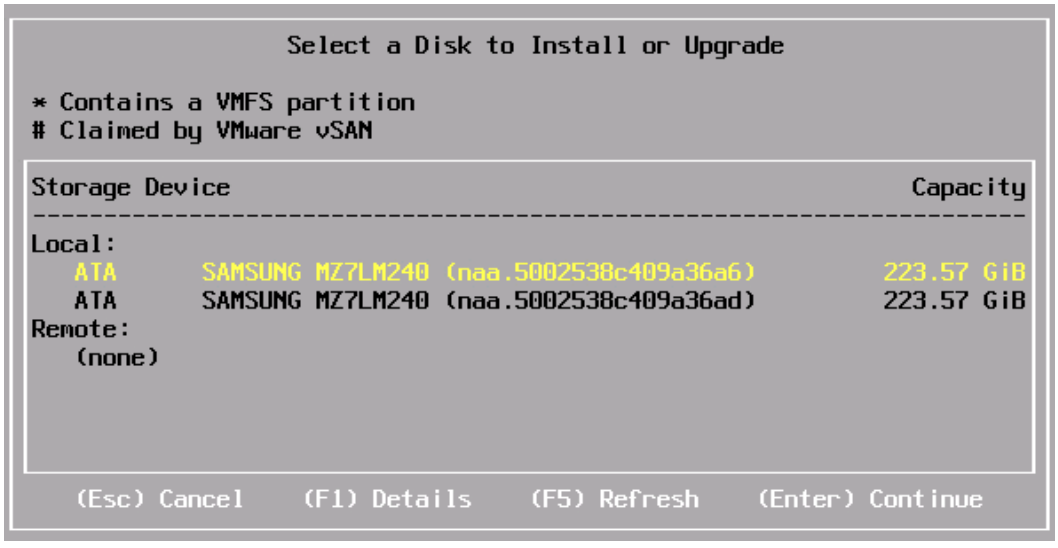
Figure 4-183 End User License Agreement



Step 11 Press **F11**.

The screen for selecting an installation hard disk is displayed, as shown in **Figure 4-184**.

Figure 4-184 Selecting an installation hard disk



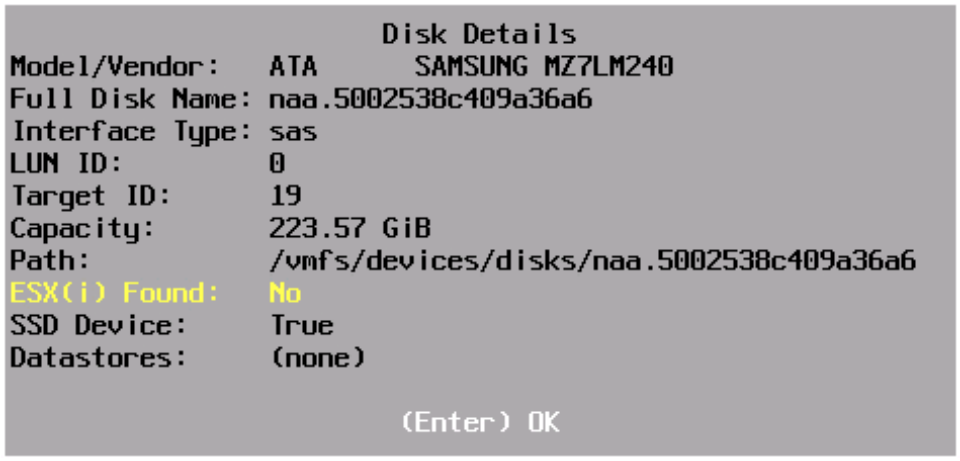
The character after **naa.** in the ID of the selected hard disk must be the same as the character after **scsi-3** in the value of **WWID** of the hard disk selected in **Step 5**. For example, if the value of **WWID** is **scsi-3123456789**, select the hard disk whose ID is **naa.123456789**.

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NOTE

If the ID of the hard disk in **Figure 4-184** is not completely displayed, you can select the hard disk and press **F1** to view the information about the hard disk ID. See **Figure 4-185**. The value of **Device ID 1** is the ID of the hard disk.

Figure 4-185 Hard disk ID



Step 12 Select an installation hard disk and press **Enter**.

A confirmation dialog box is displayed, as shown in **Figure 4-186**.

Figure 4-186 Dialog box

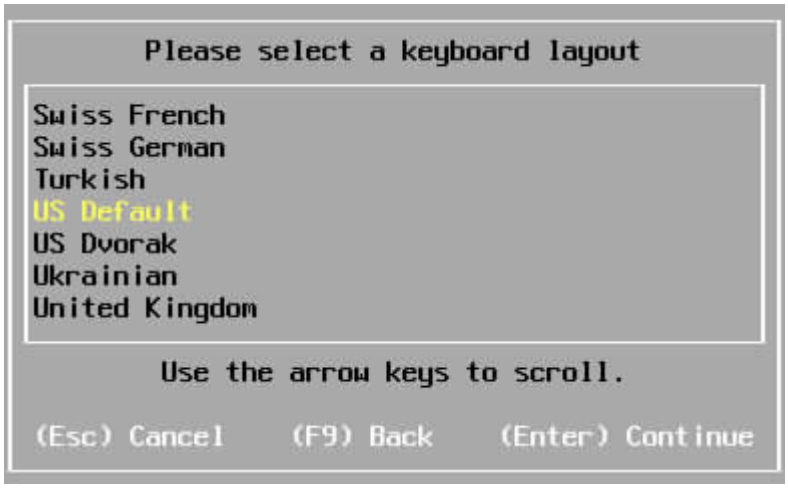


Step 13 Confirm the selected hard disk, and press **Enter**.

The keyboard selection screen is displayed, as shown in **Figure 4-187**.

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Figure 4-187 Selecting a keyboard



Step 14 Select a keyboard and press **Enter**.

The screen for setting the password of user **root** is displayed, as shown in **Figure 4-188**.

Figure 4-188 Setting the password of user root



NOTE

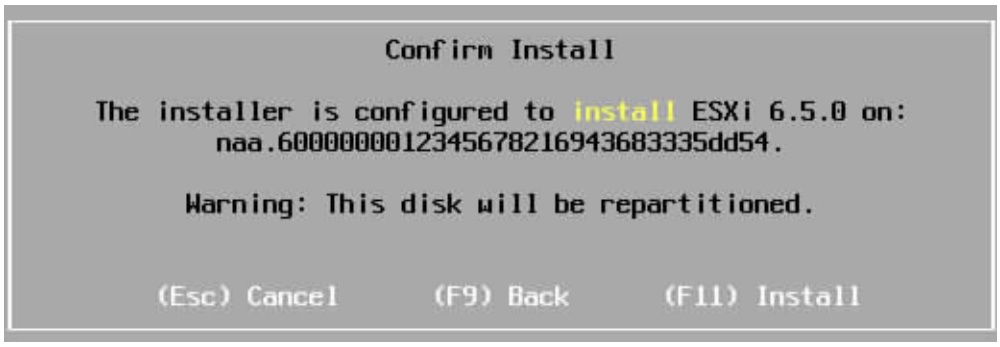
- The password must contain at least seven characters.
- The password cannot contain spaces and #$.

Step 15 Set the password of user **root** and press **Enter**.

A confirmation dialog box is displayed, as shown in **Figure 4-189**.

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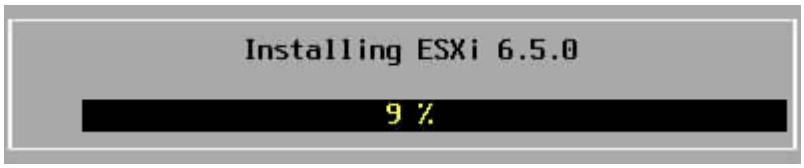
Figure 4-189 Dialog box



Step 16 Press **F11**.

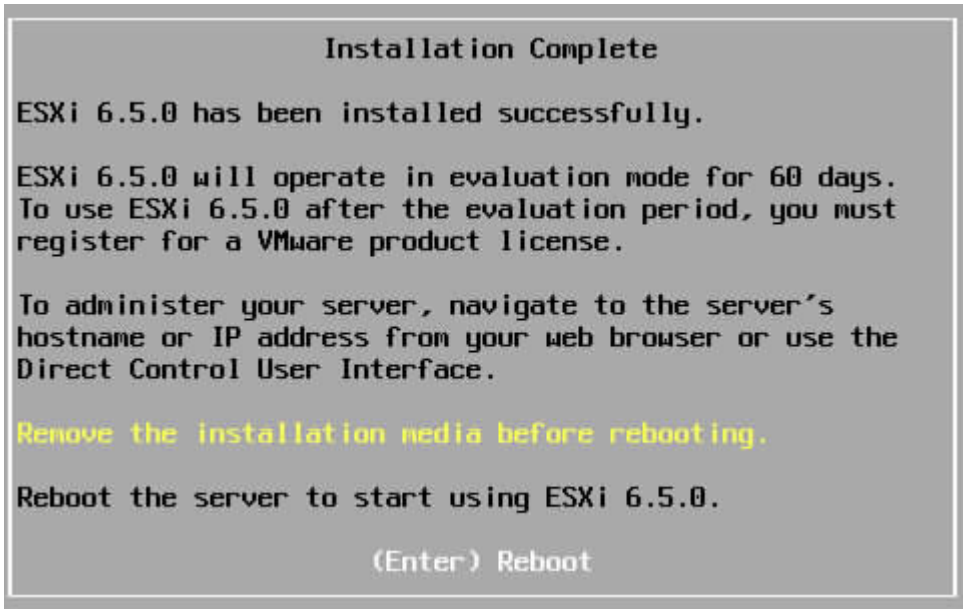
The OS installation starts, as shown in **Figure 4-190**.

Figure 4-190 Installing the OS



After the OS installation is complete, the information shown in **Figure 4-191** is displayed.

Figure 4-191 Dialog box



Step 17 Press **Enter**.

The server restarts. After the restart is complete, the server automatically enters the OS.

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To check whether the driver is successfully installed, run the **cat /vmfs/volumes/datastore1/iDriver_install.log** command to view the installation logs.

----End

4.4.1.6 Installing an Ubuntu OS

4.4.1.6.1 Installing an Ubuntu OS in Default Mode

Install an Ubuntu OS on a server by using Smart Provisioning in default mode. In the following operations, Ubuntu 16.04 LTS and the BIOS UEFI mode are used as an example.

NOTE

Ubuntu 20.04.1 LTS cannot be deployed on NVMe drives.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-192**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-192 Smart Provisioning main window

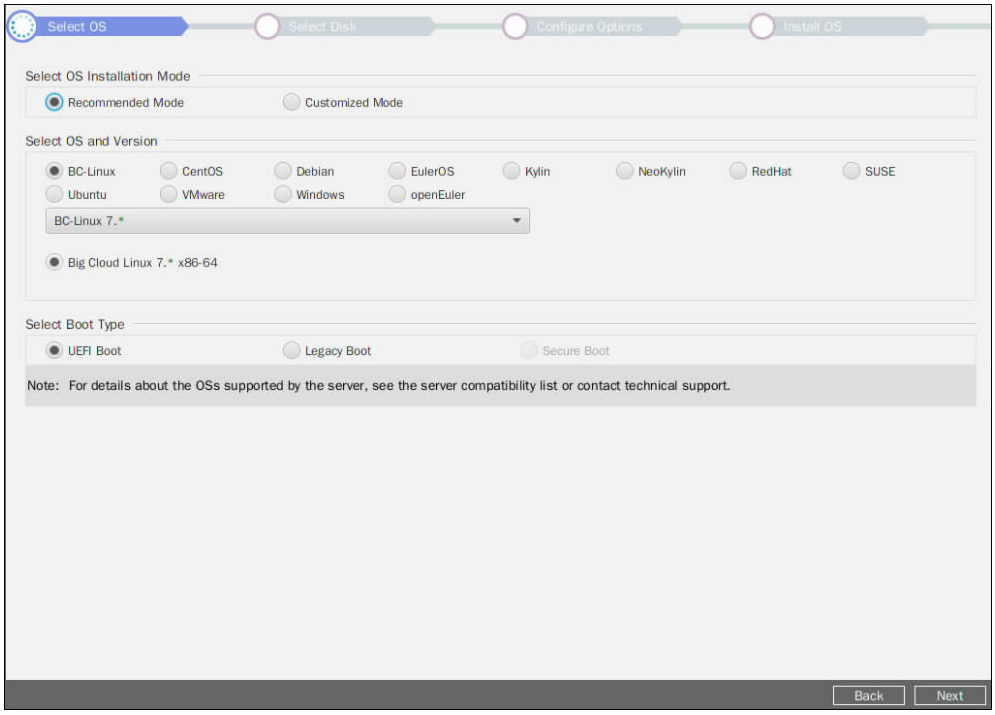


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-193**.

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Figure 4-193 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

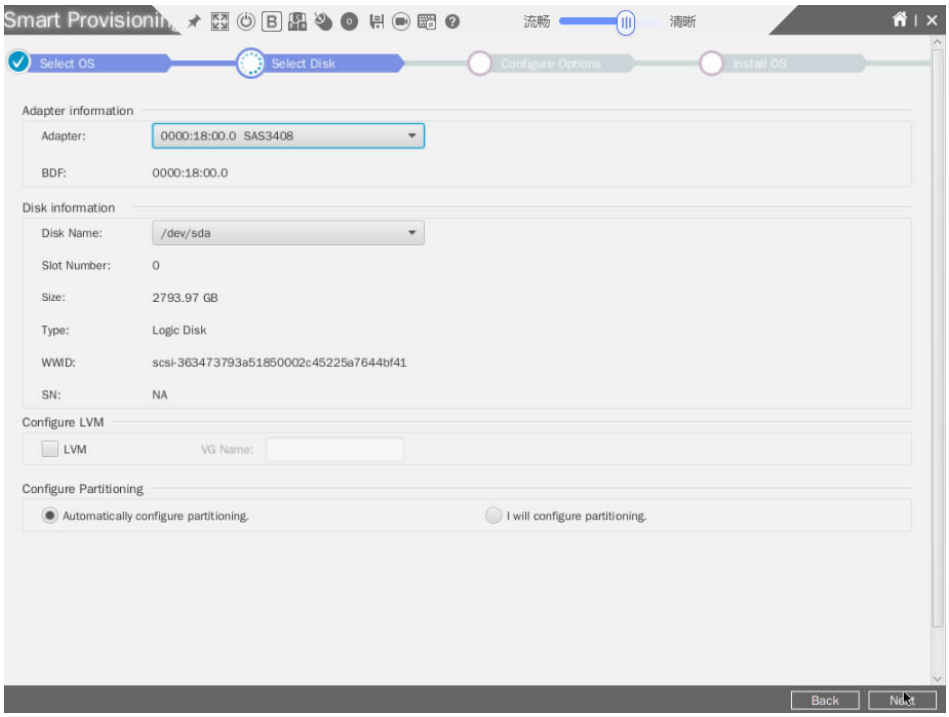
NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file. For example, if the OS version selected in **Step 2** is Ubuntu 16.04 LTS, the version of the DVD-ROM or image file to be mounted in **Step 11** must be Ubuntu 16.04 LTS.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, Ubuntu18.04.* indicates all OSs of Ubuntu 18.04.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-194**.

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Figure 4-194 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

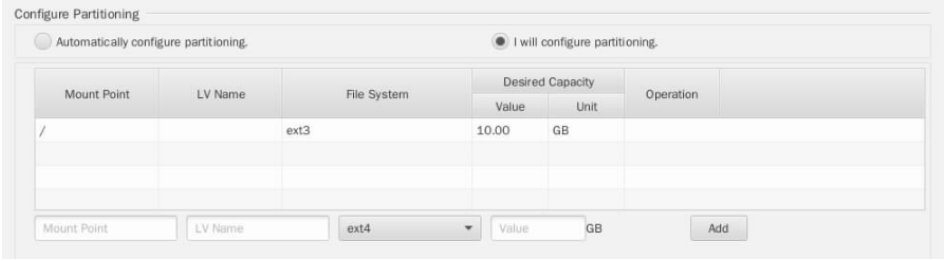
Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During installation, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select **Automatically configure partitioning**(automatic partitioning) or **I will configure partitioning**(manual partitioning). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-195** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 1075 MB. The **/boot** and **/boot/efi** partitions can be customized.
- If Ubuntu16.04/Ubuntu16.04.01/Ubuntu16.04.02/Ubuntu16.04.06/Ubuntu18.04/Ubuntu18.04.01/Ubuntu18.04.02/Ubuntu18.04.03/Ubuntu18.04.04 is installed in UEFI deployment mode, the XFS file system is not supported when you manually set the **/** and **/boot** partitions.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

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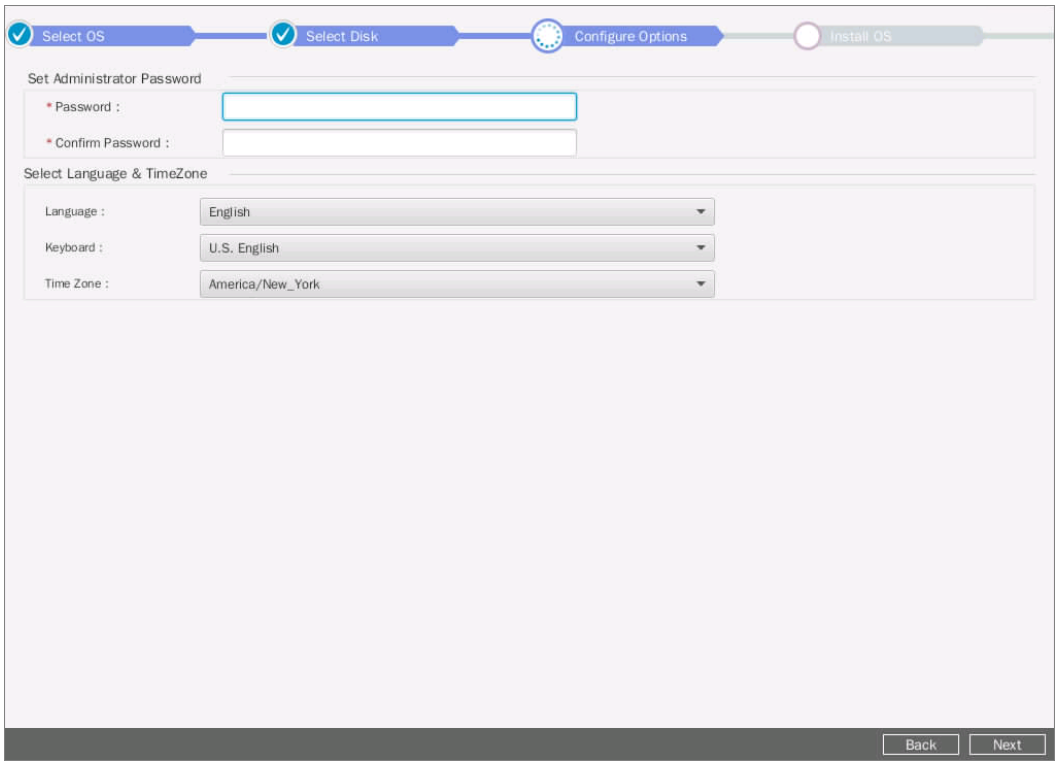
Figure 4-195 Manual partitioning



Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-196**.

Figure 4-196 Setting the password of the root user, language, keyboard, and time zone



NOTE

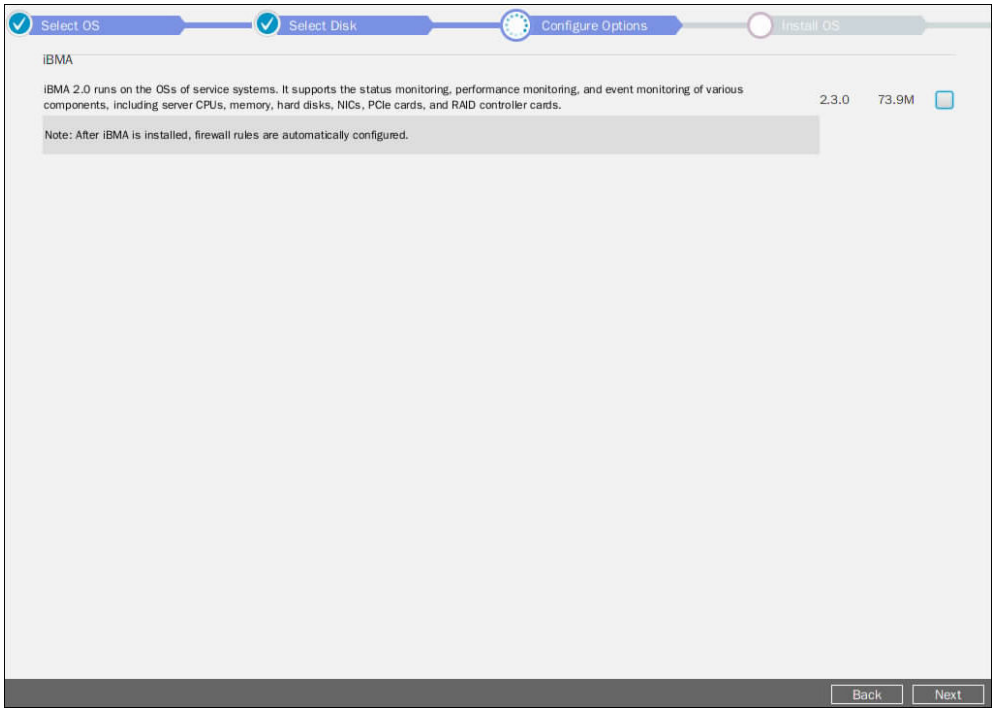
- Parameters marked with * are mandatory.
- The password must contain at least eight characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **sudo passwd *user*** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

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The window shown in **Figure 4-197** is displayed, asking you whether to install the iBMA.

Figure 4-197 Dialog box



NOTE

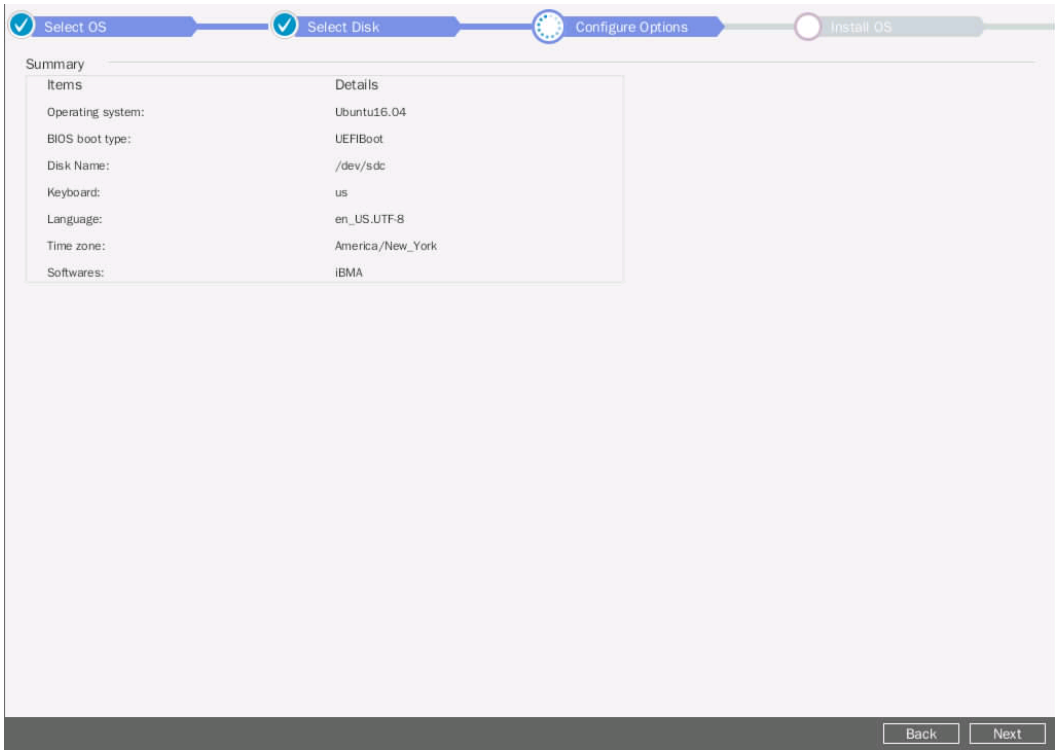
- Ubuntu 16.04.1 LTS and Ubuntu 16.04.2 LTS do not support iBMA.
- For details about the compatibility of the iBMA, see the ***iBMA User Guide***.

Step 9 To install the iBMA, select the check box on the right and click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-198**.

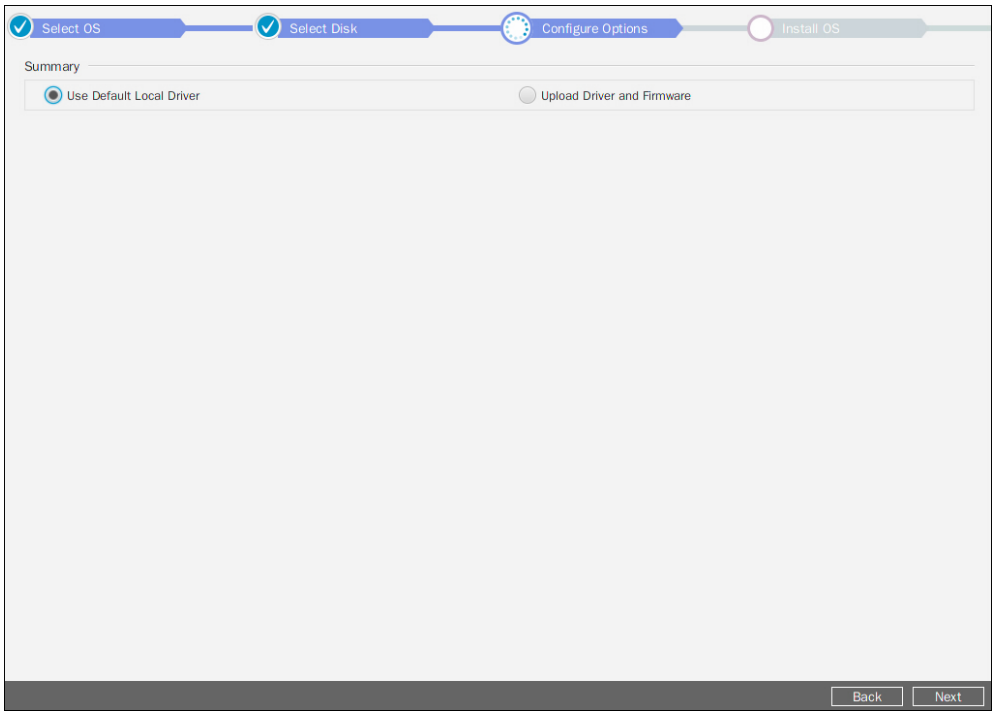
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Figure 4-198 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-199**.For details about configuration,see **Table 4-25**.

Figure 4-199 Viewing the configuration summary(2)



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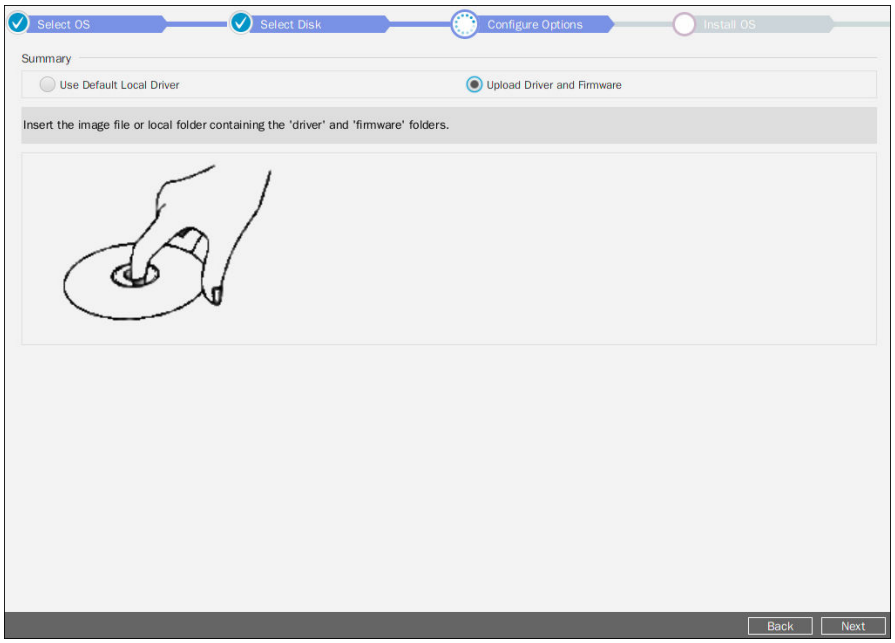
Table 4-25 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

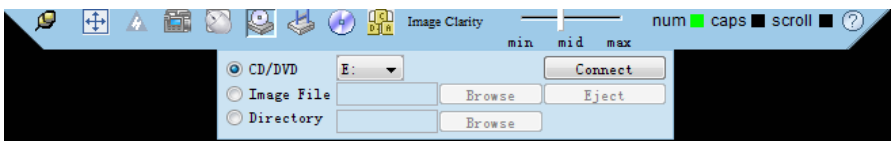
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-200**.

Figure 4-200 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-201**.

Figure 4-201 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

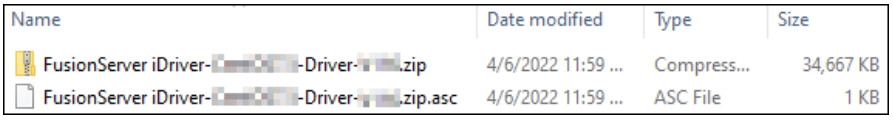
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-202**.

Figure 4-202 Folder



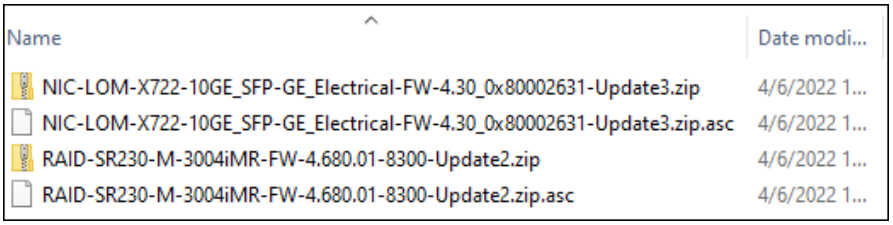
The **driver** folder is shown in **Figure 4-203**.

Figure 4-203 The **driver** folder



The **firmware** folder is shown in **Figure 4-204**.

Figure 4-204 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

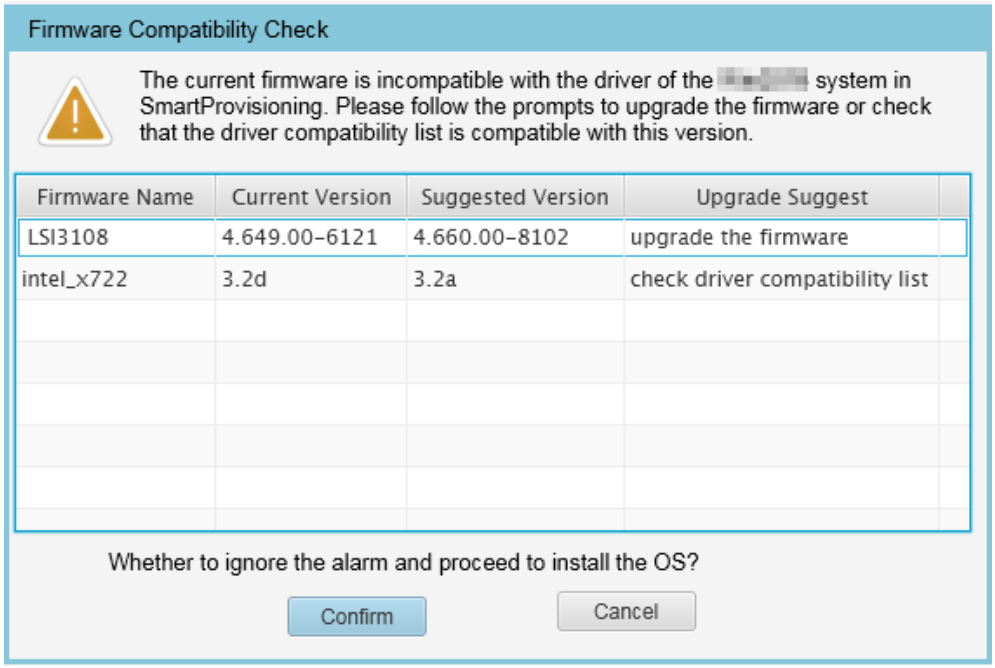
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-207** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-205** is displayed.

Figure 4-205 Firmware compatibility check



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

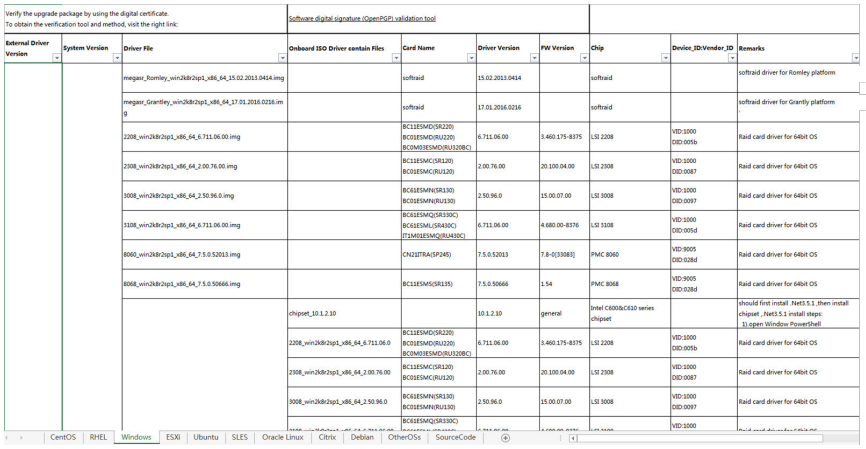
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-206**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-206 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-207**.

Figure 4-207 Window prompting you to insert the OS medium

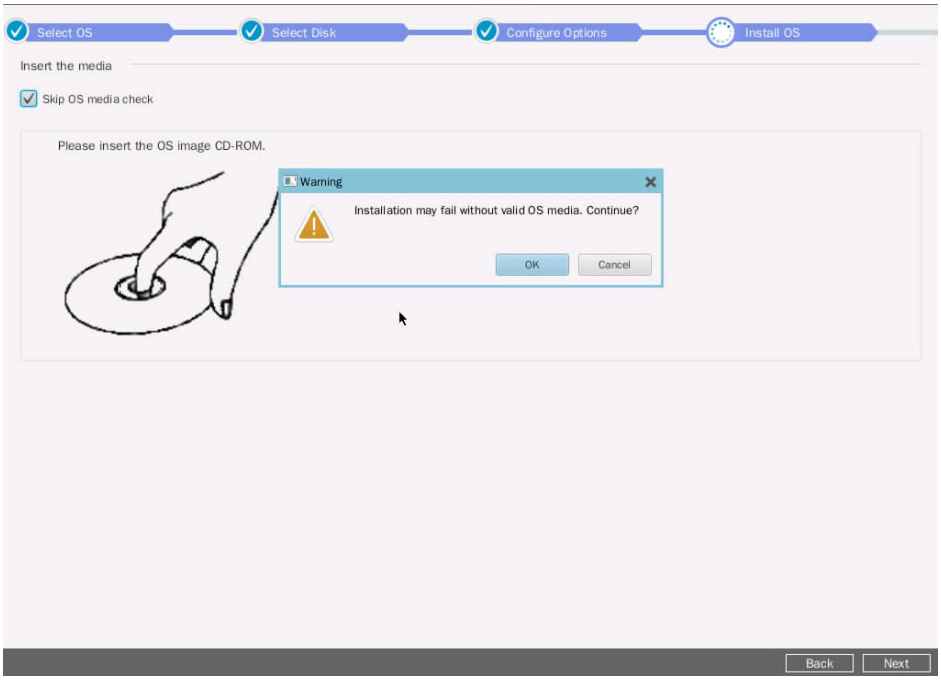


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-208**. Click **OK** or **Cancel** as required. If you do not select **Skip OS media check**, the time required for verifying the DVD-ROM depends on the content of the DVD-ROM. Wait patiently.

Figure 4-208 Confirmation dialog box

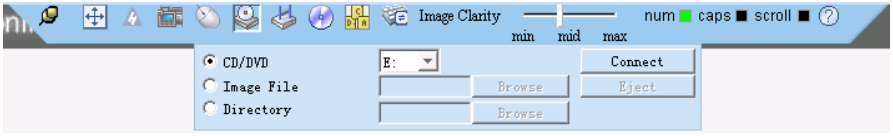


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-209**.

Figure 4-209 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD-ROM drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 12 Click **Next**.

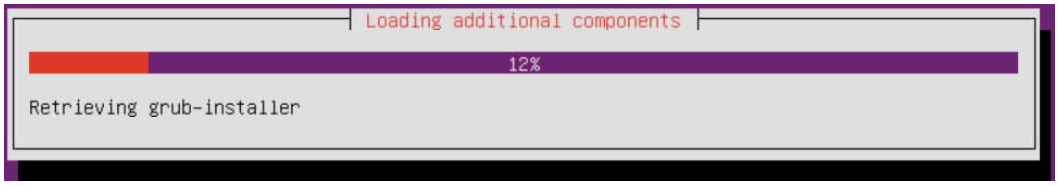
The OS installation starts, as shown in **Figure 4-210**.

Figure 4-210 Starting the installation



Step 13 After the OS installation starts, the server restarts automatically. After the server restart is complete, the component loading screen is displayed, as shown in **Figure 4-211**.

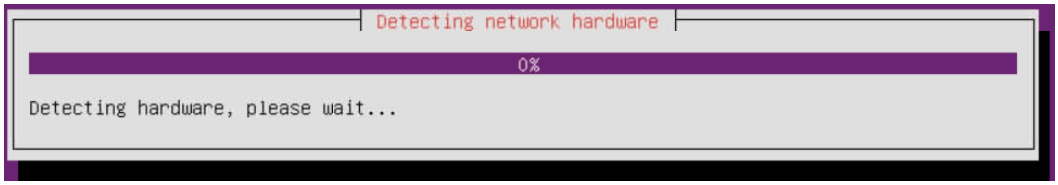
Figure 4-211 Loading components



After the server system initialization is complete, the network configuration is automatically performed, as shown in **Figure 4-212**.

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Figure 4-212 Configuring the network



After the installation preparation is complete, the OS installation is performed automatically, as shown in **Figure 4-213**.

Figure 4-213 Installing the OS

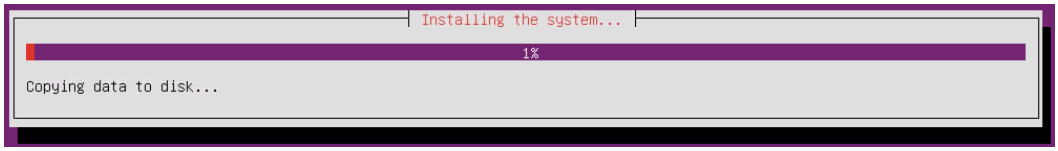


Figure 4-214 Automatically installing the software

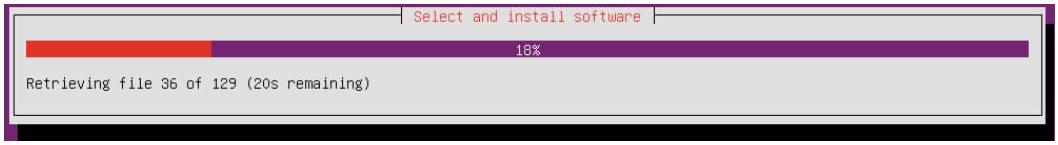
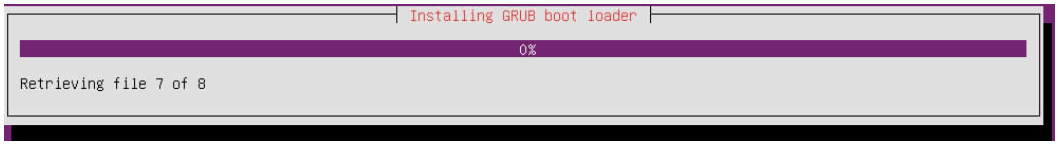


Figure 4-215 Installing GRUB to the boot partition of the hard drive



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.6.2 Installing an Ubuntu OS in Customized Mode

Install an Ubuntu OS on a server by using Smart Provisioning in customized mode. In the following operations, Ubuntu 16.04 LTS and the BIOS UEFI mode are used as an example.

NOTE

Ubuntu 20.04.1 LTS cannot be deployed on NVMe drives.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-216**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.

- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

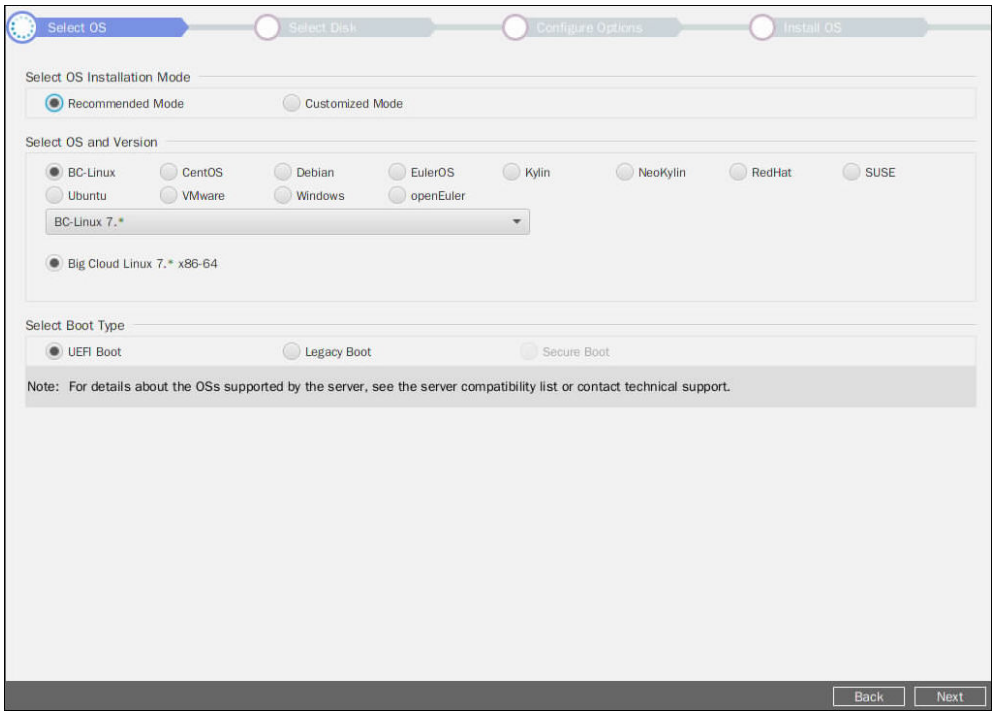
Figure 4-216 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-217**.

Figure 4-217 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

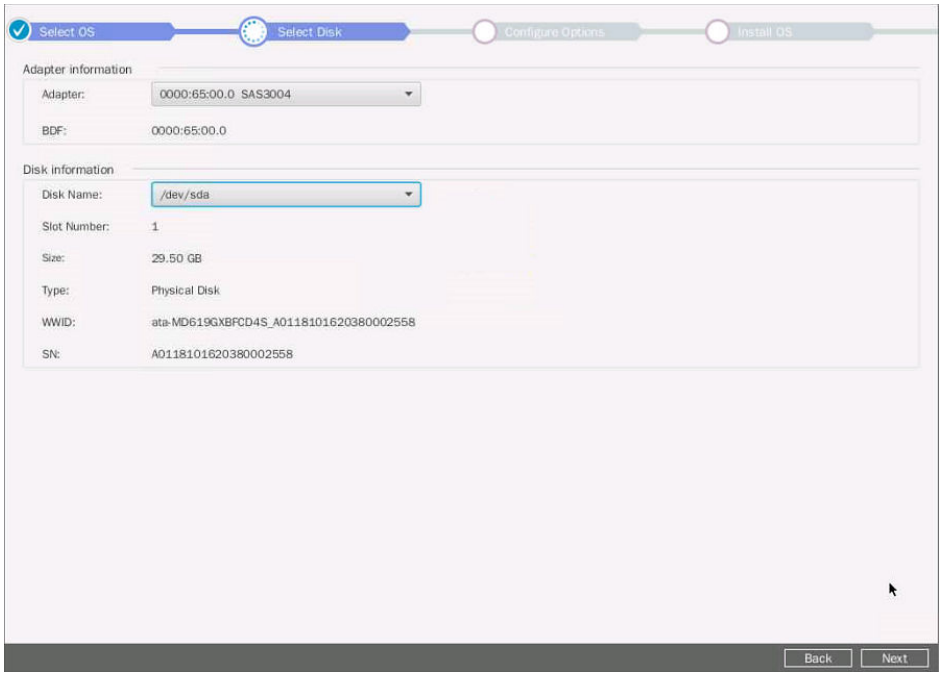
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file. For example, if the OS version selected in **Step 2** is Ubuntu 16.04 LTS, the version of the DVD-ROM or image file to be mounted in **Step 8** must be Ubuntu 16.04 LTS.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, Ubuntu18.04.* indicates all OSs of Ubuntu 18.04.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-218**.

Figure 4-218 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard drive where the OS is to be installed.

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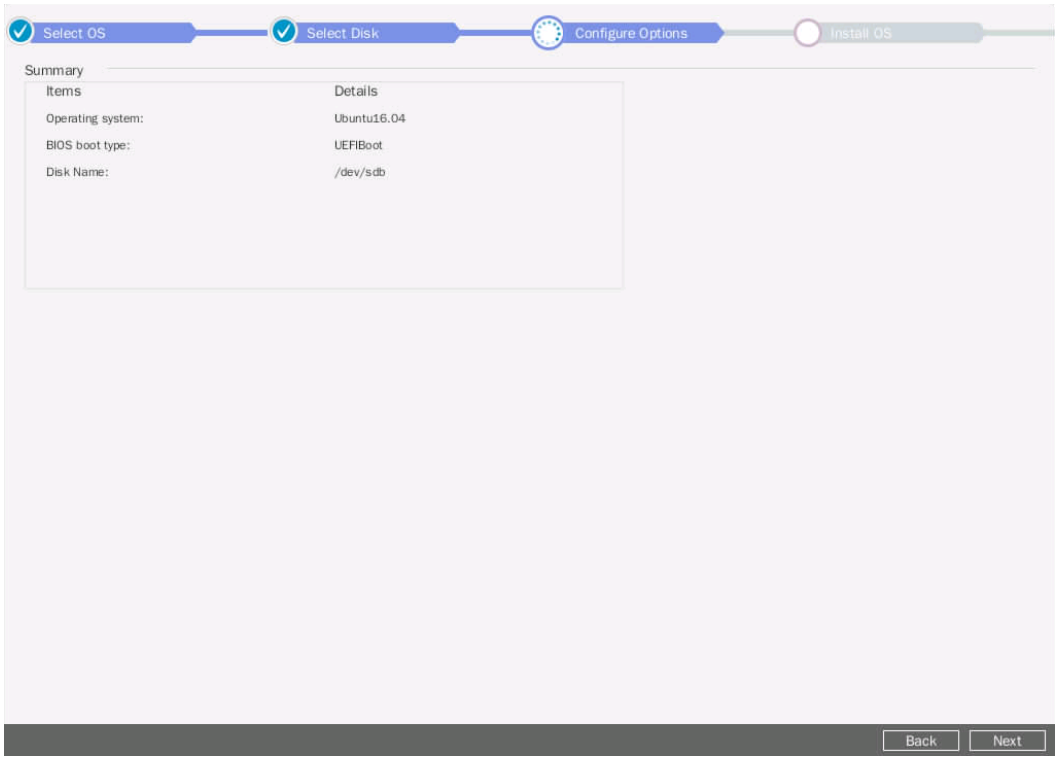
NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- After an installation hard drive is selected, record the value of **WWID**. This value will be used in **Step 20**.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-219**.

Figure 4-219 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-220**.For details about configuration,see **Table 4-26**.

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Figure 4-220 Viewing the configuration summary(2)

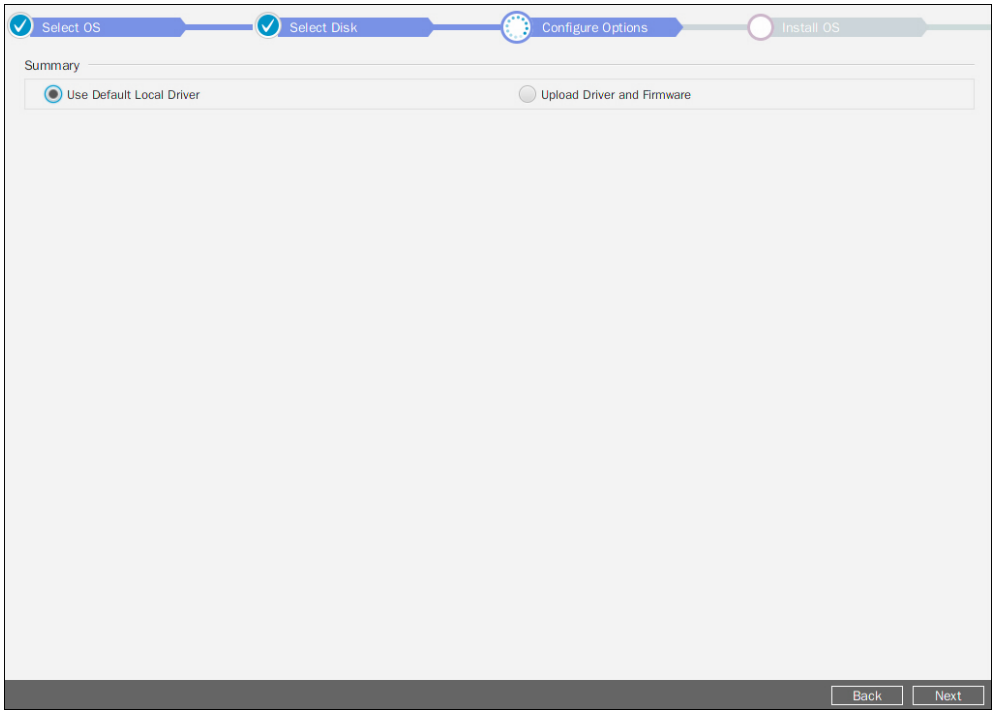


Table 4-26 Configuration Description

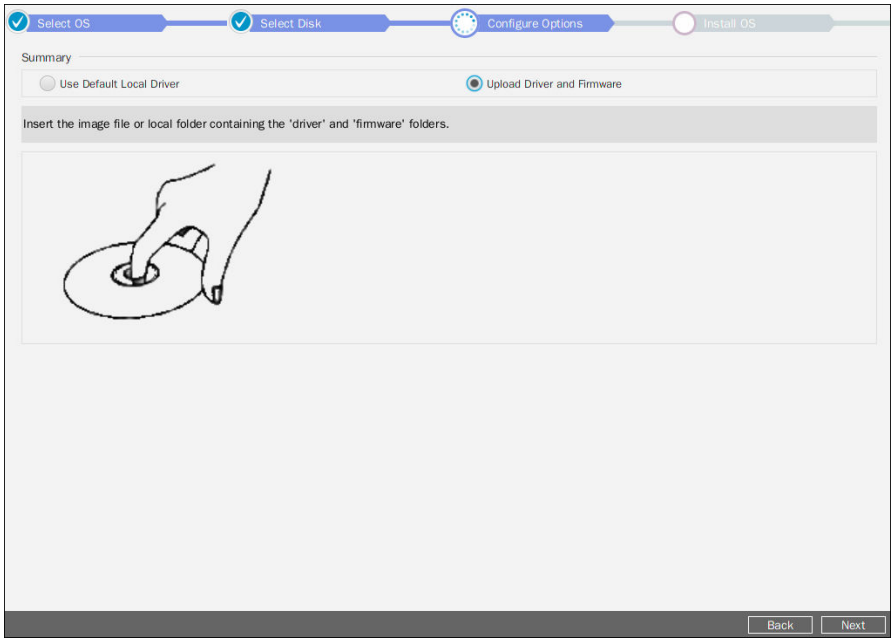
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-221**.

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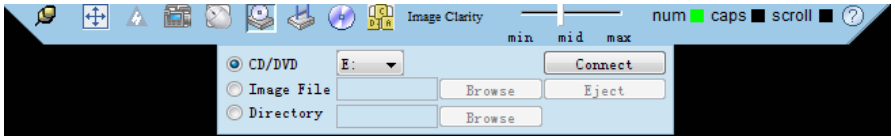
Figure 4-221 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-222**.

Figure 4-222 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

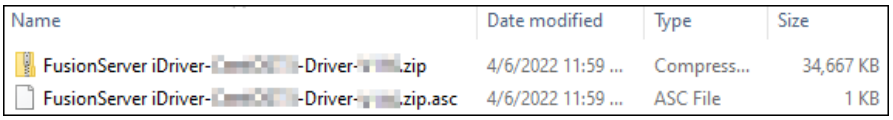
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-223**.

Figure 4-223 Folder



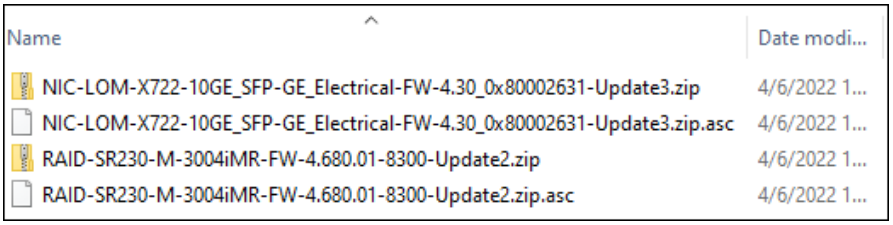
The **driver** folder is shown in **Figure 4-224**.

Figure 4-224 The **driver** folder



The **firmware** folder is shown in **Figure 4-225**.

Figure 4-225 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

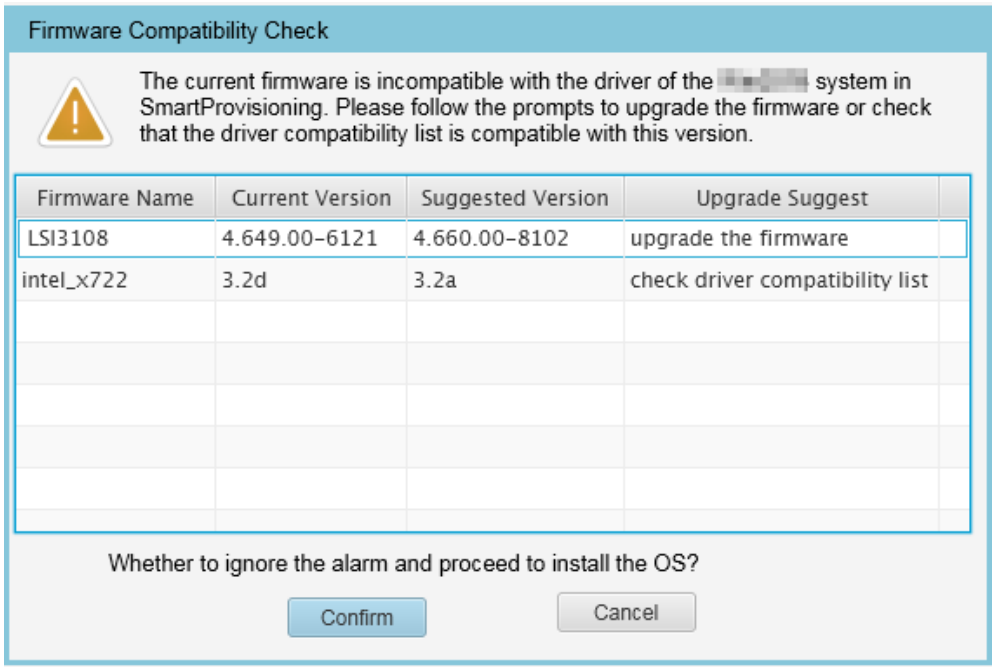
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-228** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-226** is displayed.

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Figure 4-226 Firmware compatibility check



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

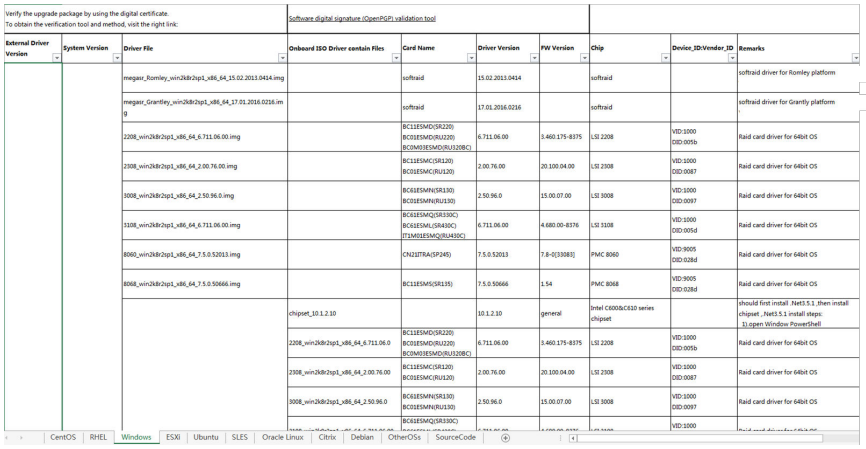
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-227**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-227 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-228**.

Figure 4-228 Window prompting you to insert the OS medium

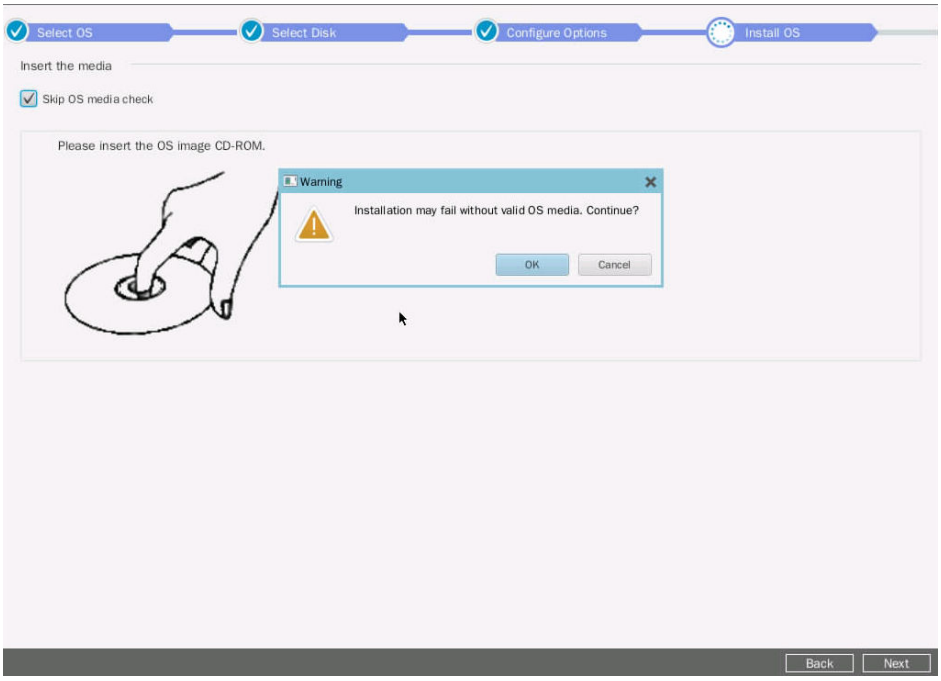


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-229**. Click **OK** or **Cancel** as required. If you do not select **Skip OS media check**, the time required for verifying the DVD-ROM depends on the content of the DVD-ROM. Wait patiently.

Figure 4-229 Confirmation dialog box

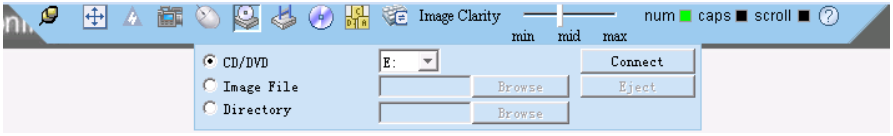


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-230**.

Figure 4-230 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD-ROM drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-231**.

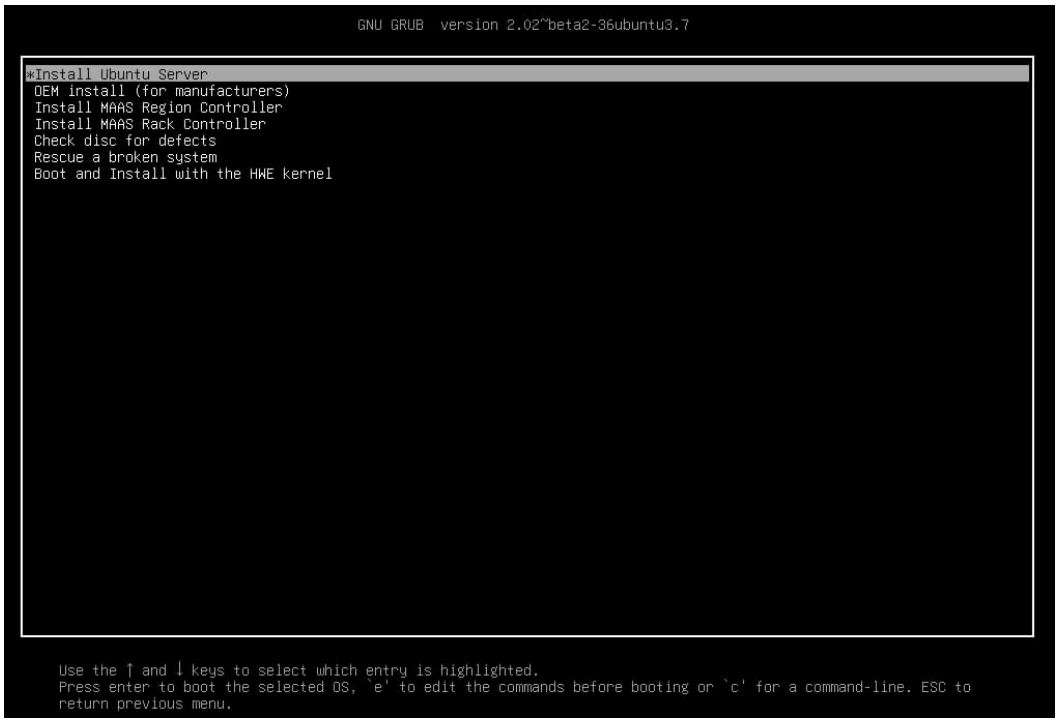
Figure 4-231 Starting the installation



Step 10 After the OS installation starts, the server restarts automatically. After the server restart is complete, select **Install Ubuntu Server** on the screen shown in **Figure 4-232**.

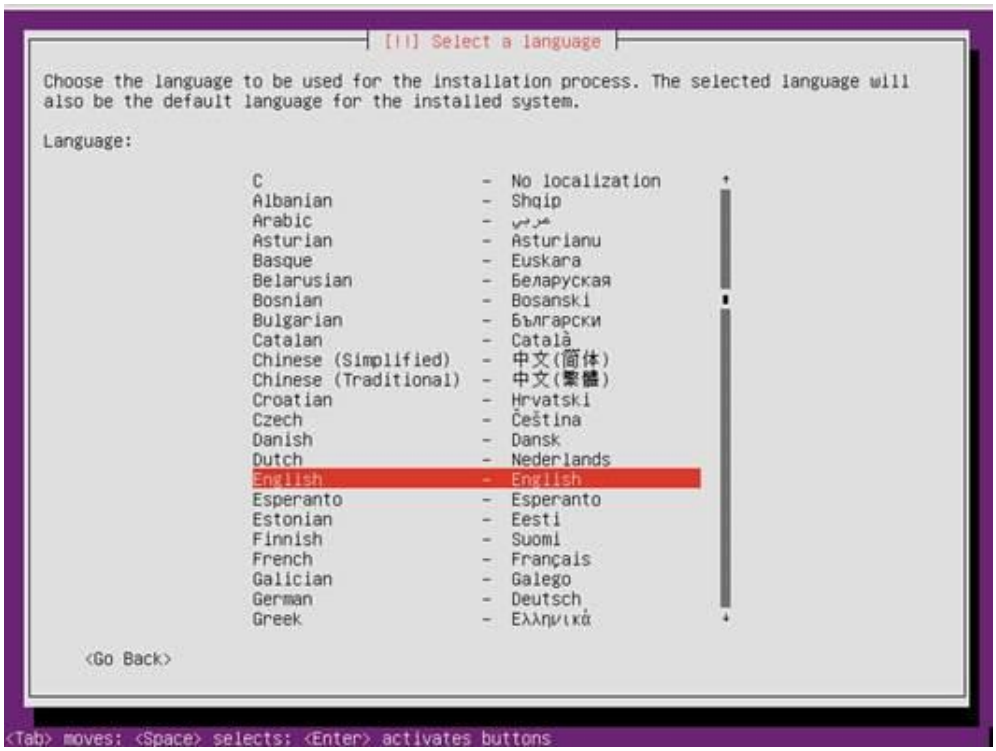
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Figure 4-232 Installing an Ubuntu OS



Step 11 On the screen for selecting a language, select a language and press **Enter**.

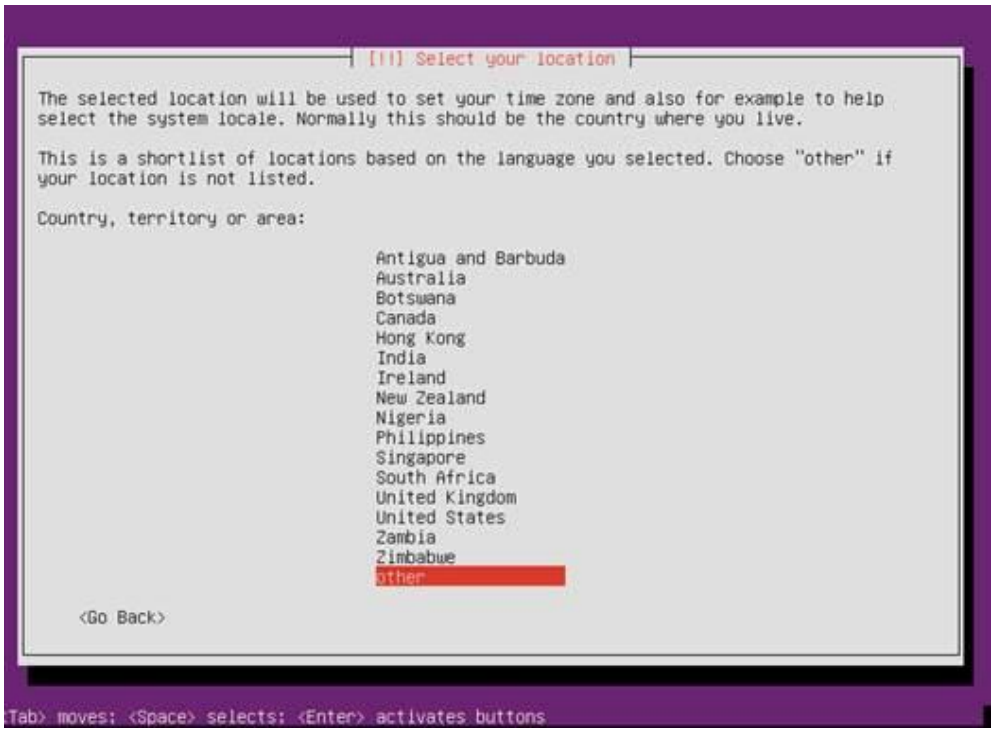
Figure 4-233 Selecting a language



Step 12 On the screen for selecting your location, choose **Other** > **Asia** > **China** and press **Enter**.

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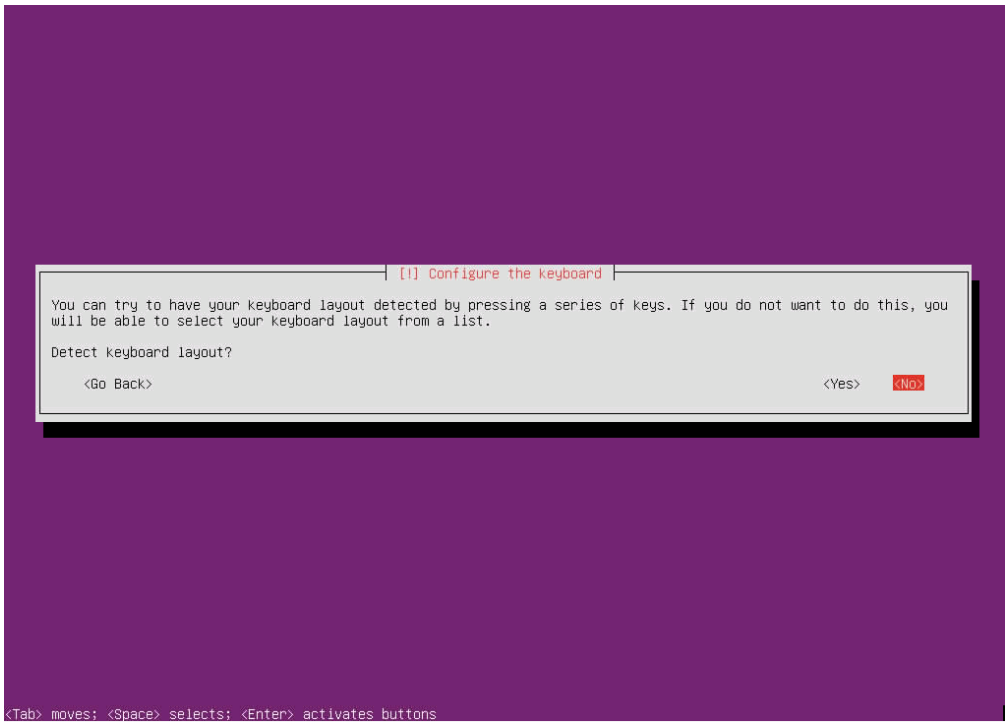
Figure 4-234 Selecting your location



Step 13 The screen for automatically detecting the keyboard type is displayed, as shown in **Figure 4-235**.

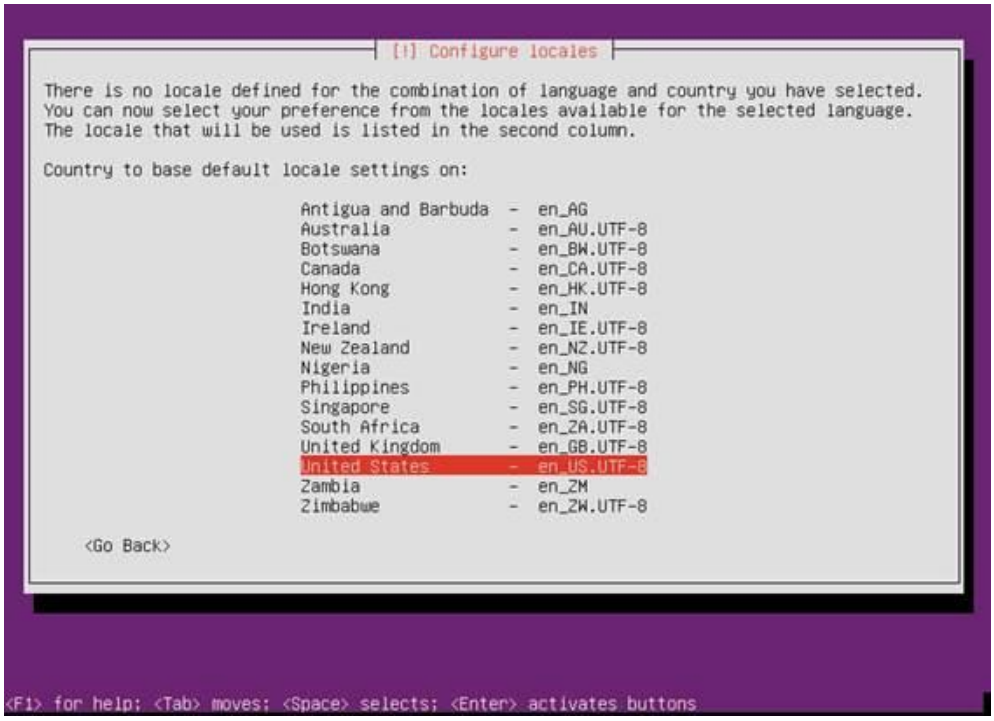
- Select **Yes** to automatically detect the keyboard type.
- Select **No** to go to the screen shown in **Figure 4-236**, select **United States - en_US.UTF-8**, and press **Enter**.

Figure 4-235 Automatically detecting the keyboard type



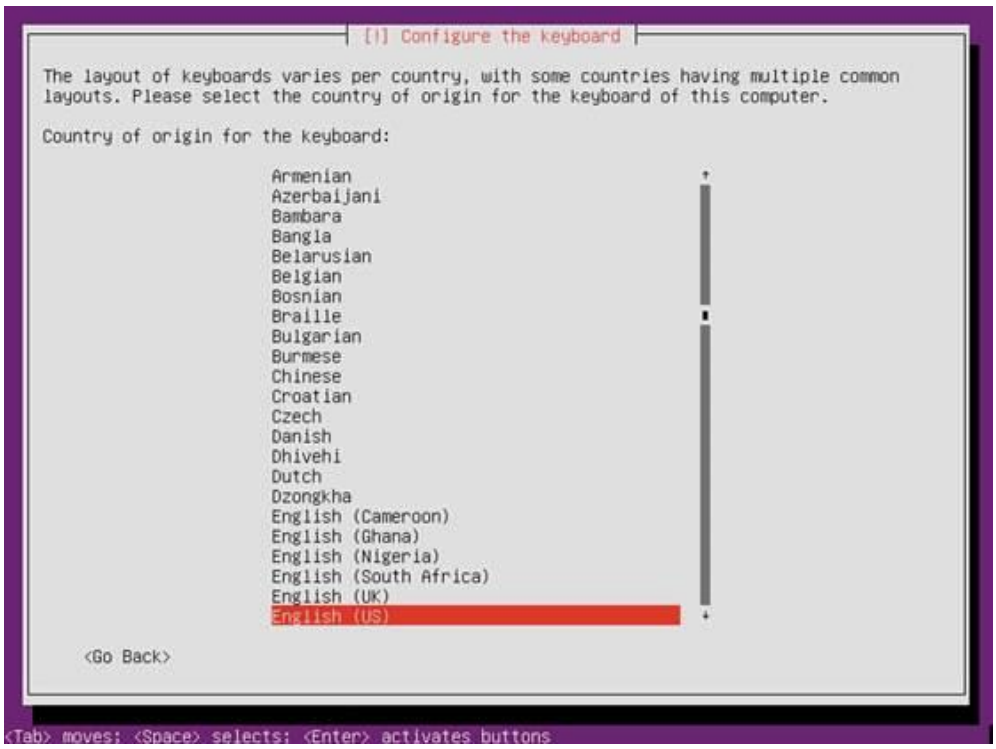
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Figure 4-236 Configuring locales



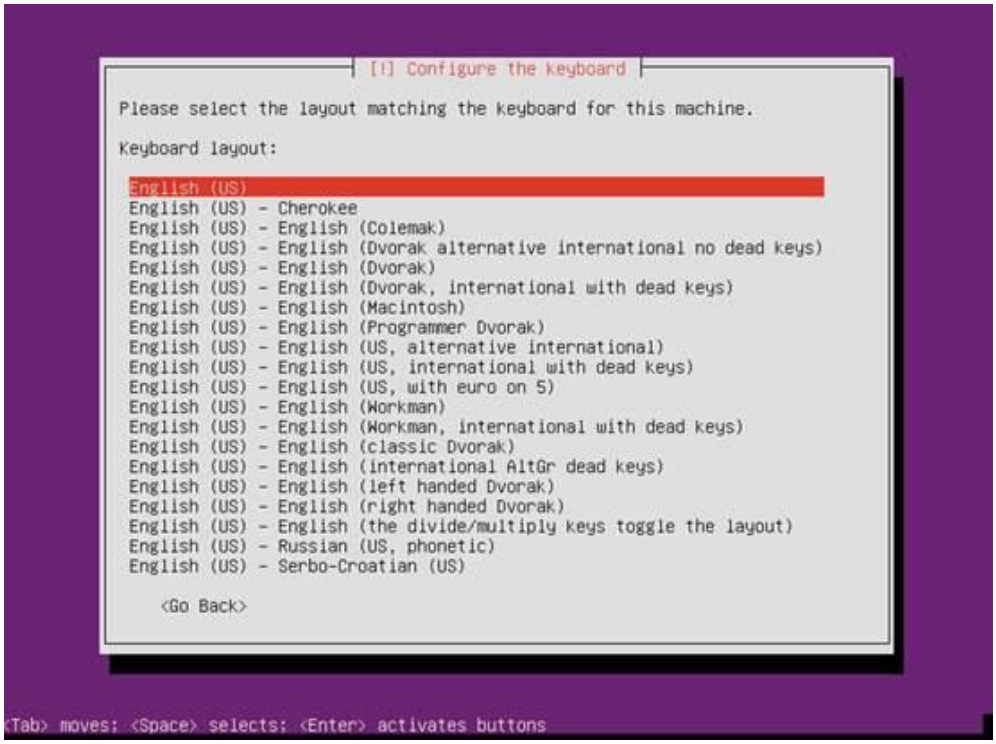
Step 14 On the screen for configuring the keyboard, select **English (US)** and press **Enter**.

Figure 4-237 Configuring the keyboard (1)



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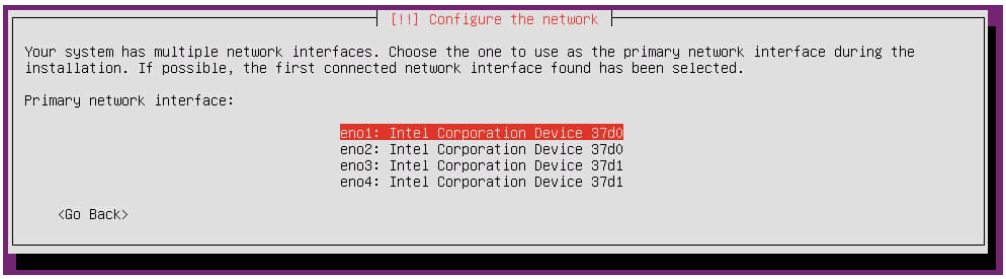
Figure 4-238 Configuring the keyboard (2)



Step 15 On the screen for configuring the network, do not configure the network at this time. Configure the network after entering the OS.

1. Select **eno1: Intel Corporation Device 37d0** and press **Enter**.

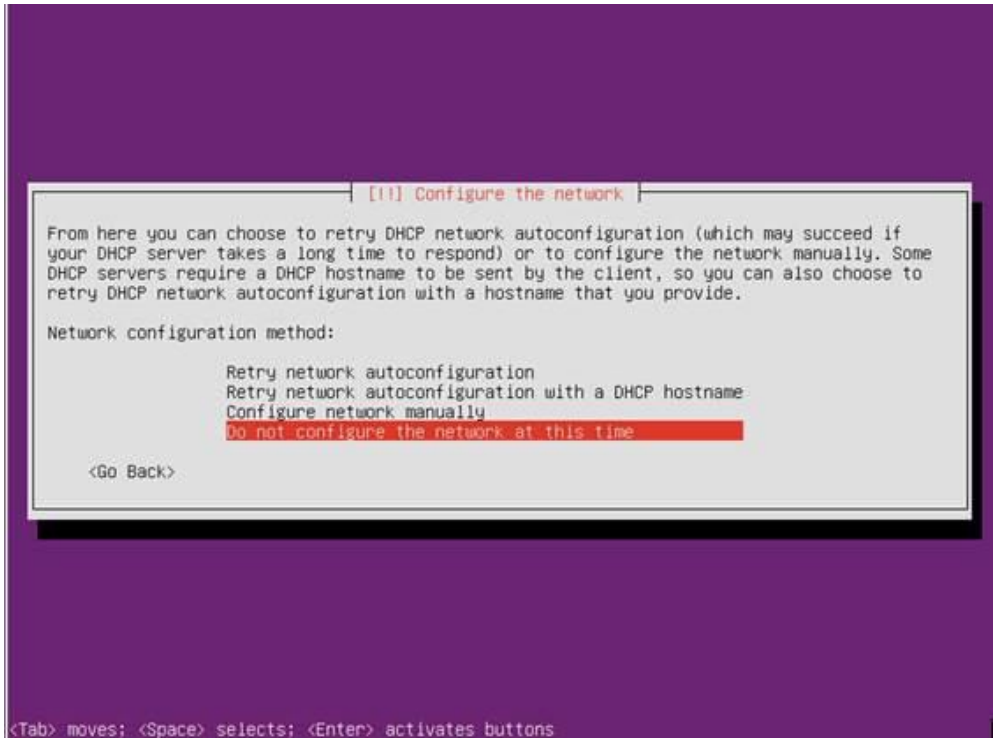
Figure 4-239 Configuring the network (1)



2. Select **Do not configure the network at this time** and press **Enter**.

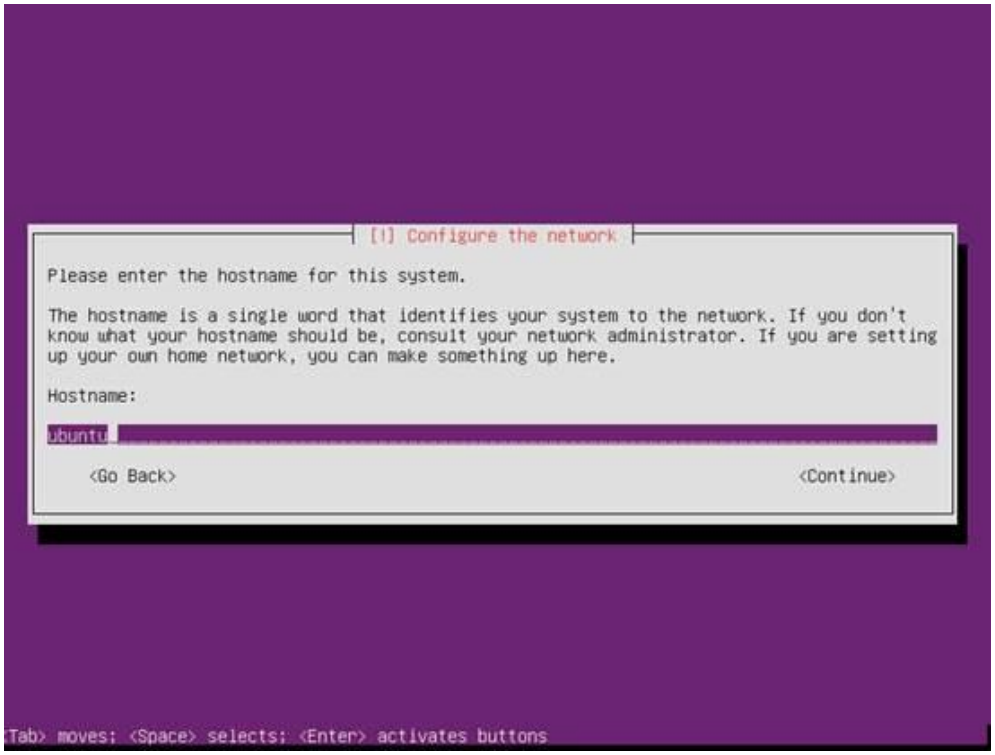
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Figure 4-240 Configuring the network (2)



Step 16 On the screen for entering a host name, enter a host name, select **Continue**, and press **Enter**.

Figure 4-241 Entering a host name



Step 17 On the screen for setting up users and passwords, set the user name and password.

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Figure 4-242 Setting up users and passwords (1)

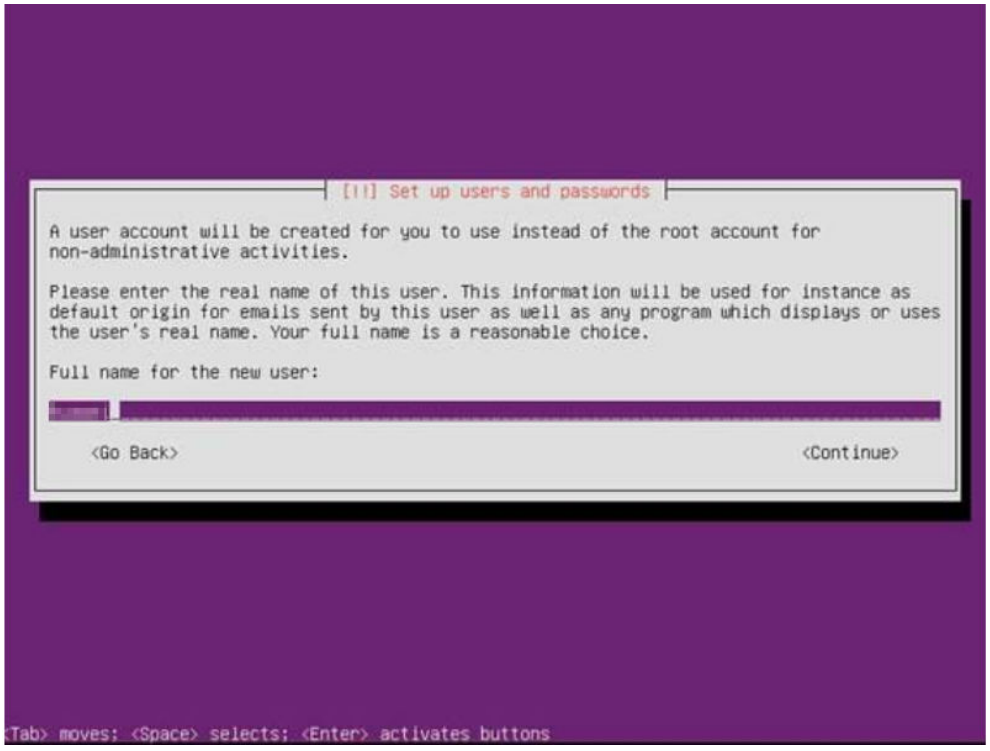
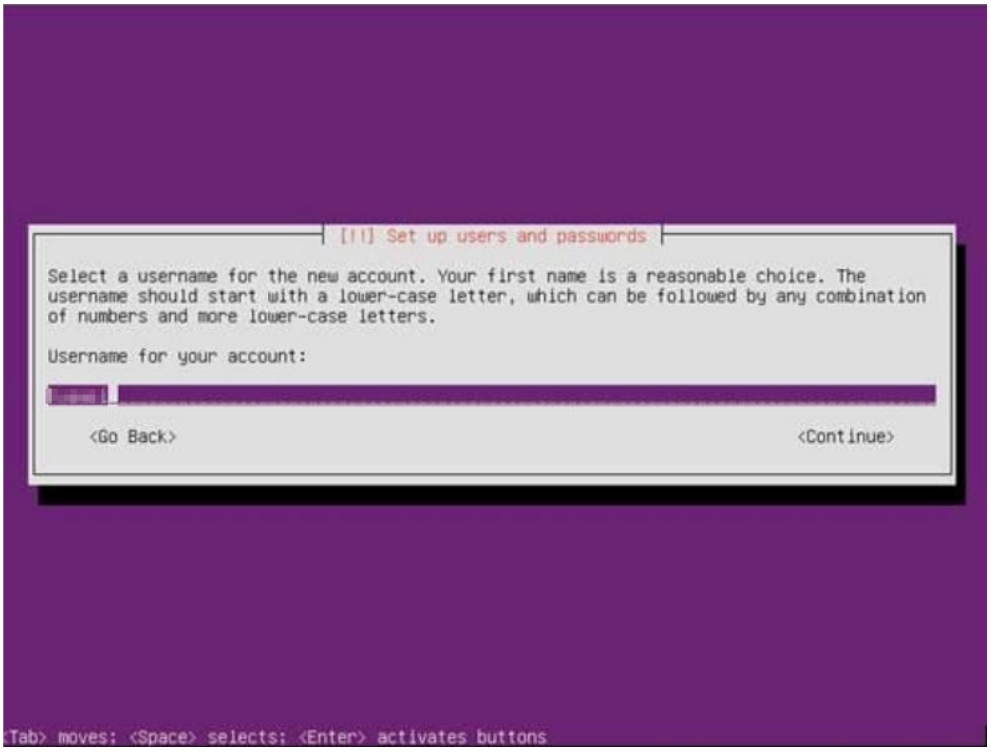


Figure 4-243 Setting up users and passwords (2)



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Figure 4-244 Setting up users and passwords (3)

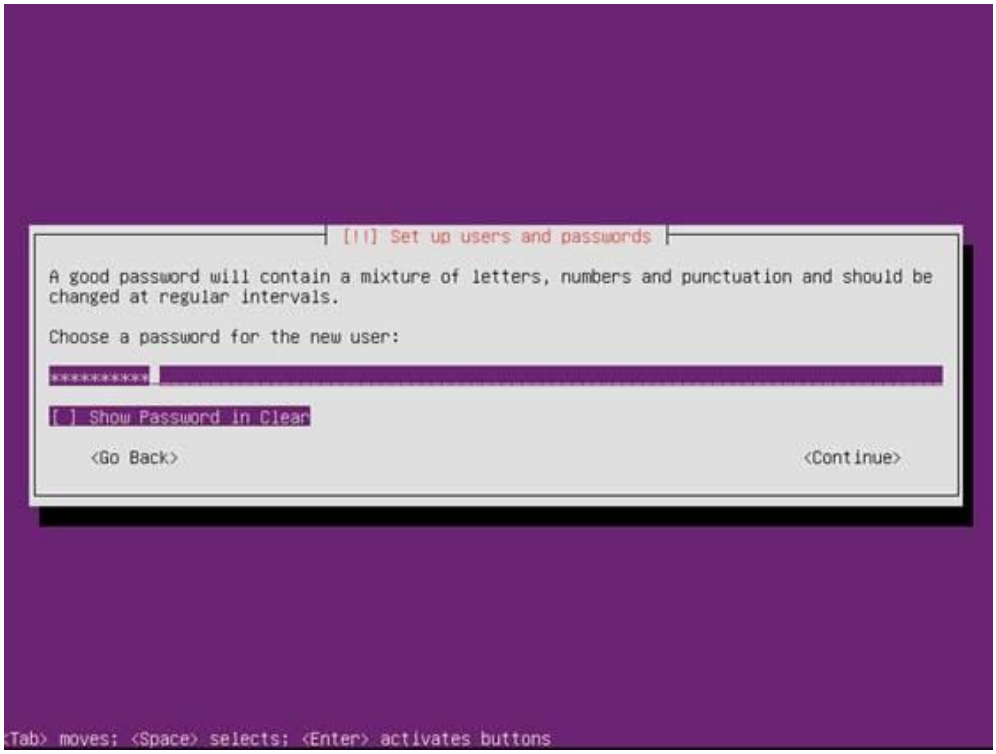
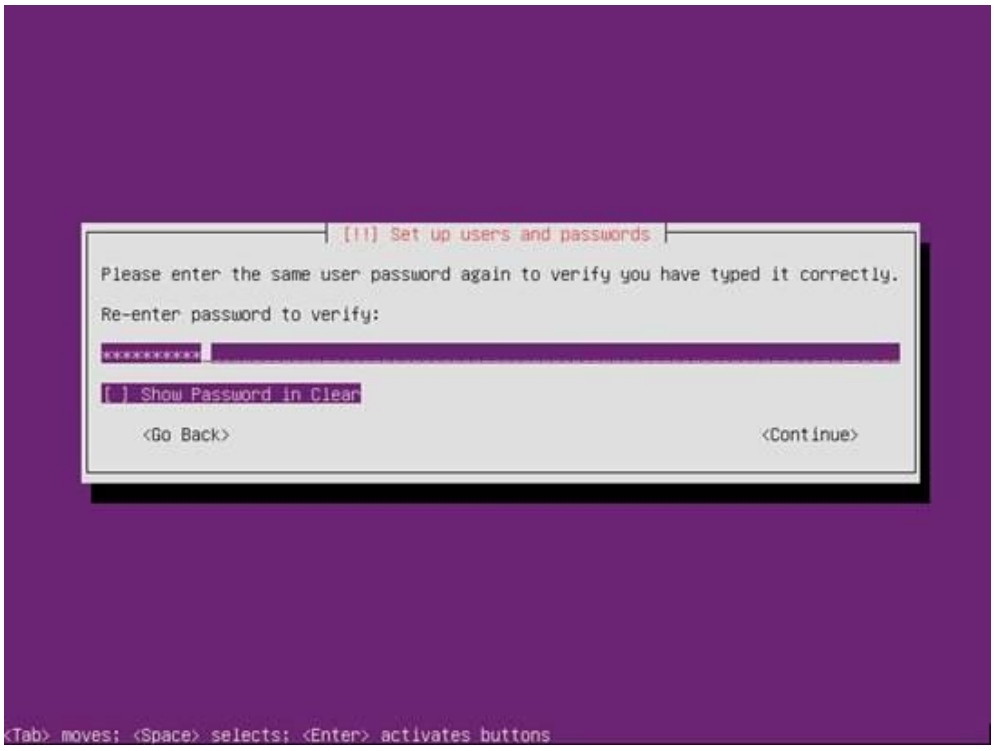


Figure 4-245 Setting up users and passwords (4)



Step 18 On the screen for configuring your home directory for encryption, select **Yes** and press **Enter**.

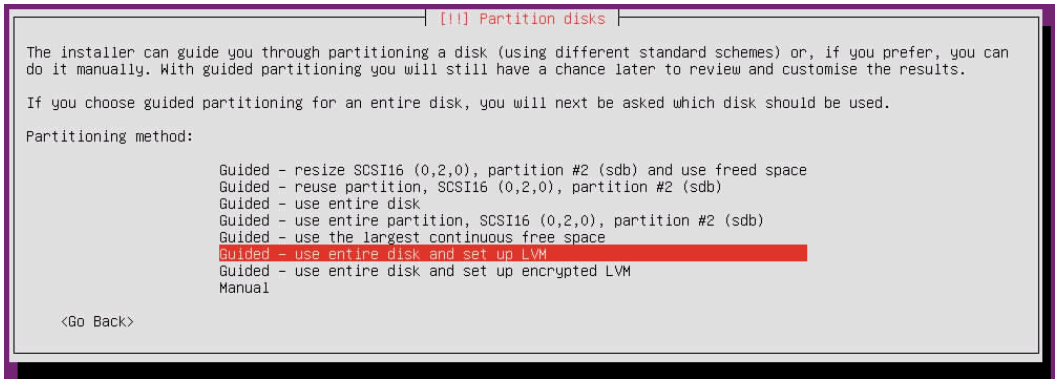
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Figure 4-246 Configuring your home directory for encryption



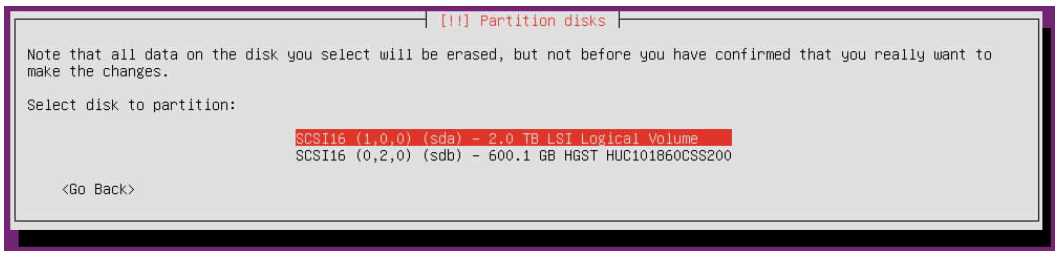
Step 19 On the screen for selecting a partitioning method, select a method and press **Enter**.

Figure 4-247 Selecting a partitioning method



Step 20 On the screen for selecting a hard drive for partitioning, select a hard drive of which the size is the same as that of the hard drive selected in **Step 5**.

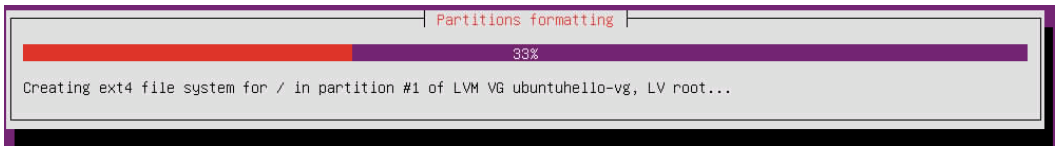
Figure 4-248 Selecting a hard drive



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Step 21 The hard drive partitioning starts, as shown in **Figure 4-249**.

Figure 4-249 Partitioning the hard drive



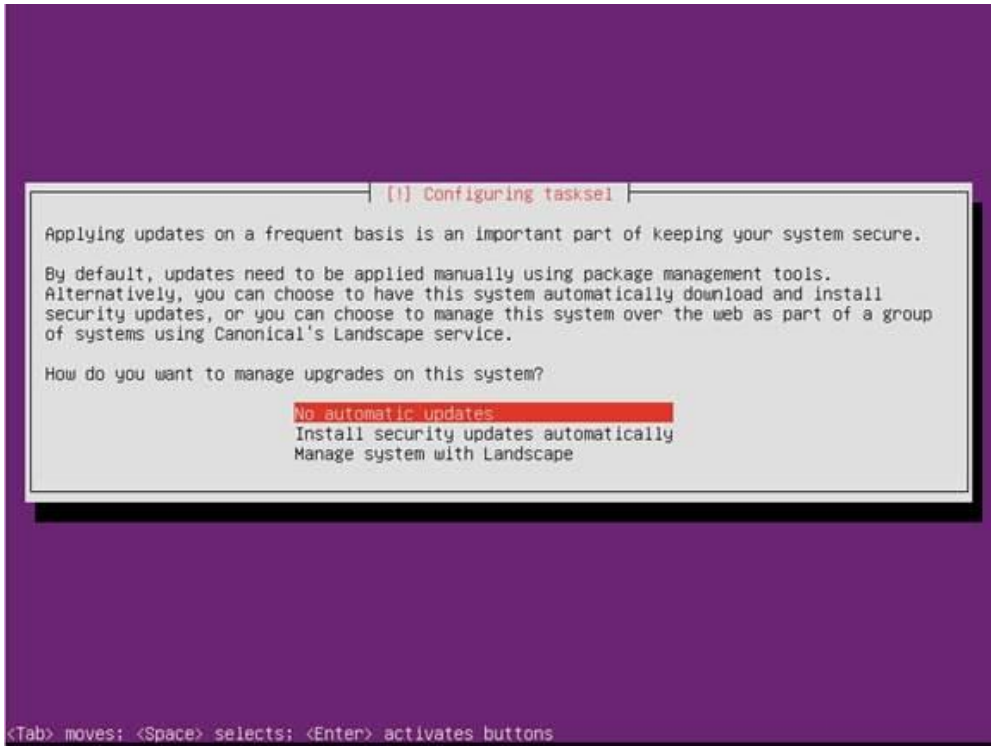
Step 22 The OS installation starts, as shown in **Figure 4-250**.

Figure 4-250 Installing the OS



Step 23 On the screen for configuring updates, select **No automatic updates** and press **Enter**.

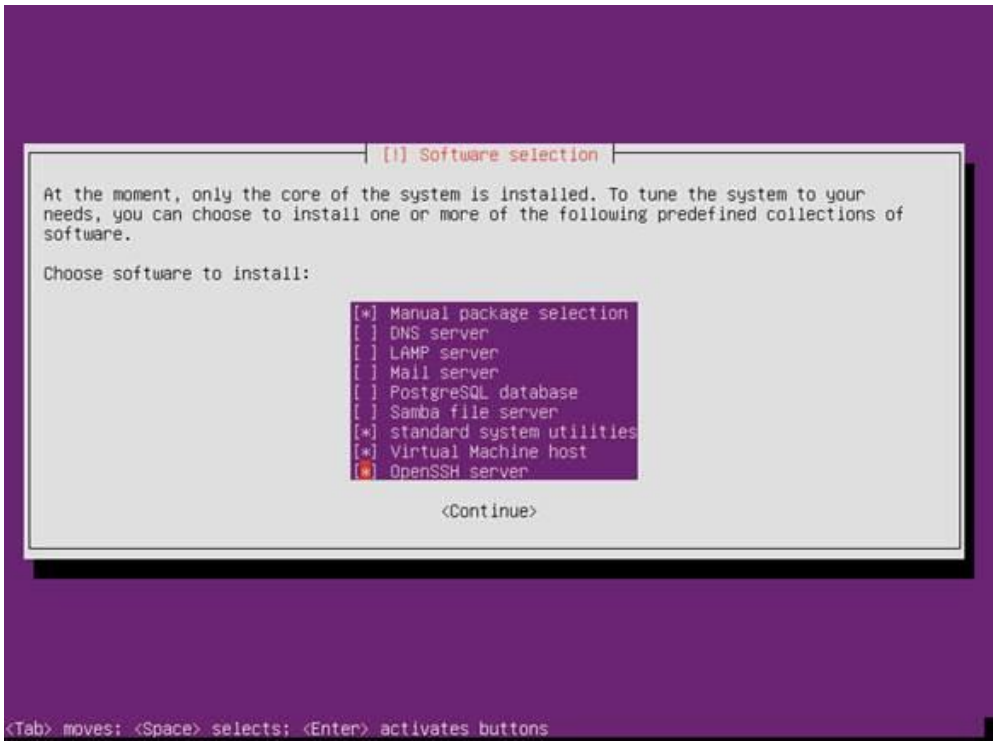
Figure 4-251 Configuring updates



Step 24 On the screen for selecting software, select the software packages to be installed, select **Continue**, and press **Enter**.

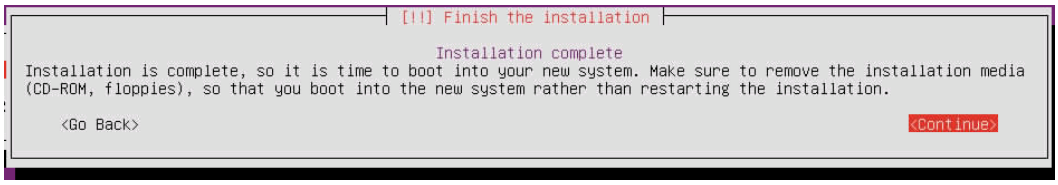
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Figure 4-252 Selecting software



Step 25 After the installation is complete, select **Continue** and press **Enter** to restart the server.

Figure 4-253 Confirming the restart



The server restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.7 Installing BC-Linux OS

4.4.1.7.1 Installing BC-Linux OS in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in .**Figure 4-254**

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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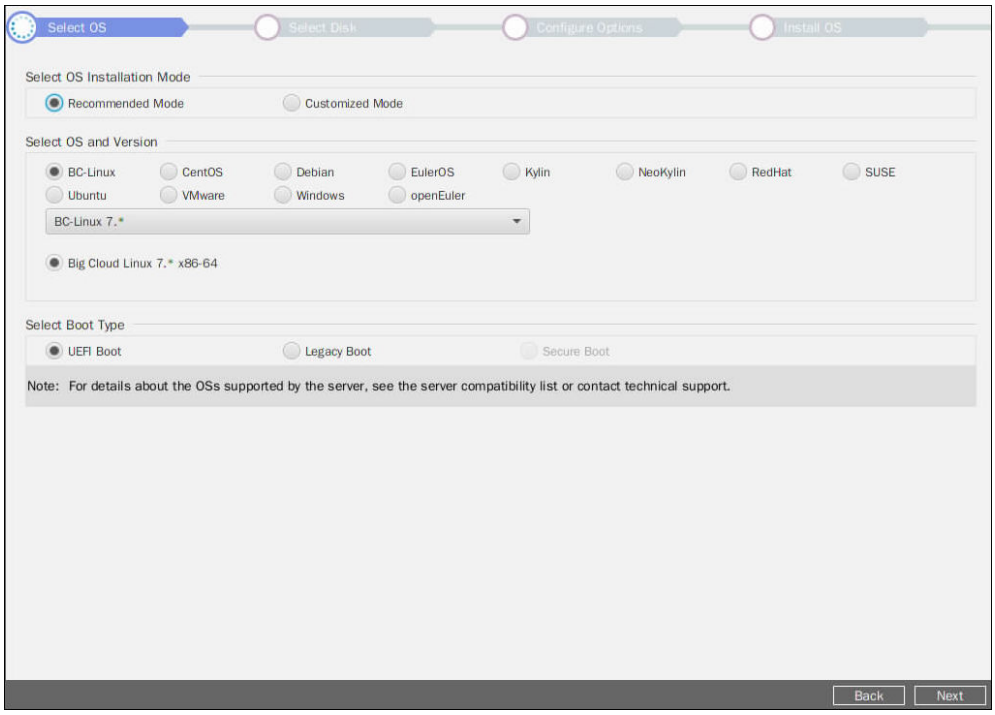
Figure 4-254 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-255**.

Figure 4-255 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

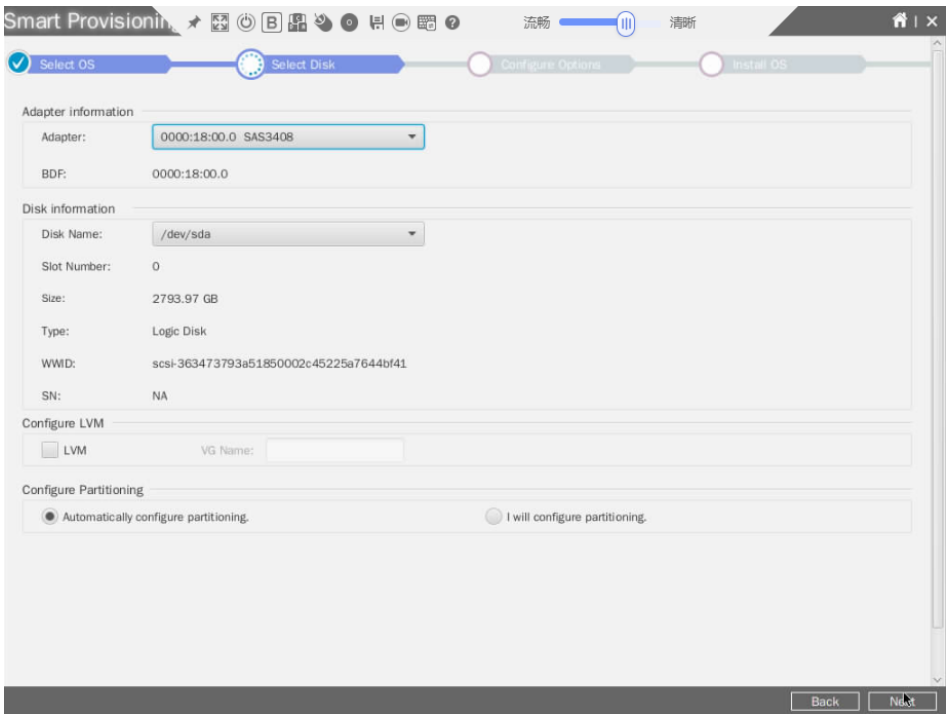
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, BC-Linux 7.* indicates all OSs of BC-Linux 7.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-256**.

Figure 4-256 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

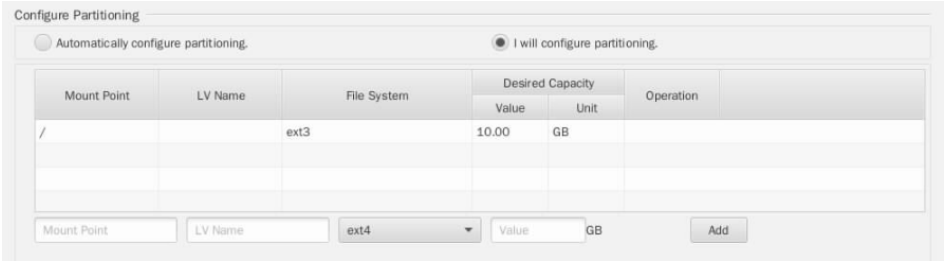
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Step 6 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard disk as the boot disk.
- In this window, you can select the automatic partitioning mode (by selecting **Automatically configure partitioning**) or manual partitioning mode (by selecting **I will configure partitioning**). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-257** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized. When the **/boot** partition is customized, the partition size must be greater than 300 MB.
- All hard disk partitions must be on the same hard disk or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-257 Manual partitioning

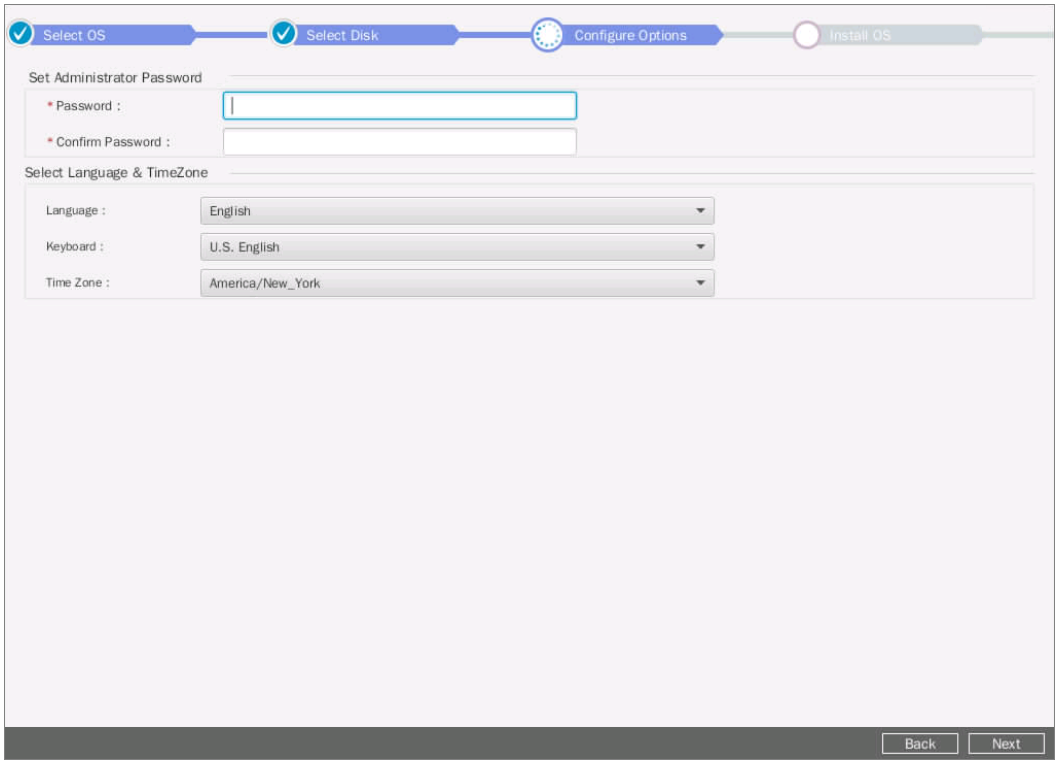


Step 7 Click **Next**.

The window for setting the password of user **root**, language, keyboard, and time zone is displayed, as shown in **Figure 4-258**.

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Figure 4-258 Setting the password of user root, language, keyboard, and time zone



NOTE

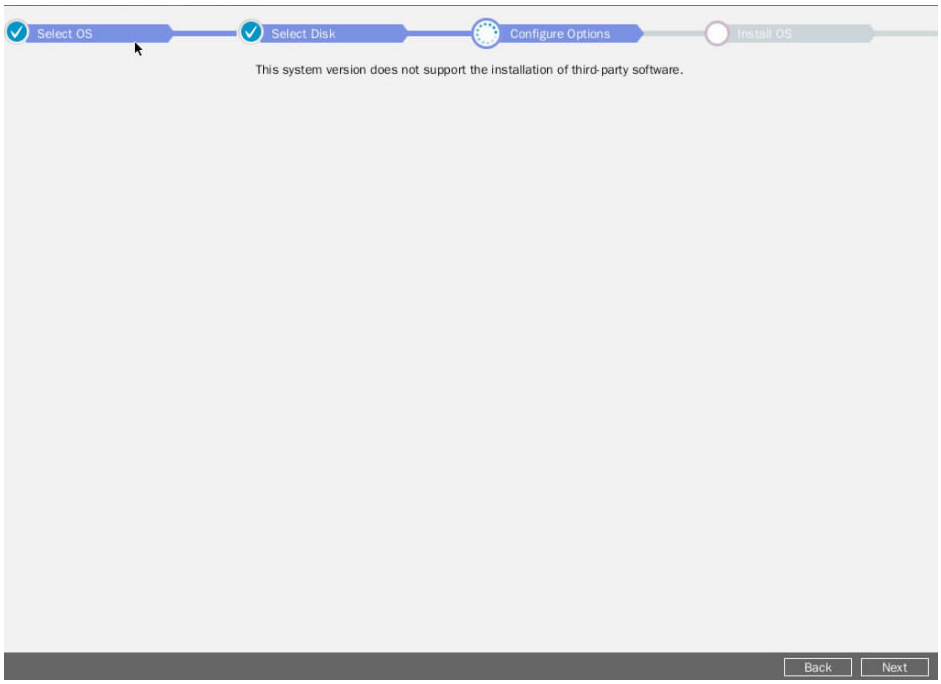
- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of user **root**, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-259** is displayed, indicating that the OS version does not support the installation of third-party software.

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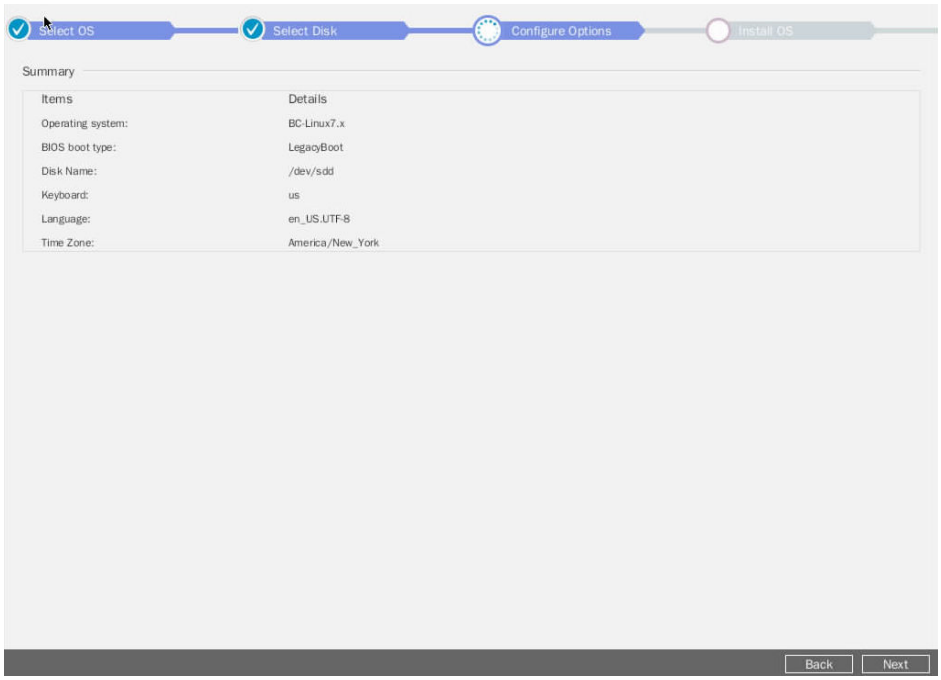
Figure 4-259 Window



Step 9 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-260**.

Figure 4-260 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-261**.For details about configuration,see **Table 4-27**.

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Figure 4-261 Viewing the configuration summary(2)

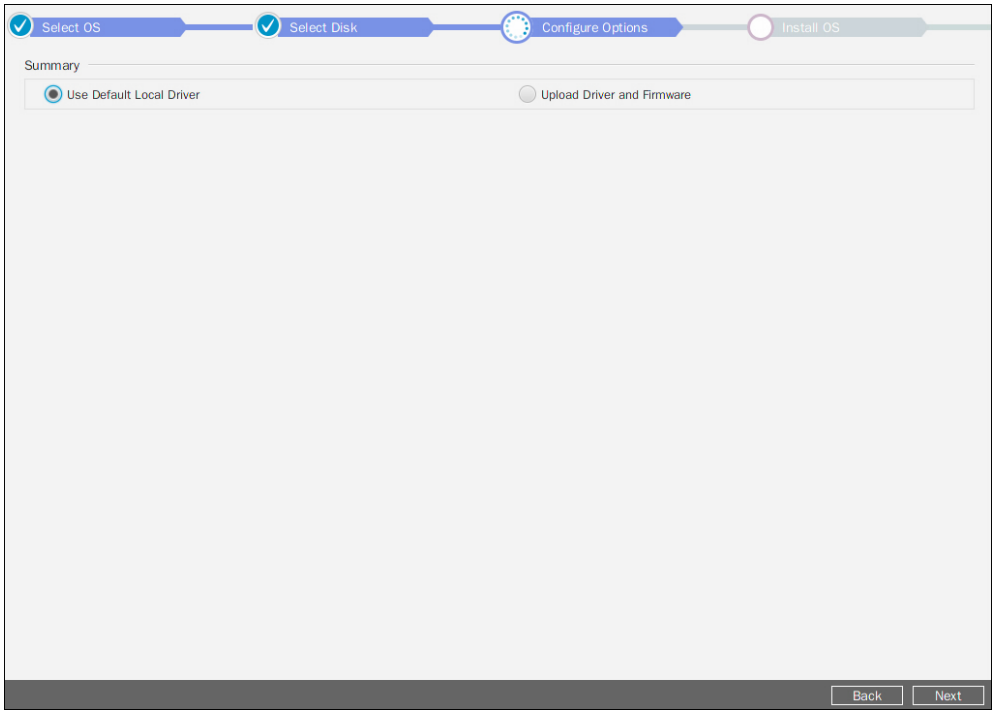


Table 4-27 Configuration Description

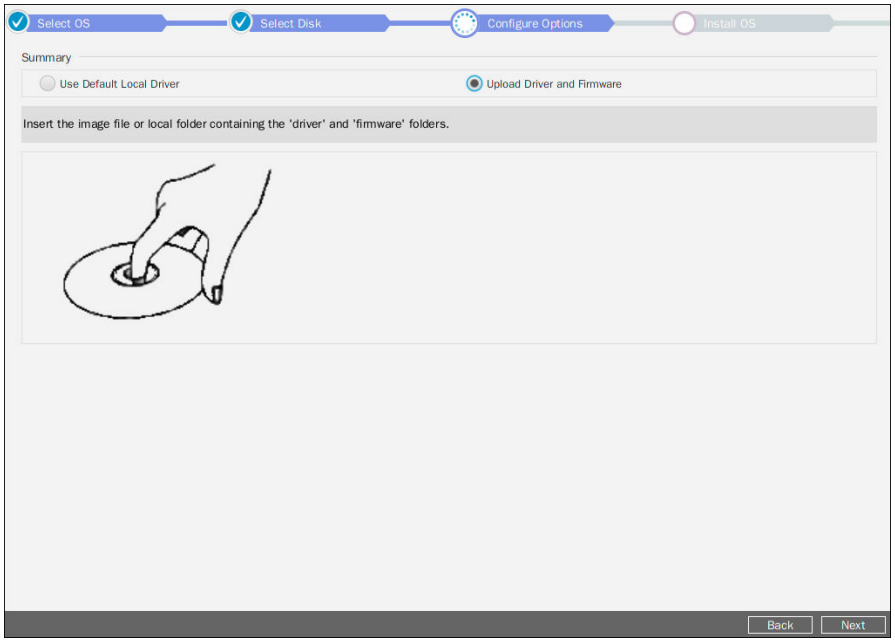
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-262**.

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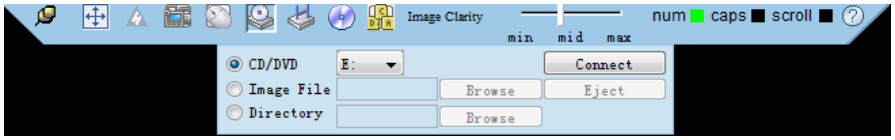
Figure 4-262 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-263**.

Figure 4-263 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

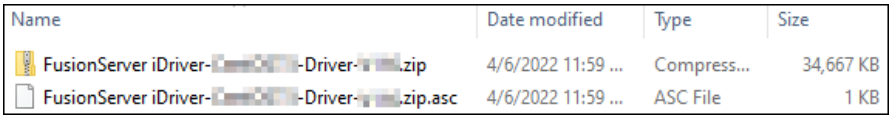
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-264**.

Figure 4-264 Folder



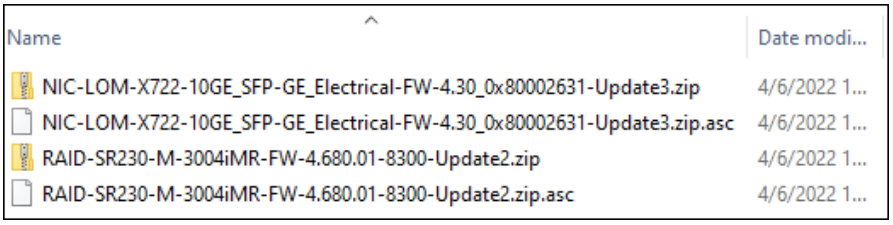
The **driver** folder is shown in **Figure 4-265**.

Figure 4-265 The **driver** folder



The **firmware** folder is shown in **Figure 4-266**.

Figure 4-266 The **firmware** folder



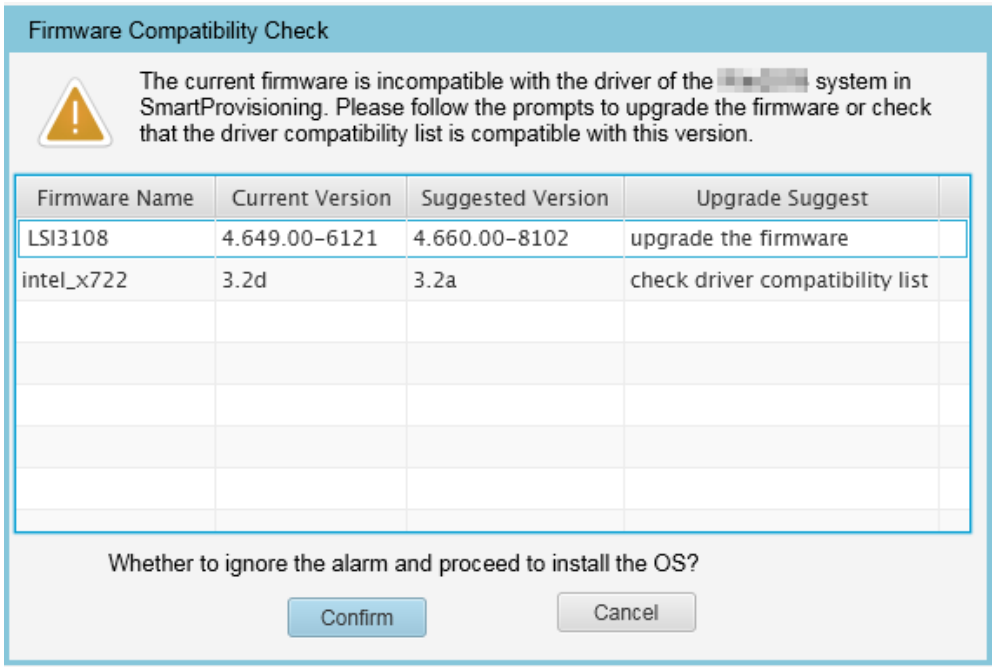
- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.
- When BC-Linux7.6/BC-Linux8.2/BC-Linux8.4 is installed, if a driver is to be uploaded, launch the OS kernel version in line with the driver version. Otherwise, launch the OS kernel of a lower version.

e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-269** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-267** is displayed.

Figure 4-267 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

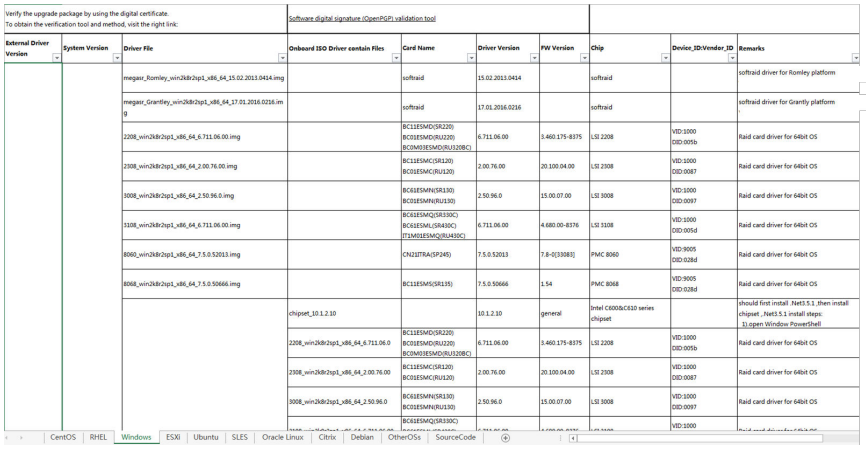
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-268**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-268 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-269**.

Figure 4-269 Window prompting you to insert the OS medium

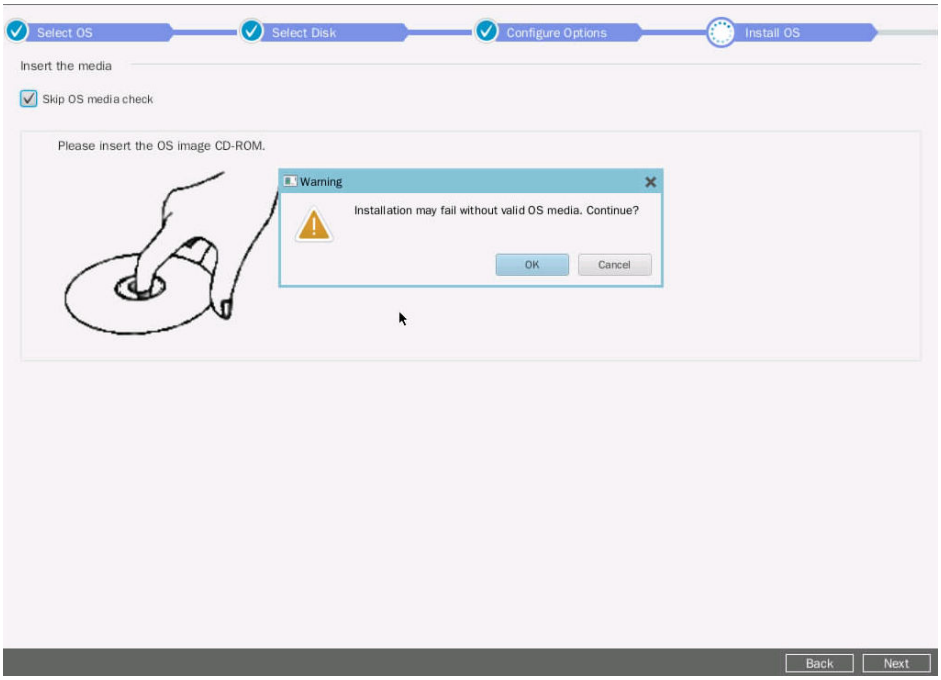


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-270**. Click **OK** or **Cancel** as required. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-270 Dialog box

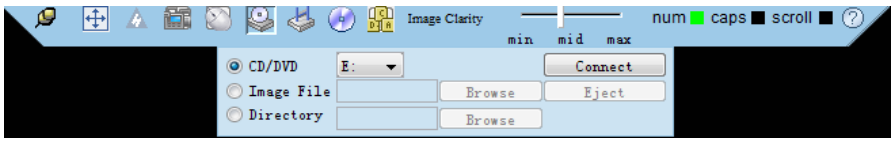


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-271**.

Figure 4-271 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 12 Click **Next**.

The OS installation starts, as shown in **Figure 4-272**.

Figure 4-272 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **Figure 4-273** is displayed.

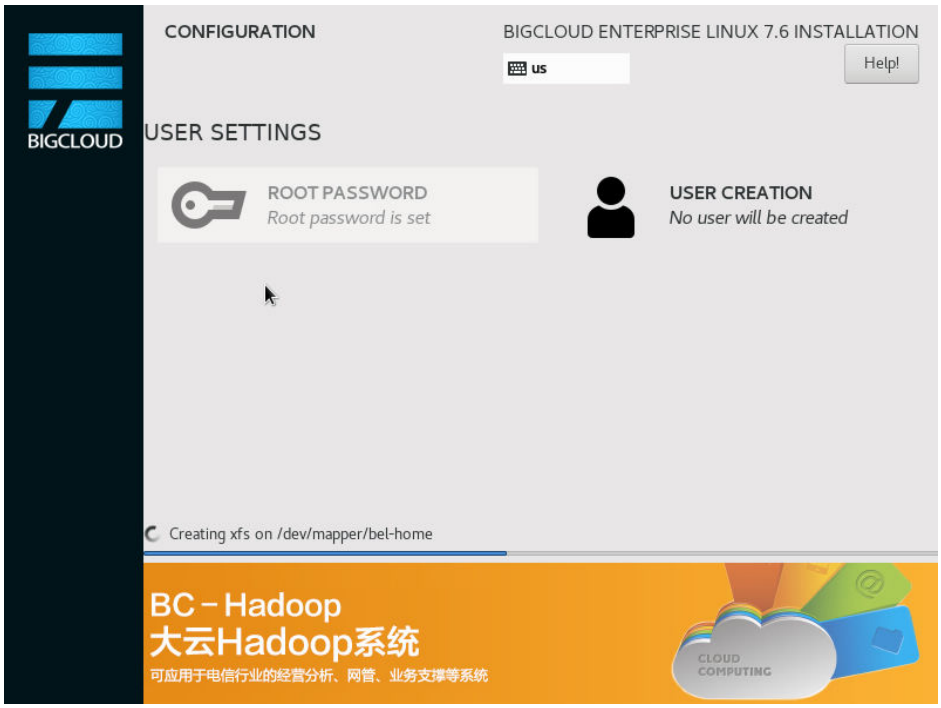
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Figure 4-273 INSTALLATION SUMMARY



After about 2 minutes, the OS installation is performed automatically, as shown in **Figure 4-274**.

Figure 4-274 Installing the OS



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NOTE

During BC-Linux installation, if an OS of the same type has been installed, a prompt will be displayed. You need to confirm the prompt information manually.

After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.7.2 Installing a BC-Linux OS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-275**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-275 Smart Provisioning main window

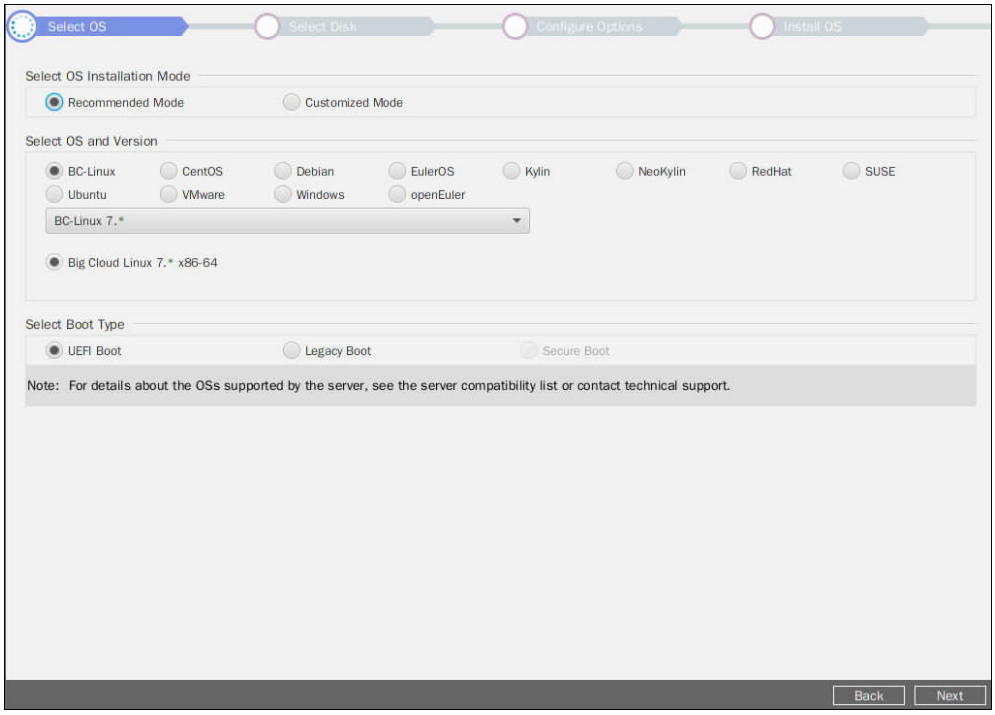


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-276**.

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Figure 4-276 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

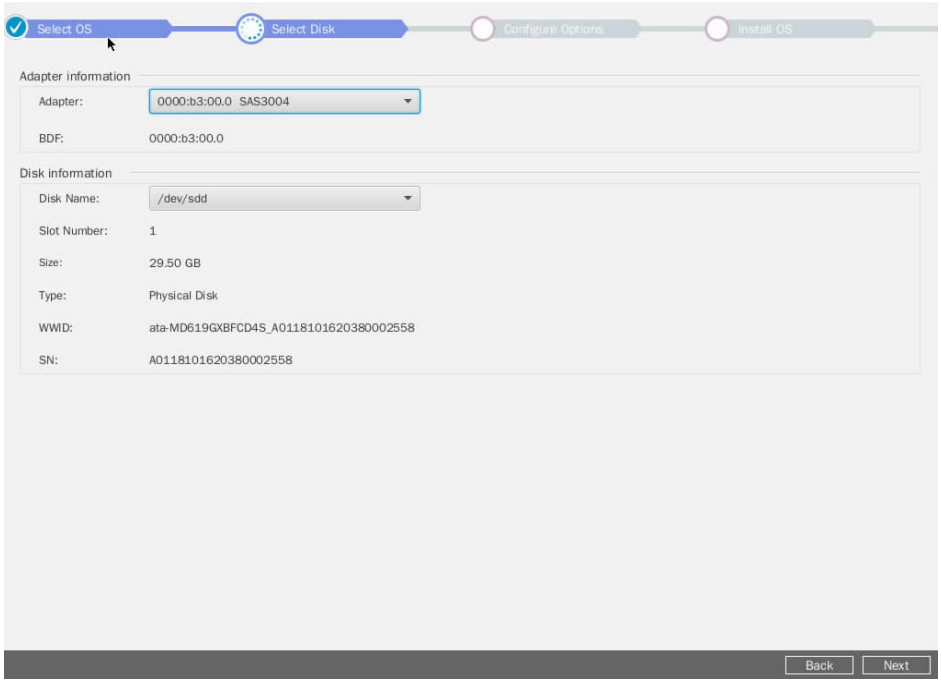
NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is RHEL 7.3, the version of the inserted installation DVD or mounted image file in **Step 8** must be RHEL 7.3.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, BC-Linux 7.* indicates all OSs of BC-Linux 7.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-277**.

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Figure 4-277 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

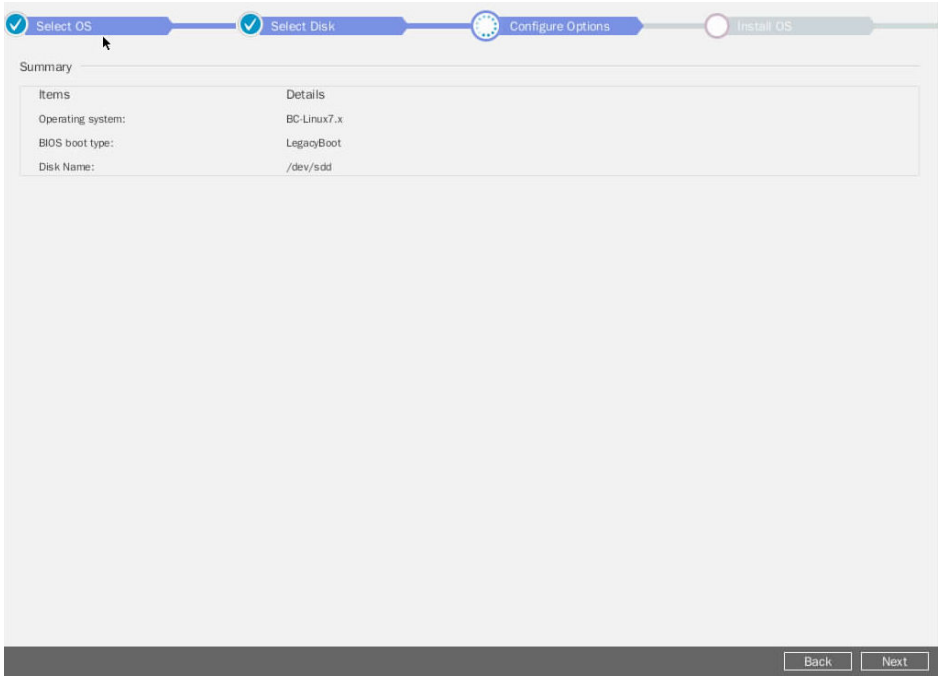
- During the installation process, Smart Provisioning sets the selected hard disk to the boot disk.
- After an installation hard disk is selected, record the value of **WWID**. This value will be used in **Step 16**.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-278**.

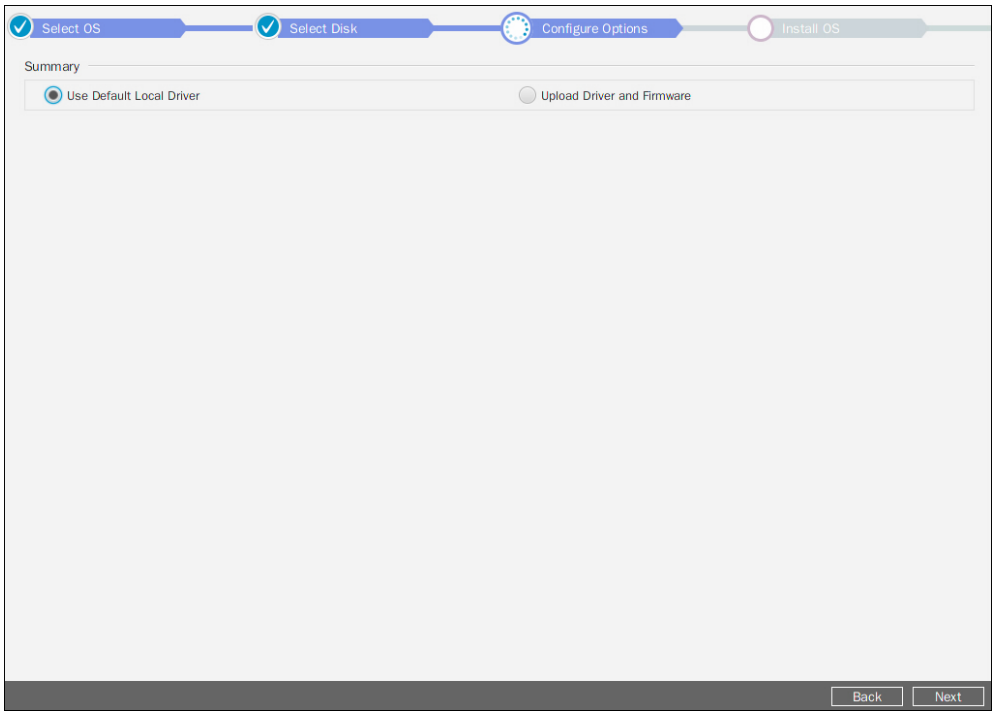
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Figure 4-278 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-279**.For details about configuration,see **Table 4-28**.

Figure 4-279 Viewing the configuration summary(2)



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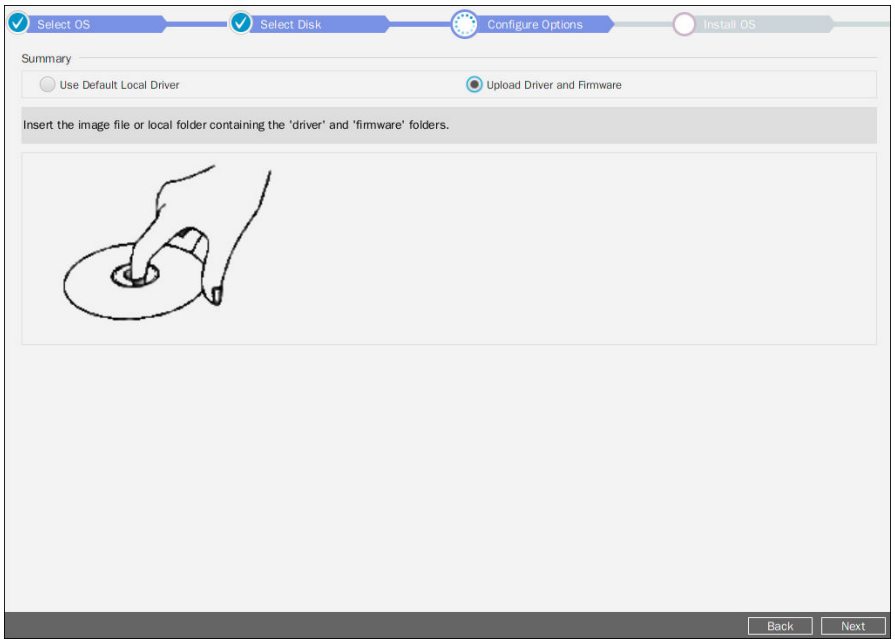
Table 4-28 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

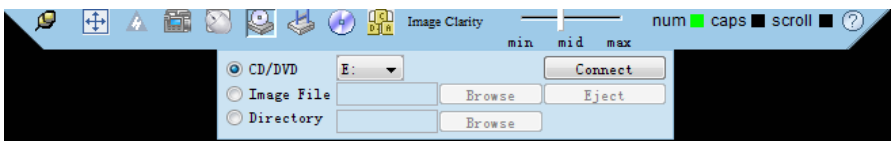
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-280**.

Figure 4-280 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-281**.

Figure 4-281 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

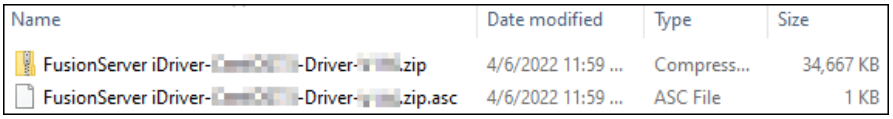
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-282**.

Figure 4-282 Folder



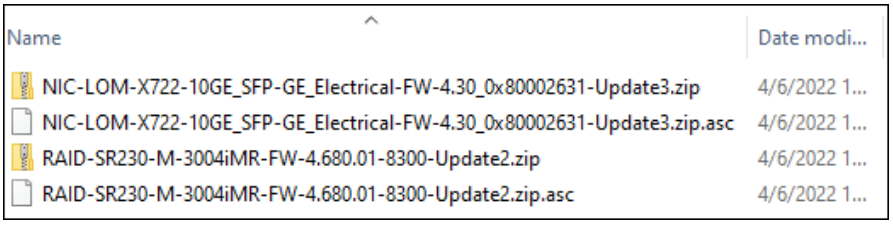
The **driver** folder is shown in **Figure 4-283**.

Figure 4-283 The **driver** folder



The **firmware** folder is shown in **Figure 4-284**.

Figure 4-284 The **firmware** folder



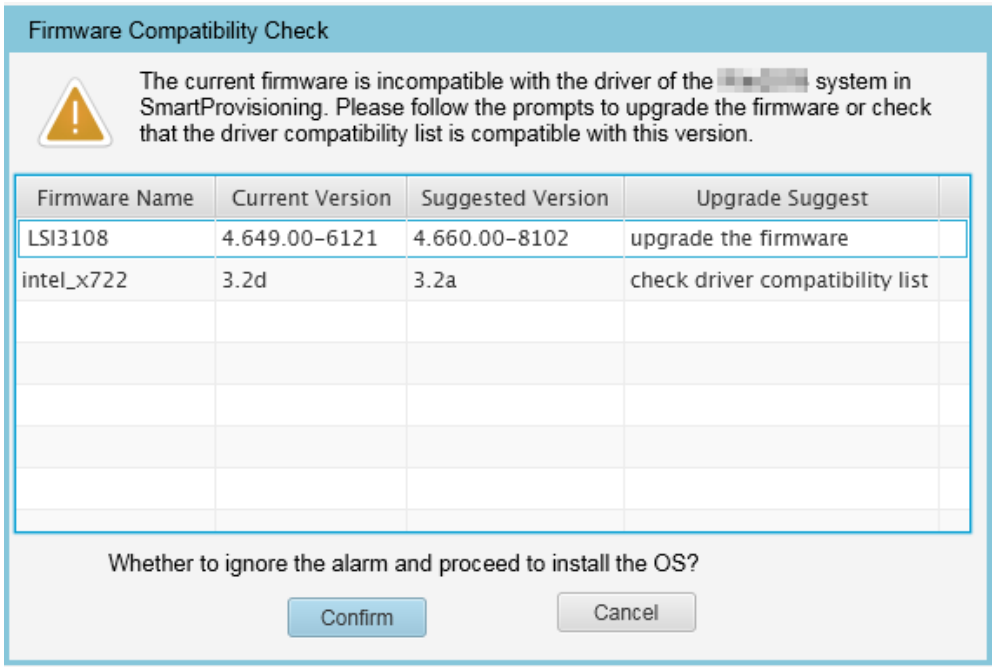
- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.
- When BC-Linux7.6/BC-Linux8.2/BC-Linux8.4 is installed, if a driver is to be uploaded, launch the OS kernel version in line with the driver version. Otherwise, launch the OS kernel of a lower version.

e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the page shown in **Figure 4-287** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-285** is displayed.

Figure 4-285 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

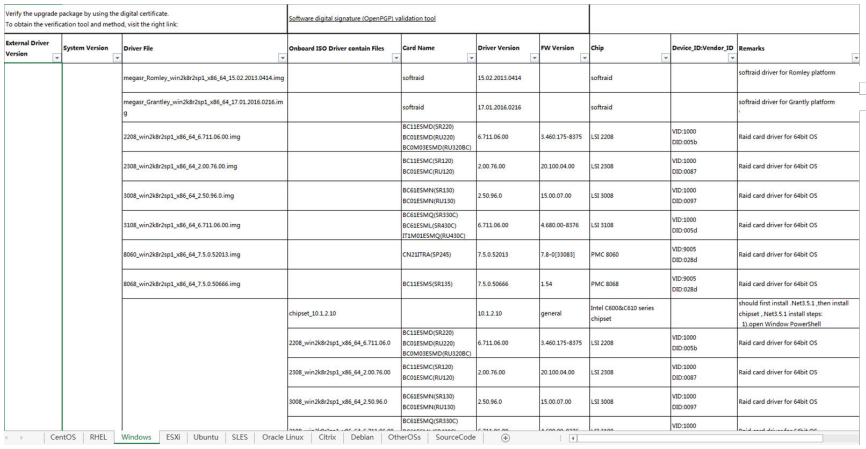
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-286**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-286 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-287**.

Figure 4-287 Window prompting you to insert the OS medium

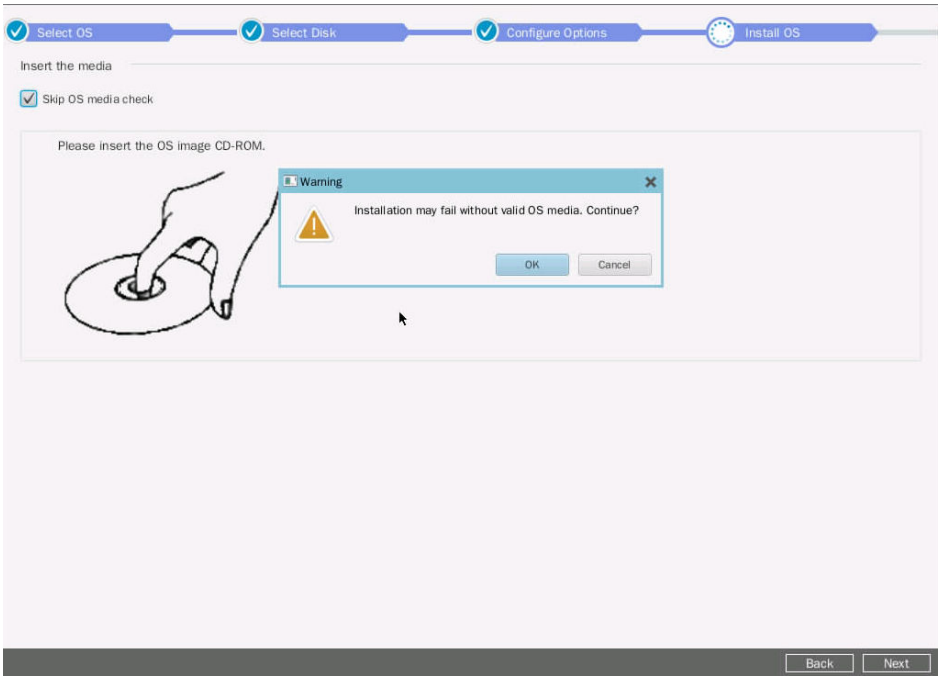


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-288**. Click **OK** or **Cancel** according to the actual situation. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-288 Dialog box

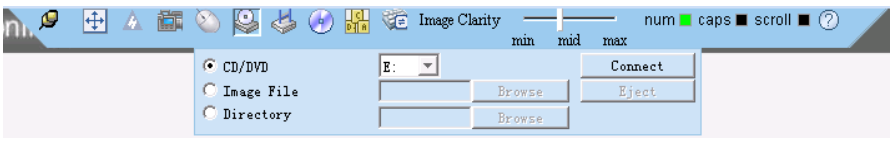


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-289**.

Figure 4-289 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-290**.

Figure 4-290 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **Figure 4-291** is displayed.

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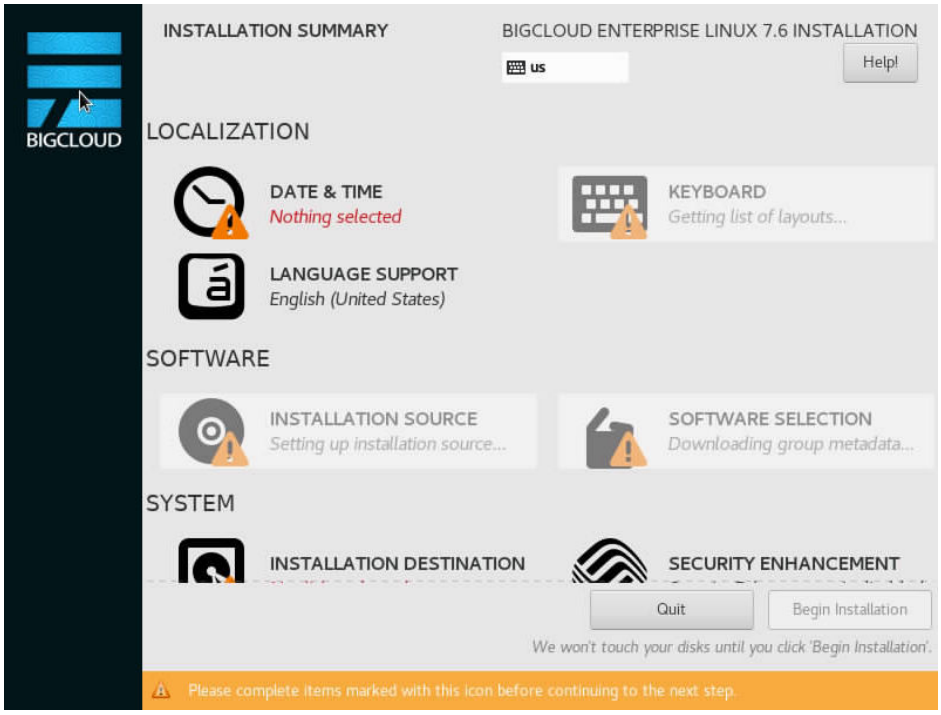
Figure 4-291 Selecting an installation language



Step 10 Select an installation language and click **Continue**.

The **INSTALLATION SUMMARY** window is displayed, as shown in **Figure 4-292**.

Figure 4-292 INSTALLATION SUMMARY



Step 11 Click **DATE & TIME**.

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The window for setting the date and time zone is displayed, as shown in **Figure 4-293**.

Figure 4-293 Setting the date and time zone



Step 12 Set the date and time zone, and click **Done**.

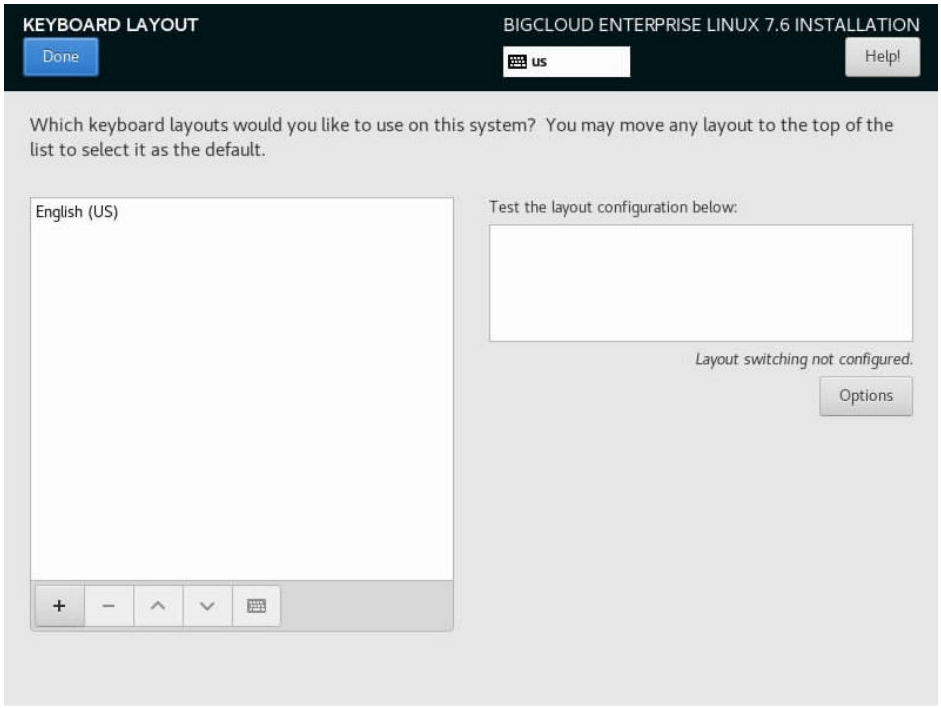
The **INSTALLATION SUMMARY** window is displayed.

Step 13 Click **KEYBOARD**.

The window for setting the keyboard is displayed, as shown in **Figure 4-294**.

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Figure 4-294 Setting the keyboard



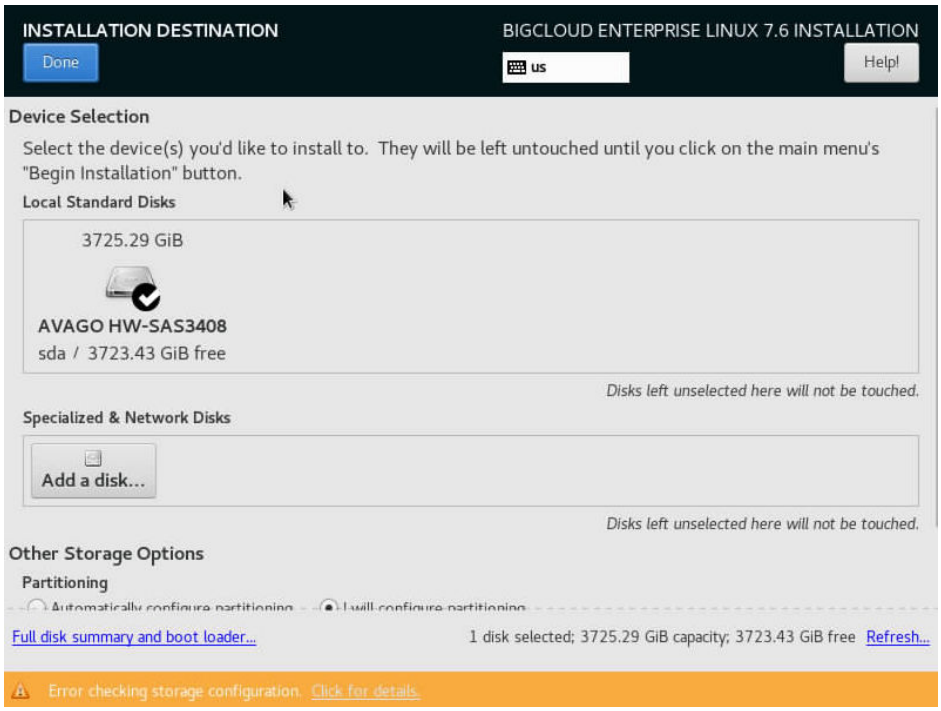
Step 14 Set the keyboard, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 15 Click **INSTALLATION DESTINATION**.

The screen for selecting a hard drive is displayed. See **Figure 4-295**.

Figure 4-295 INSTALLATION DESTINATION window



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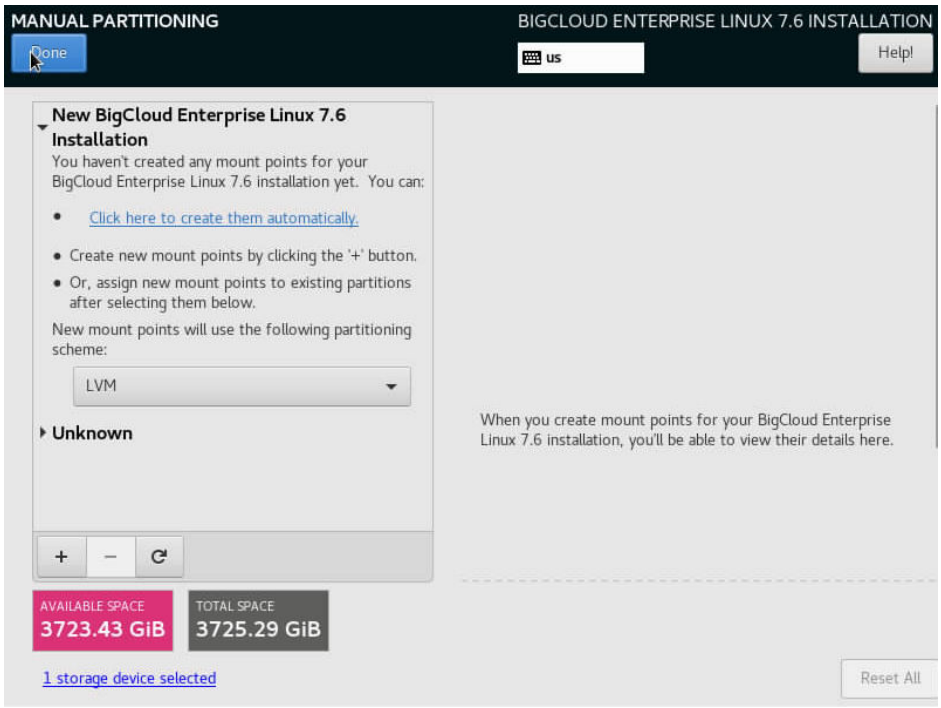
Step 16 Choose **Other Storage Options** > **Local Standard Disks**, select the hard disk selected in **Step 5** and deselect other hard disks.

Move the cursor to the icon, name, or drive letter of the hard disk to view the hard disk ID. The ID must be the same as the character after **scsi-3** in the value of **WWID** of the hard disk selected in **Step 5**.

Step 17 Choose **Device Selection** > **Partitioning**, and select a partition mode. Automatic partitioning and customized partitioning are supported.

- To use the automatic partitioning mode, select **Automatically configure partitioning**.
- To use the customized partitioning mode, select **I will configure partitioning** and click **Done**. The window shown in **Figure 4-296** is displayed.

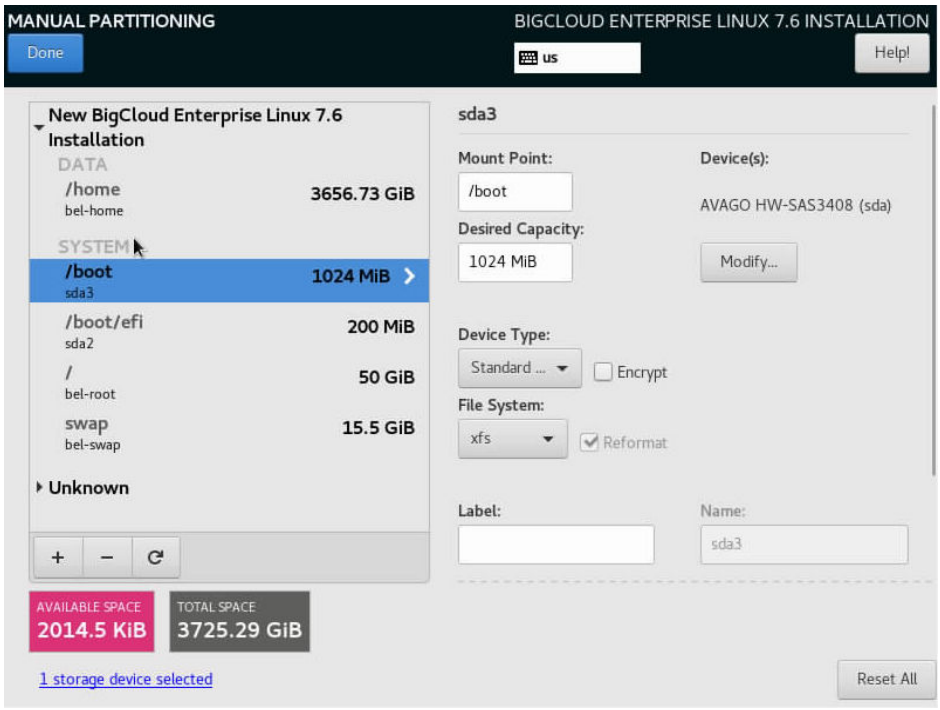
Figure 4-296 Customized partitioning



You can click + to create partitions. At least four partitions are required, including **/boot/efi**, **/boot**, **swap**, and **/**. You can also click **Click here to create them automatically** to automatically create partitions, as shown in **Figure 4-297**.

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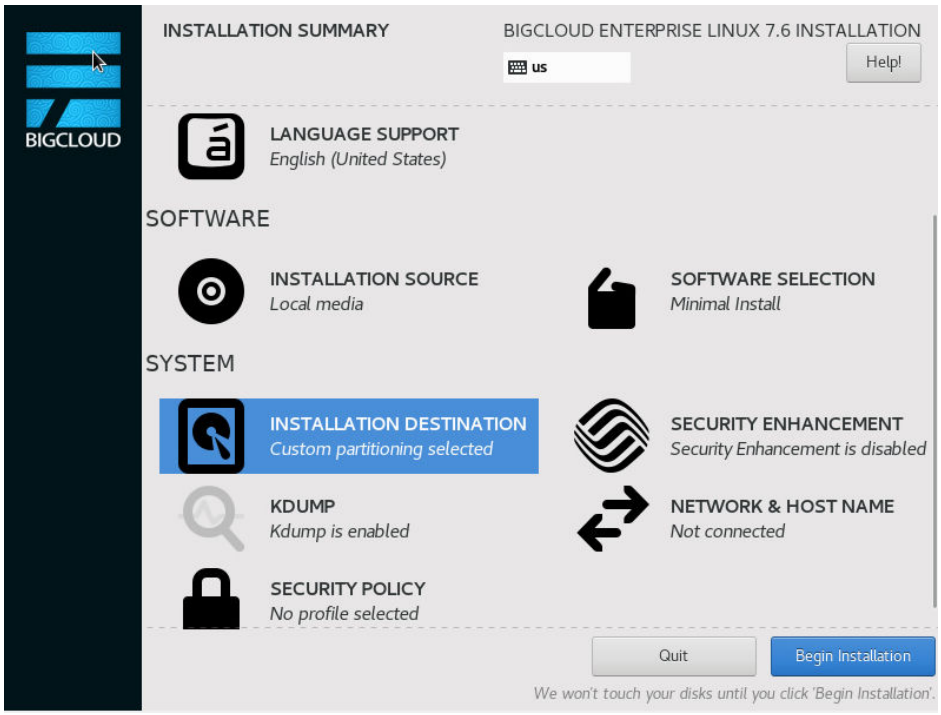
Figure 4-297 Creating partitions



Step 18 Click **Done**.

The **INSTALLATION SUMMARY** window is displayed, as shown in **Figure 4-298**.

Figure 4-298 INSTALLATION SUMMARY

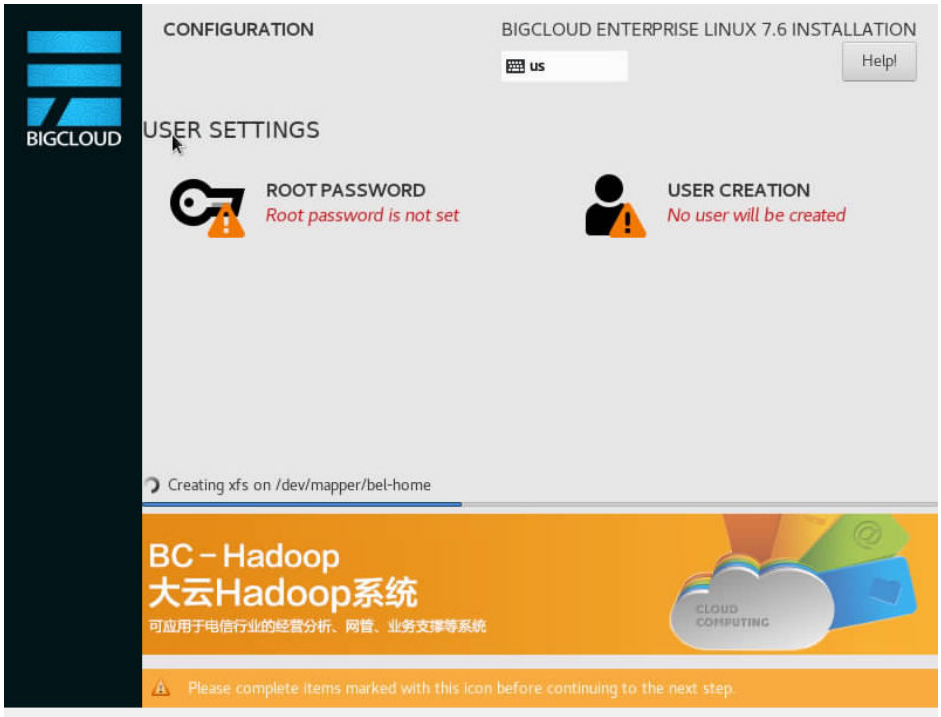


Step 19 Click **Begin Installation**.

The OS installation starts, as shown in **Figure 4-299**.

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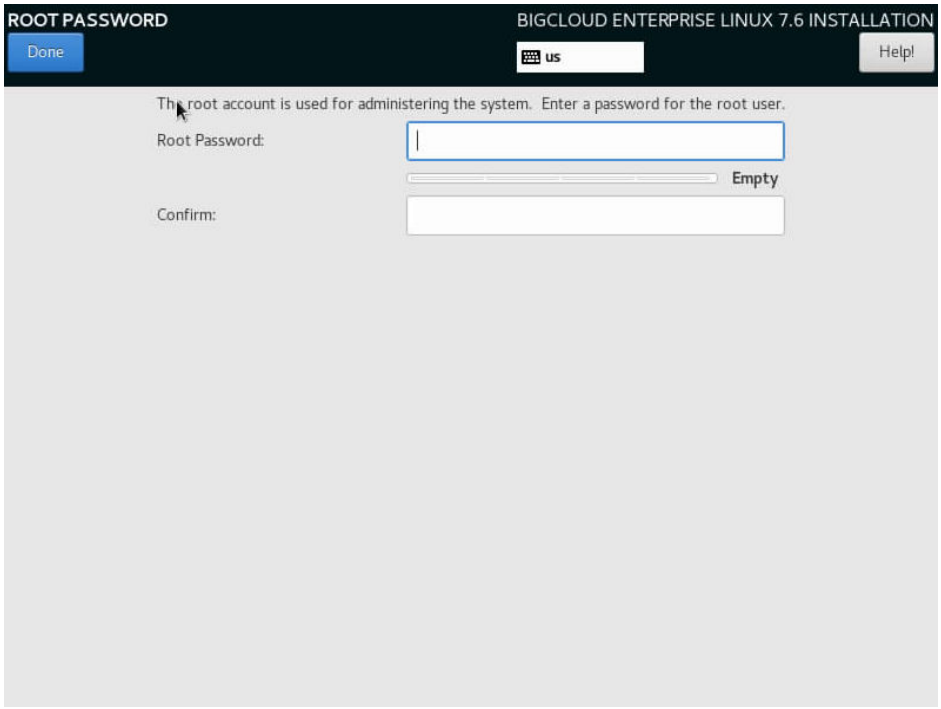
Figure 4-299 Starting the OS installation



Step 20 Click **ROOT PASSWORD**.

The window for setting the password of user **root** is displayed, as shown in **Figure 4-300**.

Figure 4-300 Setting the password of user root



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NOTE

- The password must contain at least six characters.
- The password cannot contain spaces or the following special characters: #$

Step 21 Set the password of user **root**, and click **Done**.

The OS installation window is displayed. After the installation is complete, the window shown in **Figure 4-301** is displayed.

Figure 4-301 Installation completed



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.8 Installing EulerOS

4.4.1.8.1 Installing EulerOS in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-302**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

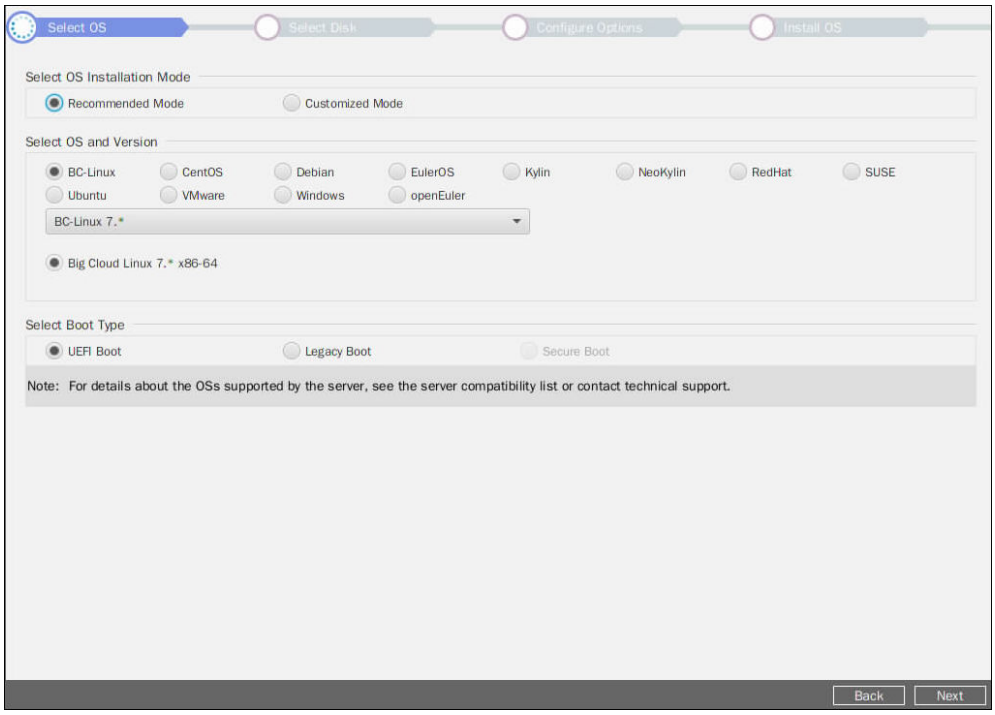
Figure 4-302 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-303**.

Figure 4-303 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

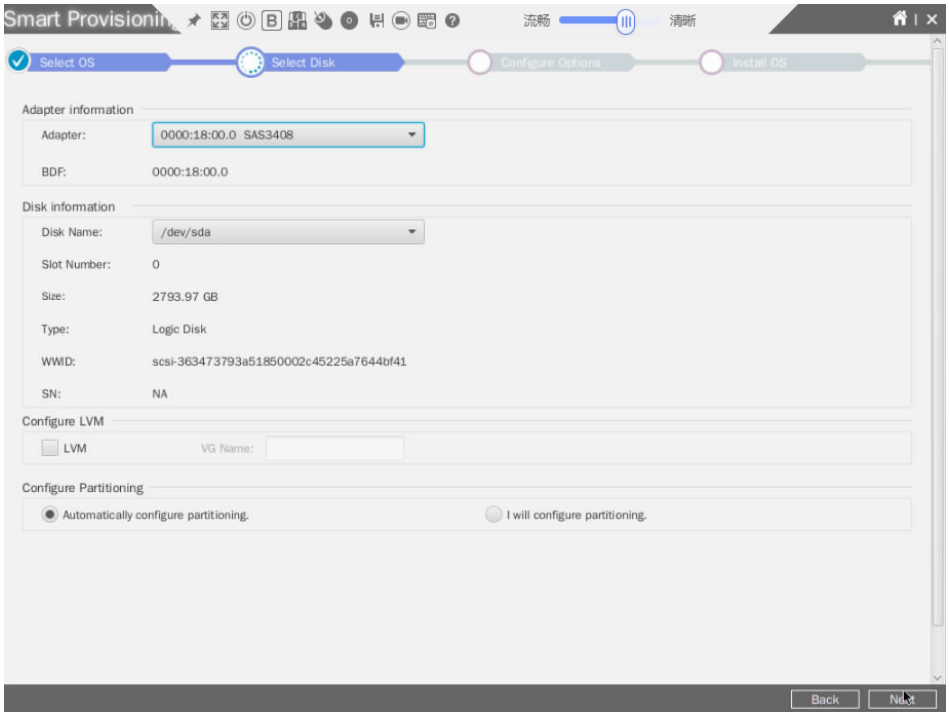
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, EulerOS * indicates all OSs of EulerOS.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-304**.

Figure 4-304 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

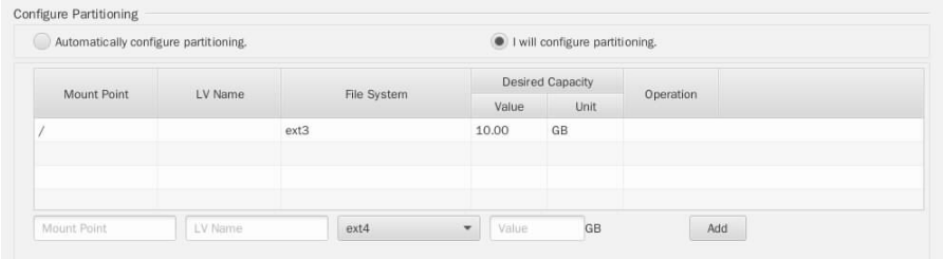
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Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select the automatic partitioning mode (by selecting **Automatically configure partitioning**) or manual partitioning mode (by selecting **I will configure partitioning**). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-305** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-305 Manual partitioning

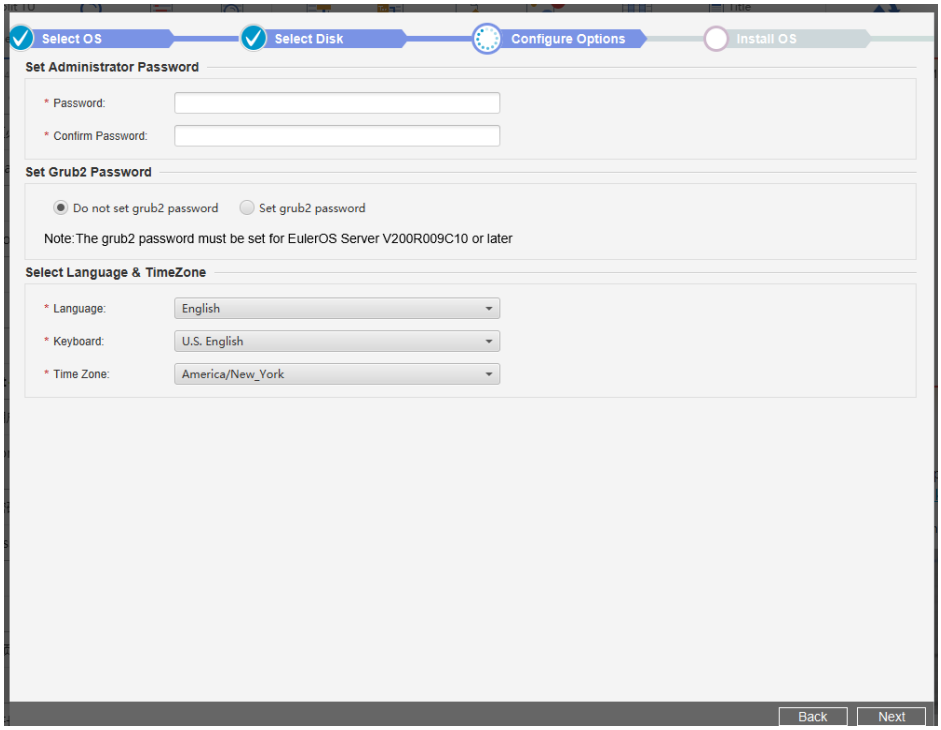


Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-306**.

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Figure 4-306 Setting the password of the root user, language, keyboard, and time zone



NOTE

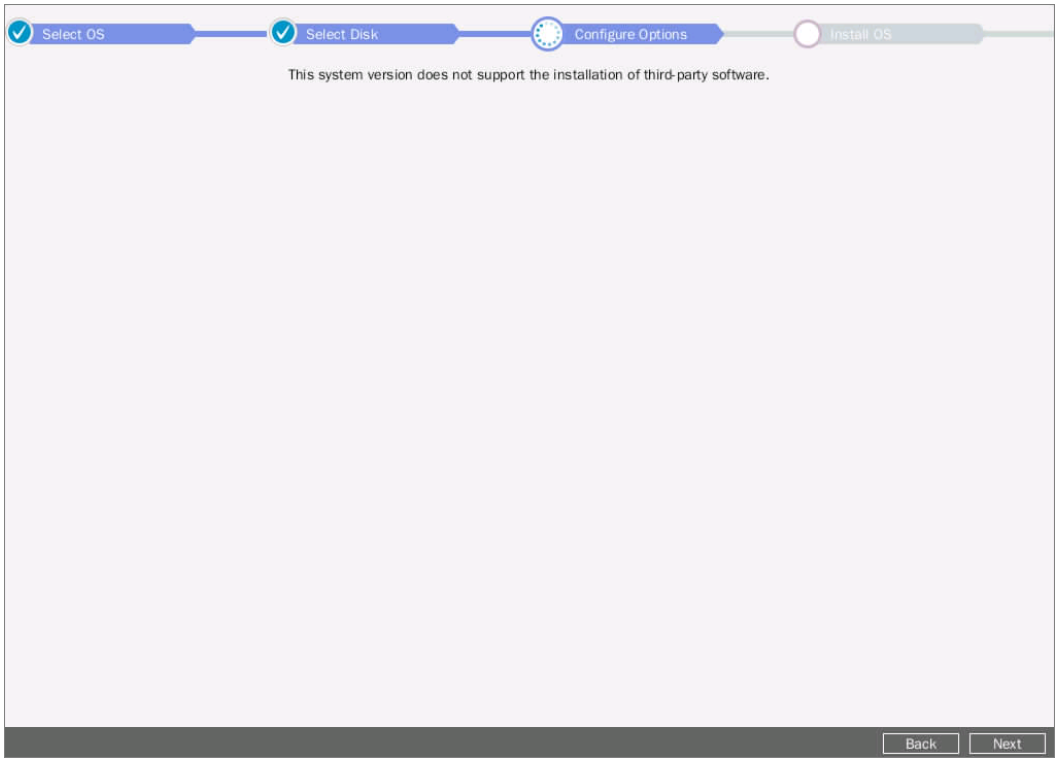
- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- When deploying EulerOS Server V200R009C10 or later, you need to set the GRUB password. The GRUB password must contain 8 to 1000 characters and at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (`-!@#$ %^&*()-_=+\|[{}];:'",<.>/? and spaces). Neither the administrator password nor the GRUB password can contain **;grub:**.
- The GRUB password is invalid if an image file of a version earlier than EulerOS Server V200R009C10 is mounted.
- The default user name of GRUB is **root**.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-307** is displayed, indicating that the OS version does not support the installation of third-party software.

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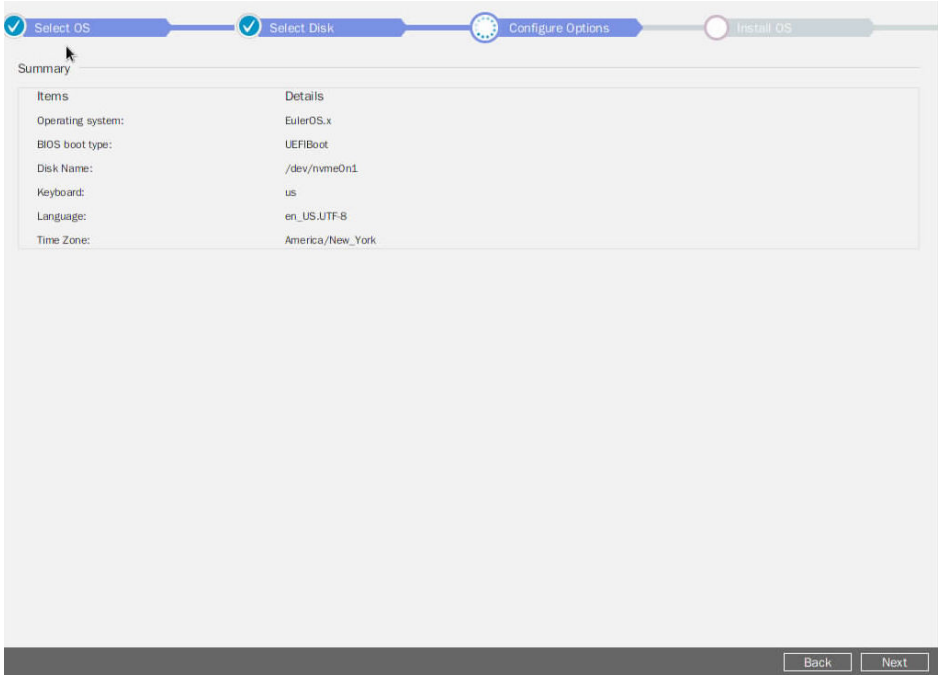
Figure 4-307 Window



Step 9 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-308**.

Figure 4-308 Viewing the configuration summary(1)



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Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-309**.For details about configuration,see **Table 4-29**.

Figure 4-309 Viewing the configuration summary(2)

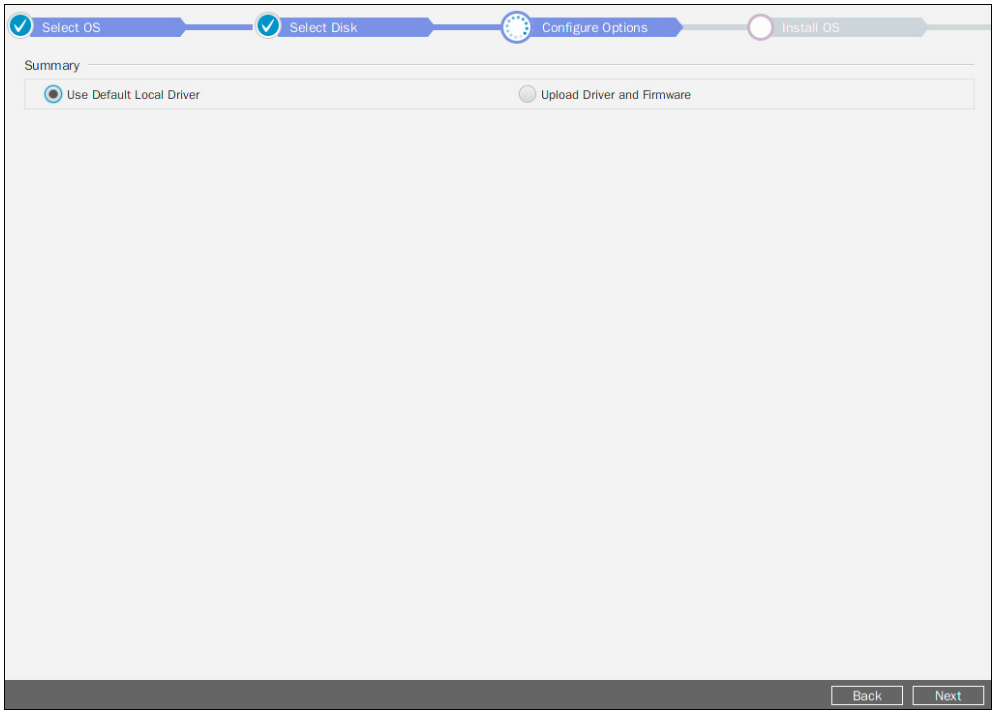


Table 4-29 Configuration Description

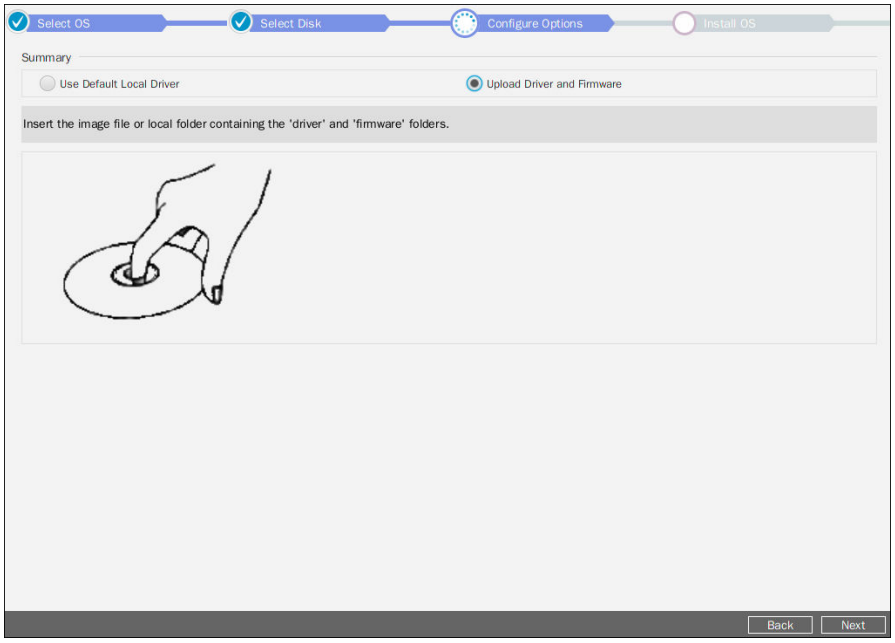
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-310**.

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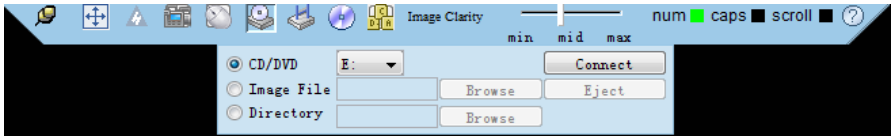
Figure 4-310 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-311**.

Figure 4-311 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

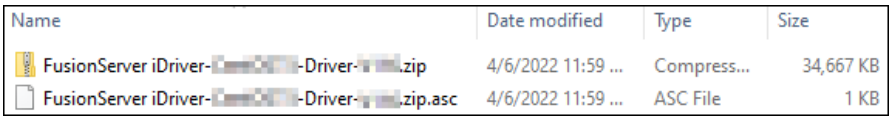
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-312**.

Figure 4-312 Folder



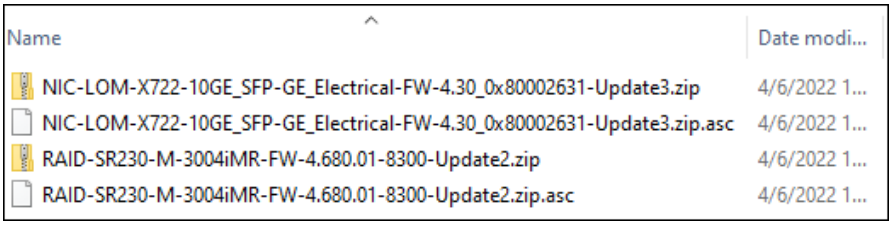
The **driver** folder is shown in **Figure 4-313**.

Figure 4-313 The **driver** folder



The **firmware** folder is shown in **Figure 4-314**.

Figure 4-314 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

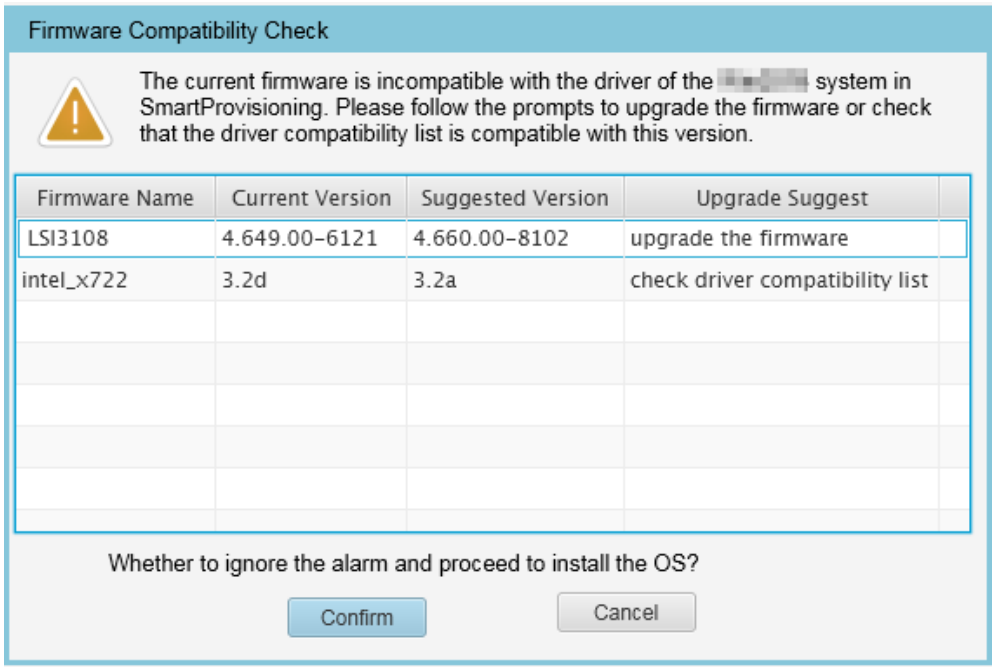
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-317** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-315** is displayed.

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Figure 4-315 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

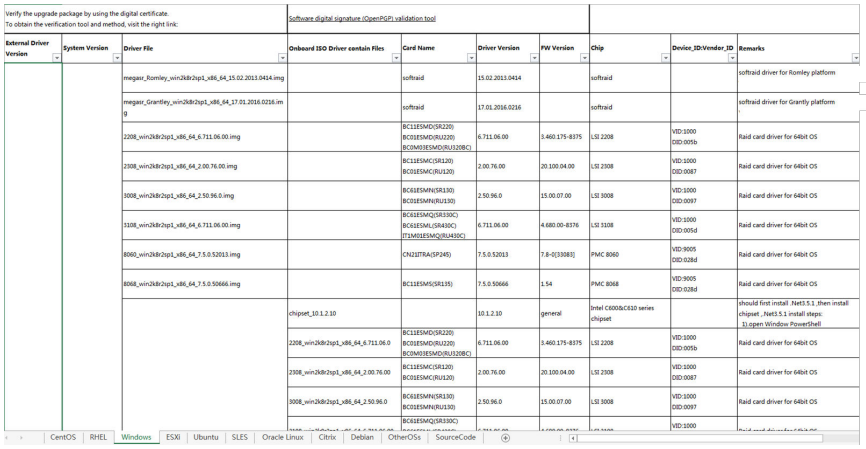
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-316**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-316 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-317**.

Figure 4-317 Window prompting you to insert the OS medium

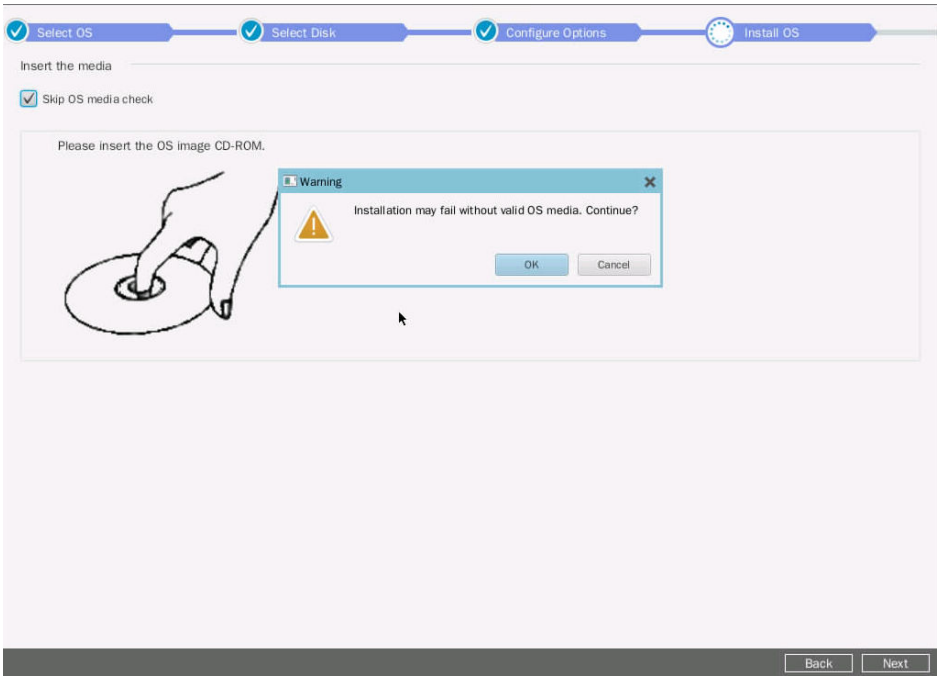


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-318**. Click **OK** or **Cancel** according to the actual situation.

Figure 4-318 Dialog box

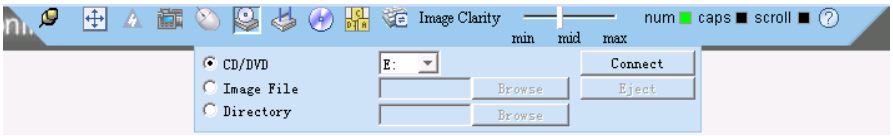


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-319**.

Figure 4-319 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 12 Click **Next**.

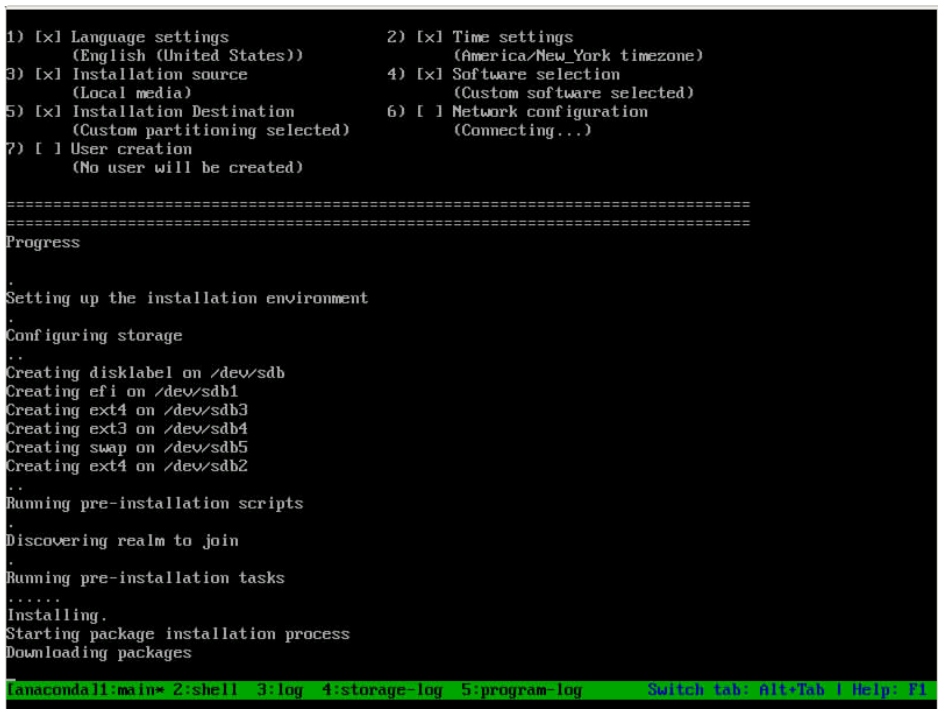
The OS installation starts, as shown in **Figure 4-320**.

Figure 4-320 Starting the installation



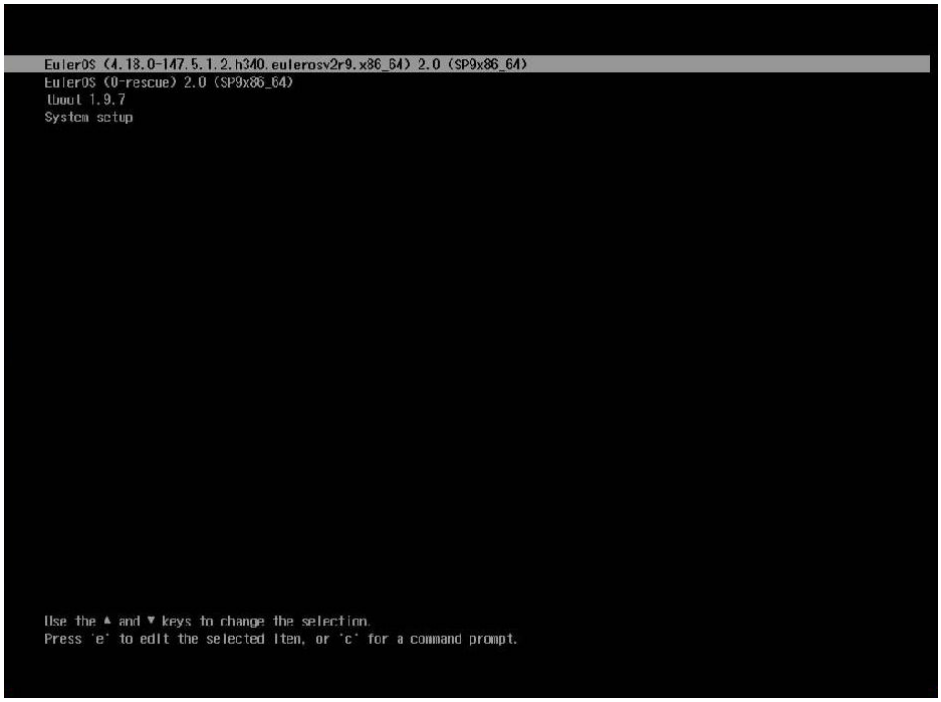
After Smart Provisioning installs the OS, the server automatically restarts. After the restart is complete, the OS deployment is started. See **Figure 4-321**.

Figure 4-321 Installation progress



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The following page is displayed after the system deployment is complete.



Perform the following operations as required.

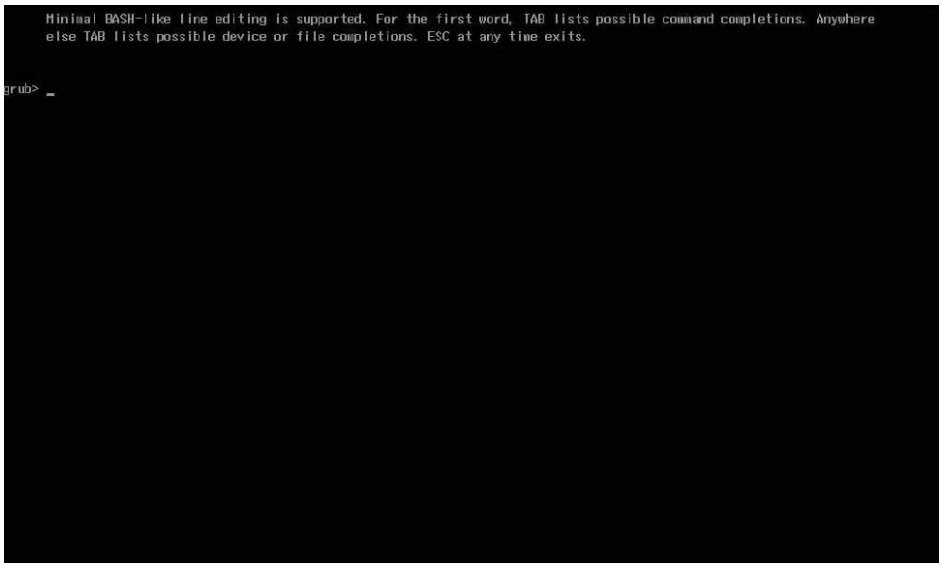
- Select an OS, press **Enter**, and enter the user name and password to log in to the OS.
- The GRUB screen is displayed if the OS is EulerOS Server V200R009C10 or later.

  a. Press **c** as prompted to go to the screen for entering the GRUB user name and password.

  b. Enter the GRUB user name (The default user name is **root**) and password as prompted. The GRUB page is displayed.

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To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.8.2 Installing EulerOS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-322**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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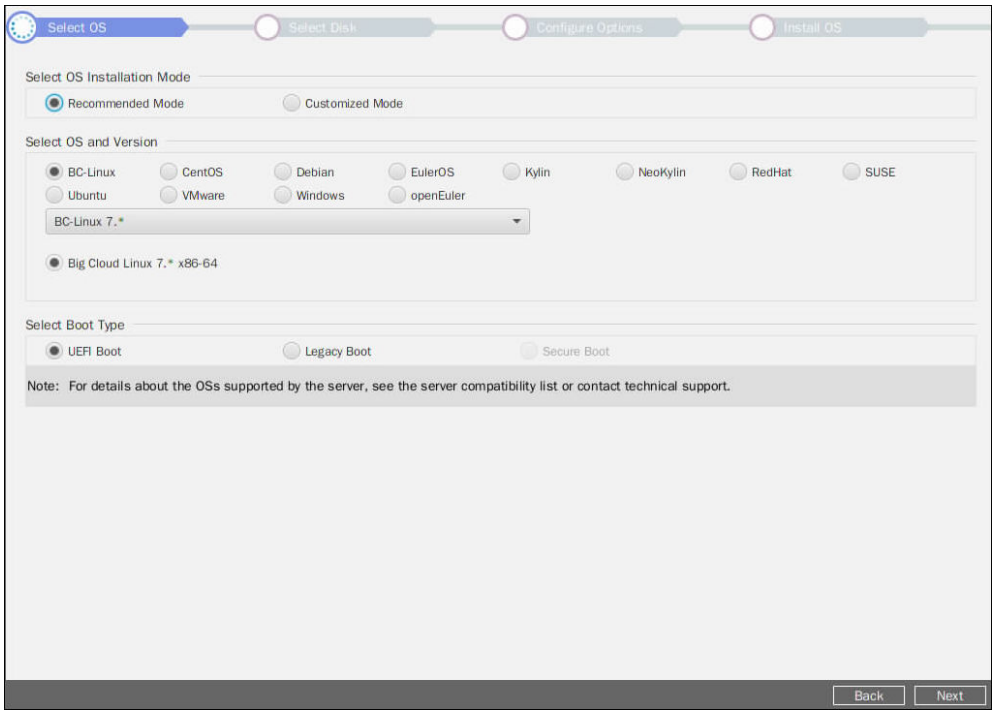
Figure 4-322 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-323**.

Figure 4-323 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

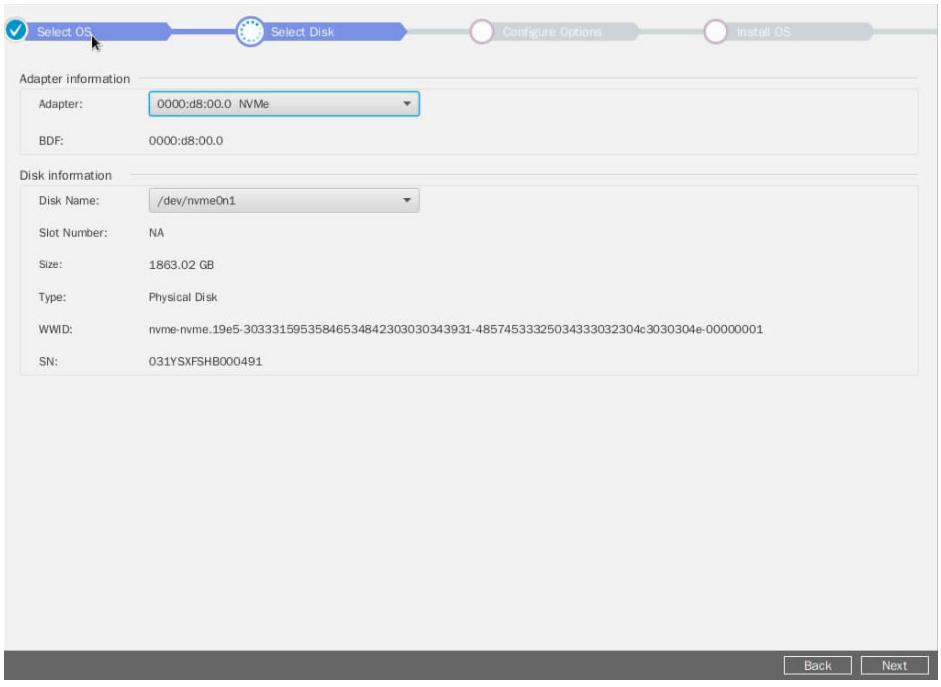
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, EulerOS * indicates all OSs of EulerOS.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-324**.

Figure 4-324 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

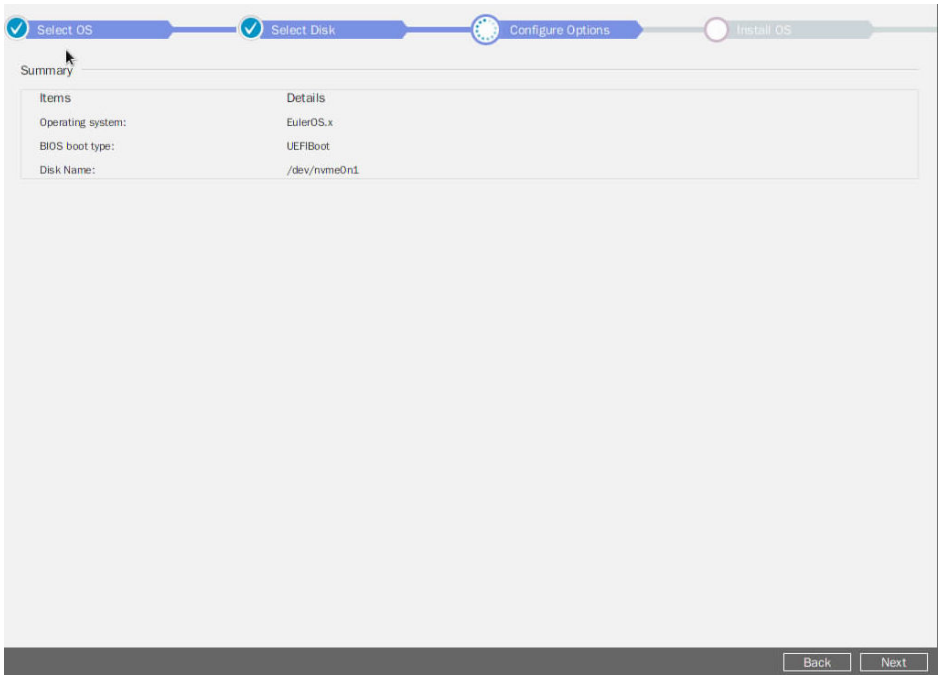
During the installation process, Smart Provisioning sets the selected hard disk to the boot disk.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-325**.

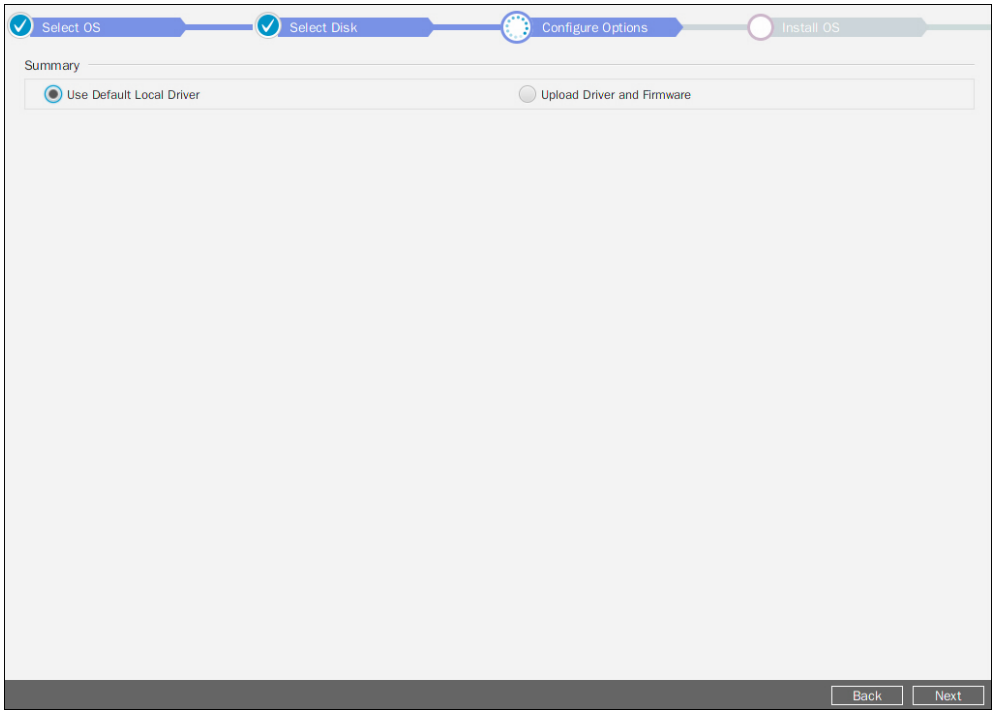
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Figure 4-325 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-326**.For details about configuration,see **Table 4-30**.

Figure 4-326 Viewing the configuration summary(2)



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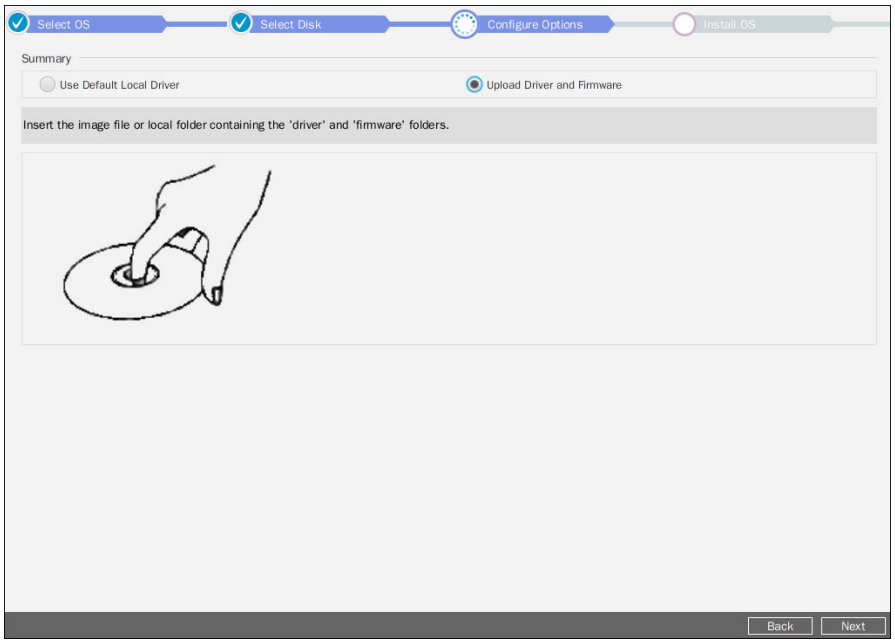
Table 4-30 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

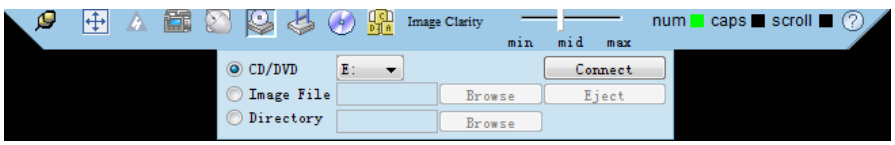
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-327**.

Figure 4-327 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-328**.

Figure 4-328 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

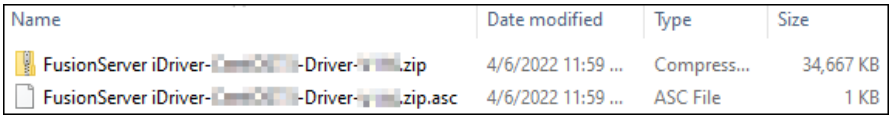
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-329**.

Figure 4-329 Folder



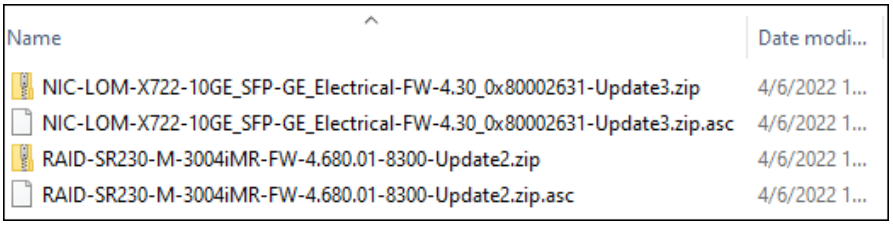
The **driver** folder is shown in **Figure 4-330**.

Figure 4-330 The **driver** folder



The **firmware** folder is shown in **Figure 4-331**.

Figure 4-331 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

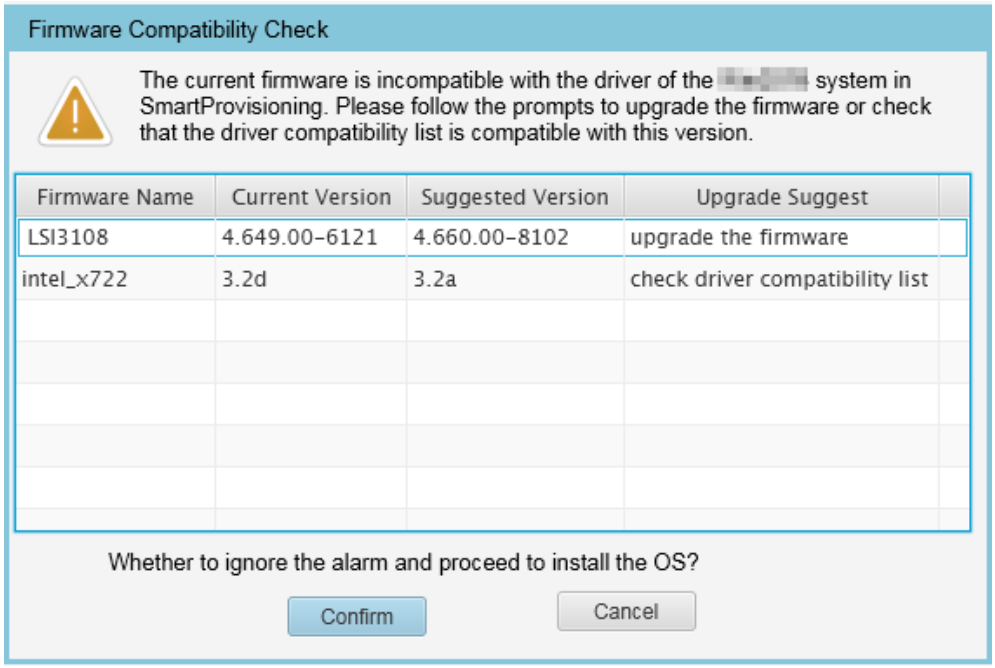
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the page shown in **Figure 4-334** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-332** is displayed.

Figure 4-332 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

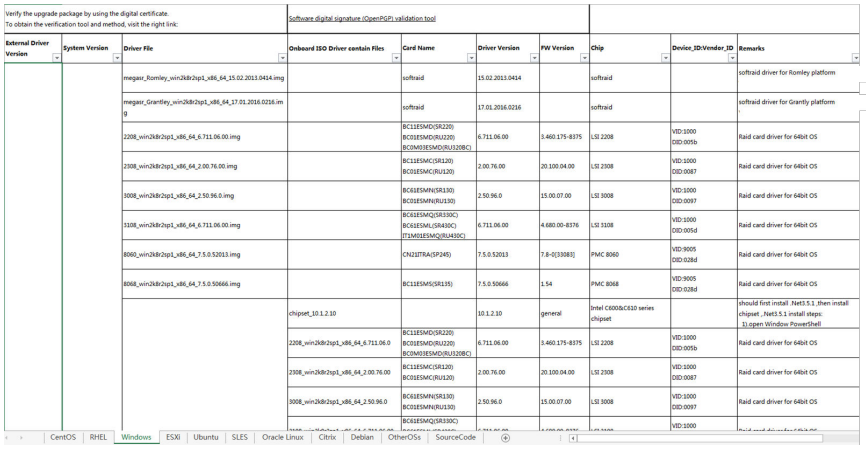
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-333**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-333 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-334**.

Figure 4-334 Window prompting you to insert the OS medium

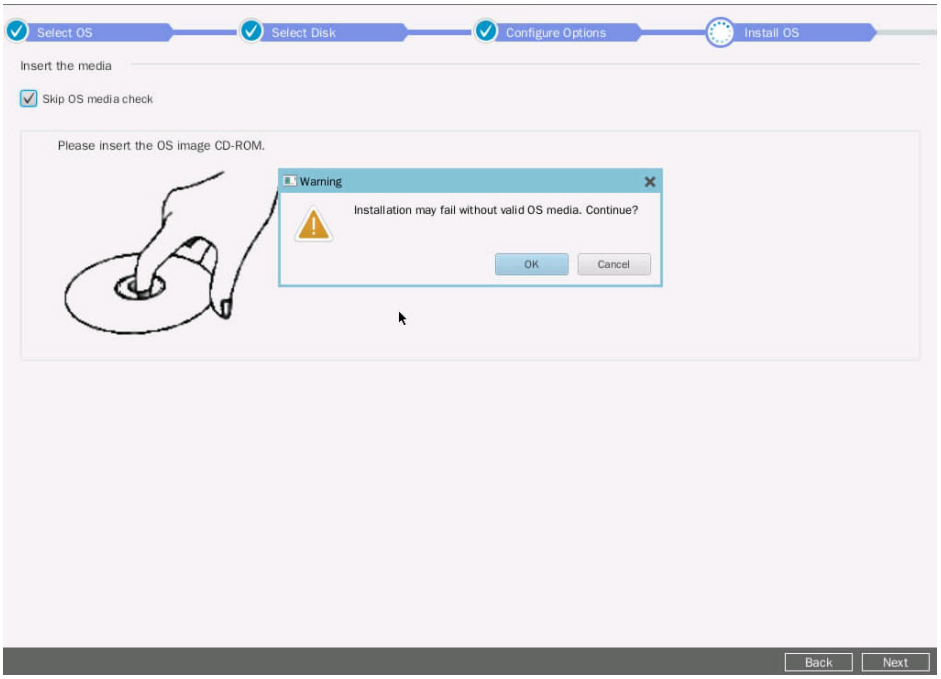


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-335**. Click **OK** or **Cancel**.

Figure 4-335 Dialog box

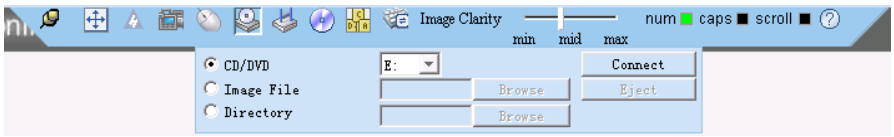


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-336**.

Figure 4-336 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 9 Click **Next**.

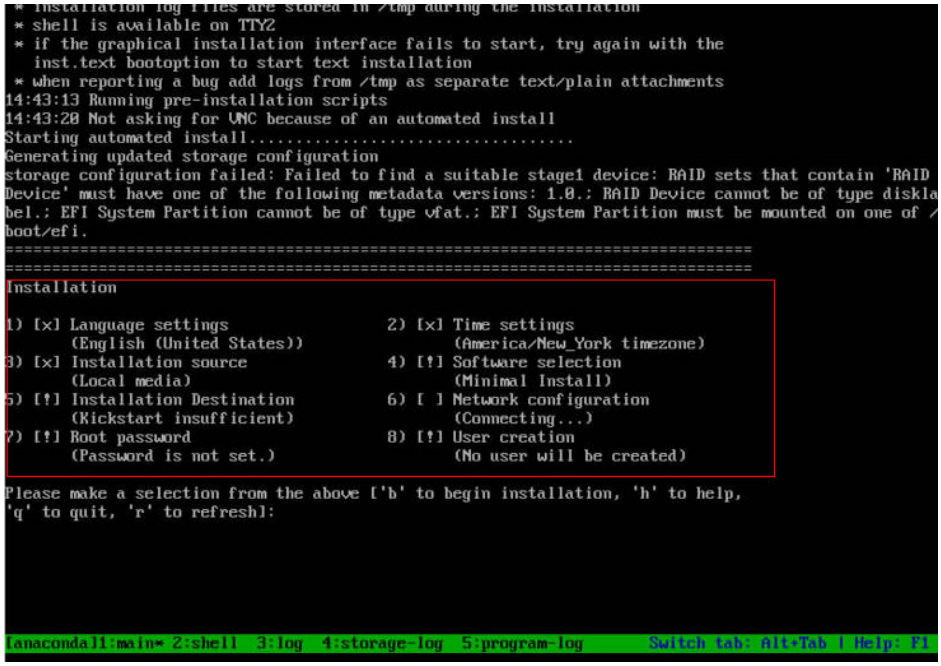
The OS installation starts, as shown in **Figure 4-337**.

Figure 4-337 Starting the installation



After OS installation is complete, the server automatically restarts. After the restart is complete, the window shown in **Figure 4-338** is displayed.

Figure 4-338 OS deployment screen



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NOTE

The **Installation** area lists the information that you need to set for deploying the OS. The information marked with **[!]** is mandatory, and the information marked with **[×]** is optional. If you do not set the information, the default settings are used.

The following describes how to set the language and software installation type. Set other parameters based on the prompted information.

Step 10 Set the language.

1. Enter **1** and press **Enter**.

   The available languages are displayed.

2. Enter **1** for English or **2** for Chinese as required and press **Enter**.

   For **1**, an English version needs to be specified, as shown in **Figure 4-339**. Enter a number such as **1** as required and press **Enter**.

Figure 4-339 Selecting an English version



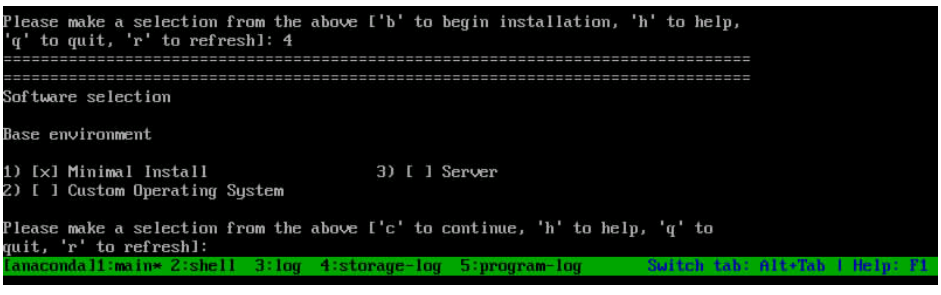
The language is set successfully. Enter **c** and press **Enter**.

Step 11 Select the software installation type.

1. Enter **4** and press **Enter**.

   The software installation types (**Minimal Install** is selected by default) are displayed, as shown in **Figure 4-340**.

Figure 4-340 Software installation types



2. Enter the number (such as **2**) corresponding to a software installation type, and press **Enter**.

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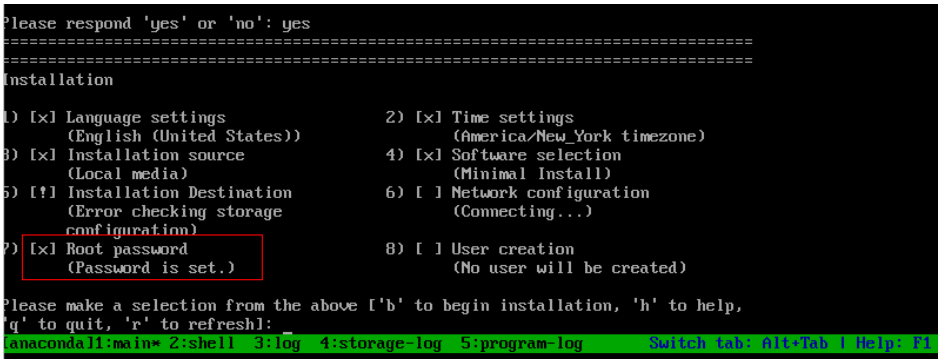
The software installation type is set. Enter **c** and press **Enter**.

Step 12 Set the password.

1. Enter **7** and press **Enter**.
2. Enter the password and press **Enter**.
3. Enter the password again and press **Enter**.

   If **Boot password** is marked with **[×]**, the password is set successfully, as shown in **Figure 4-341**. Enter **c** and press **Enter**.

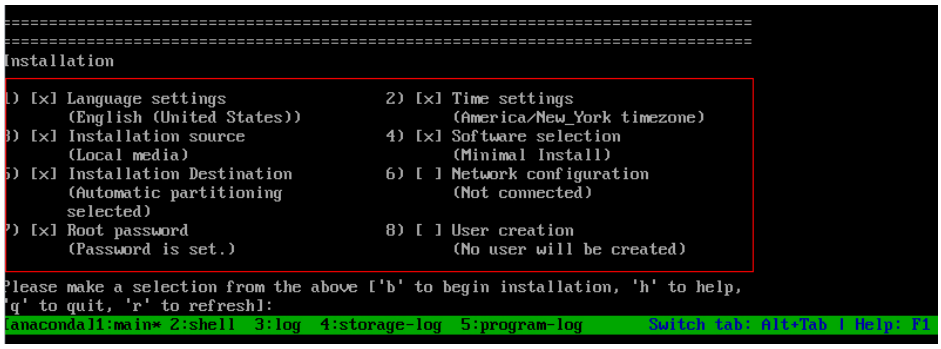
Figure 4-341 Setting the password



Step 13 Set other parameters as prompted.

If no configuration item is marked with **[!]**, the system configuration is complete. See **Figure 4-342**.

Figure 4-342 Prompt information



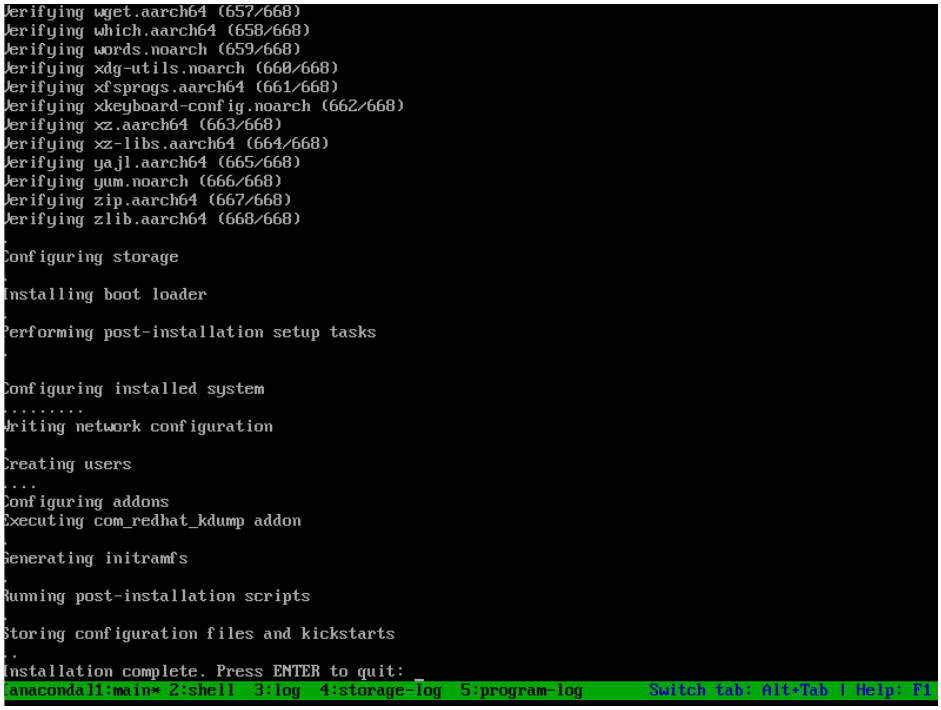
Step 14 Enter **b** and press **Enter**.

The OS deployment starts.

If the page shown in **Figure 4-343** is displayed, the deployment is complete.

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Figure 4-343 Deployment completed



Step 15 After the OS is deployed, press **Enter** to restart the server. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.9 Installing NeoKylin OS

4.4.1.9.1 Installing NeoKylin OS in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-344**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

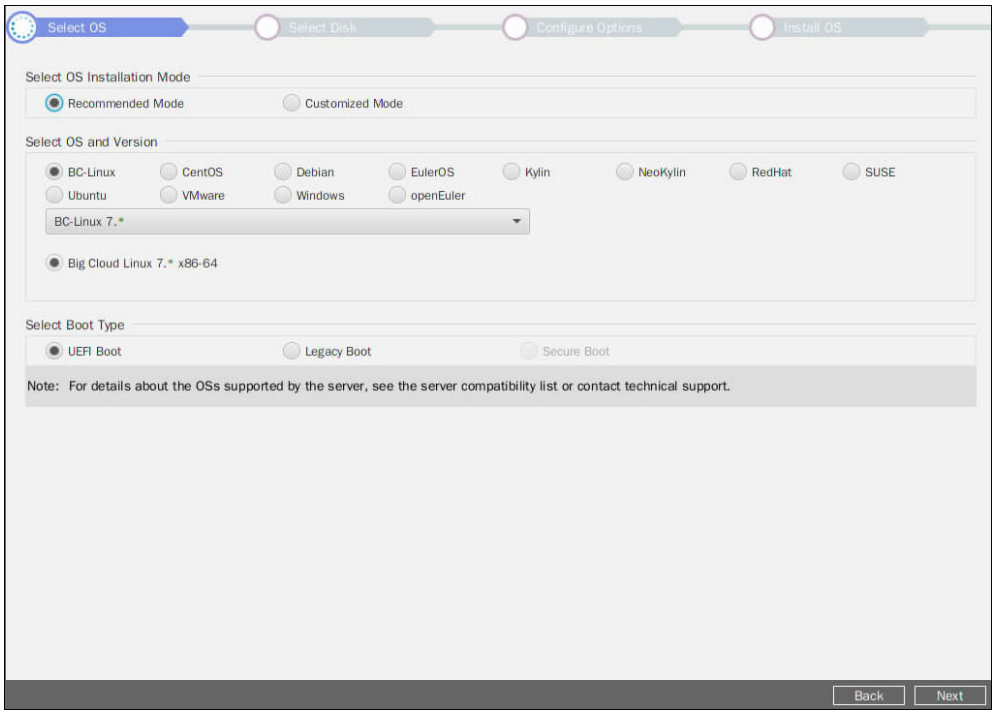
Figure 4-344 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-345**.

Figure 4-345 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

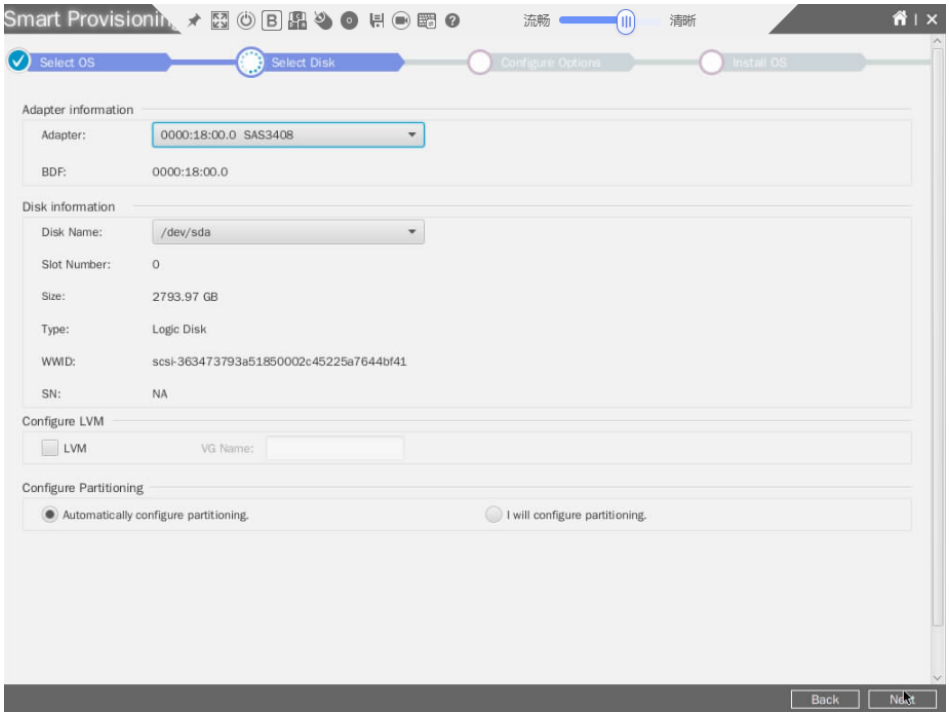
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * Indicates all operating systems of this series. For example, Kylin 10.* indicates all operating systems of the Kylin 10 series.
- If you select an OS marked with *, insert the OS medium of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS medium. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-346**.

Figure 4-346 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

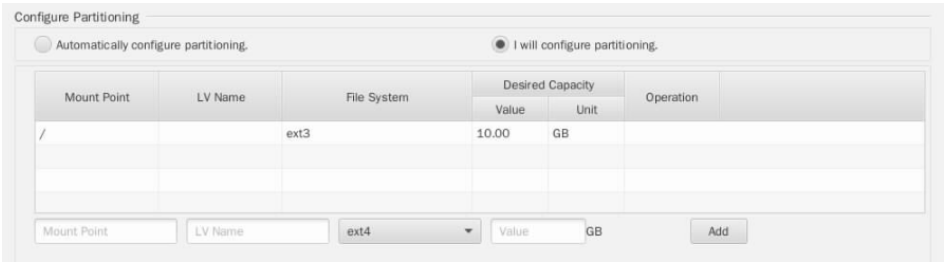
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Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select **Automatically configure partitioning**(automatic partitioning) or **I will configure partitioning**(manual partitioning). If automatic partitioning is selected, the system automatically creates partitions. If manual partitioning is selected, the window shown in **Figure 4-347** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-347 Creating partitions manually

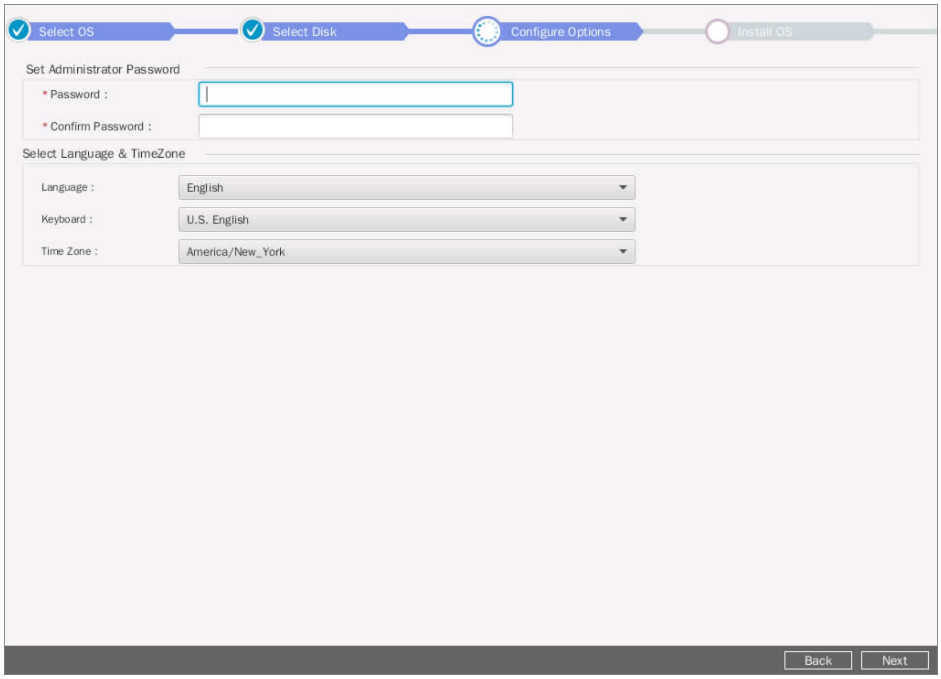


Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-348**.

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Figure 4-348 Setting the password of the **root** user, language, keyboard, and time zone



NOTE

- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-349** is displayed, indicating that the OS version does not support the installation of third-party software.

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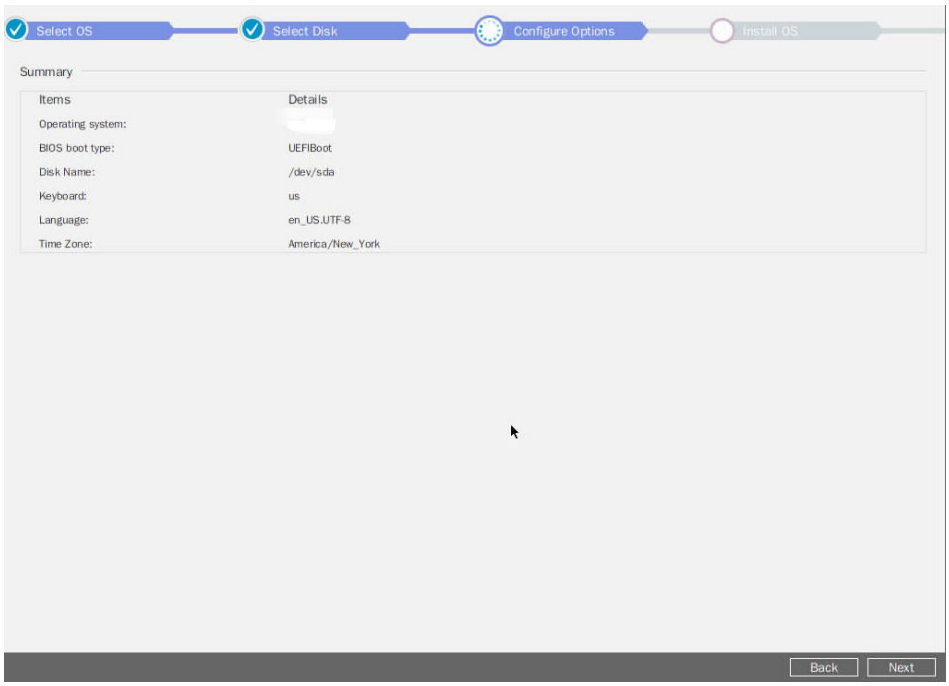
Figure 4-349 Confirmation dialog box



Step 9 Click **Next**.

The configuration summary window is displayed. See **Figure 4-350**.

Figure 4-350 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-351**.For details about configuration,see **Table 4-31**.

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Figure 4-351 Viewing the configuration summary(2)

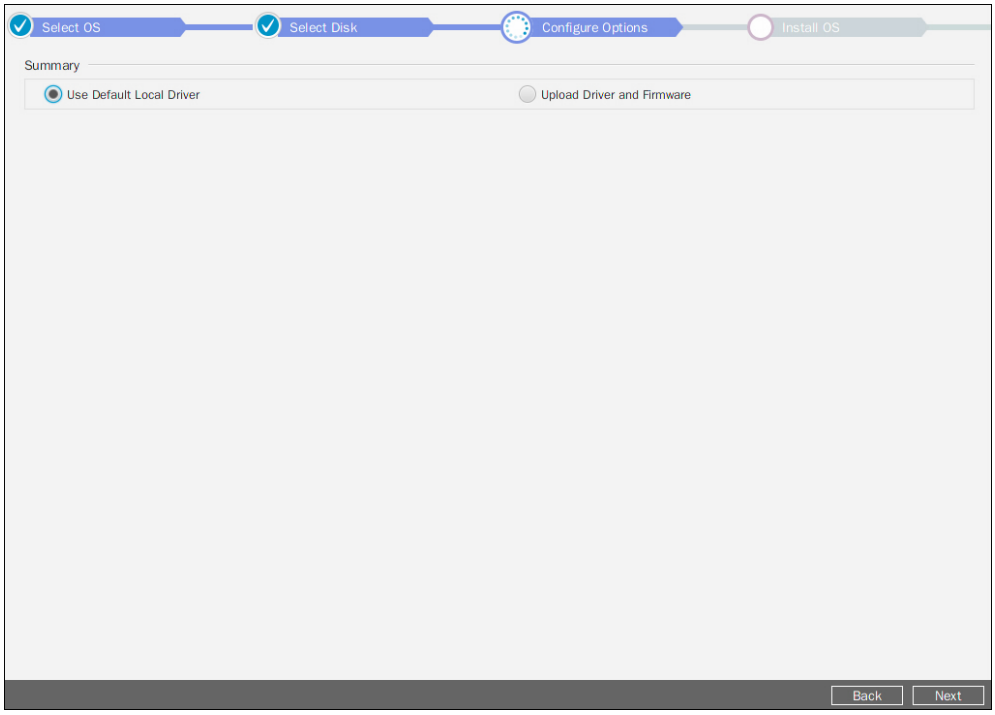


Table 4-31 Configuration Description

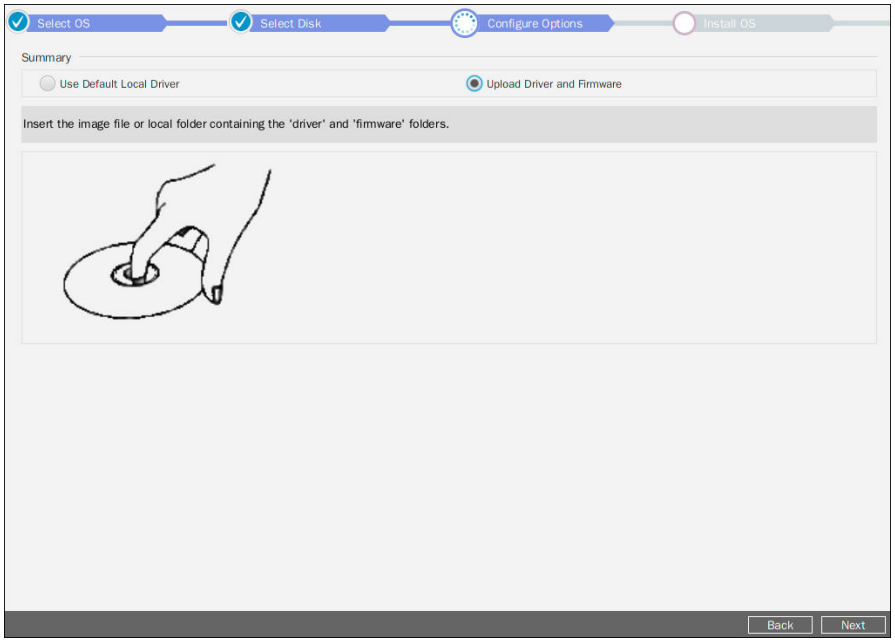
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-352**.

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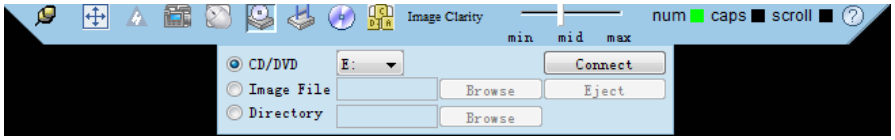
Figure 4-352 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-353**.

Figure 4-353 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

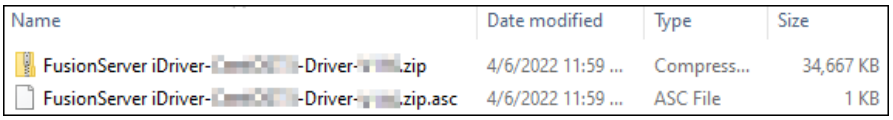
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-354**.

Figure 4-354 Folder



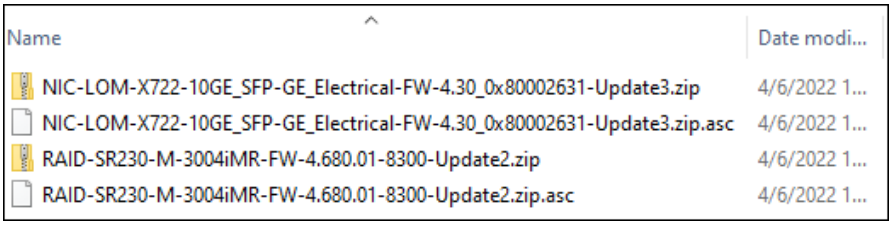
The **driver** folder is shown in **Figure 4-355**.

Figure 4-355 The **driver** folder



The **firmware** folder is shown in **Figure 4-356**.

Figure 4-356 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

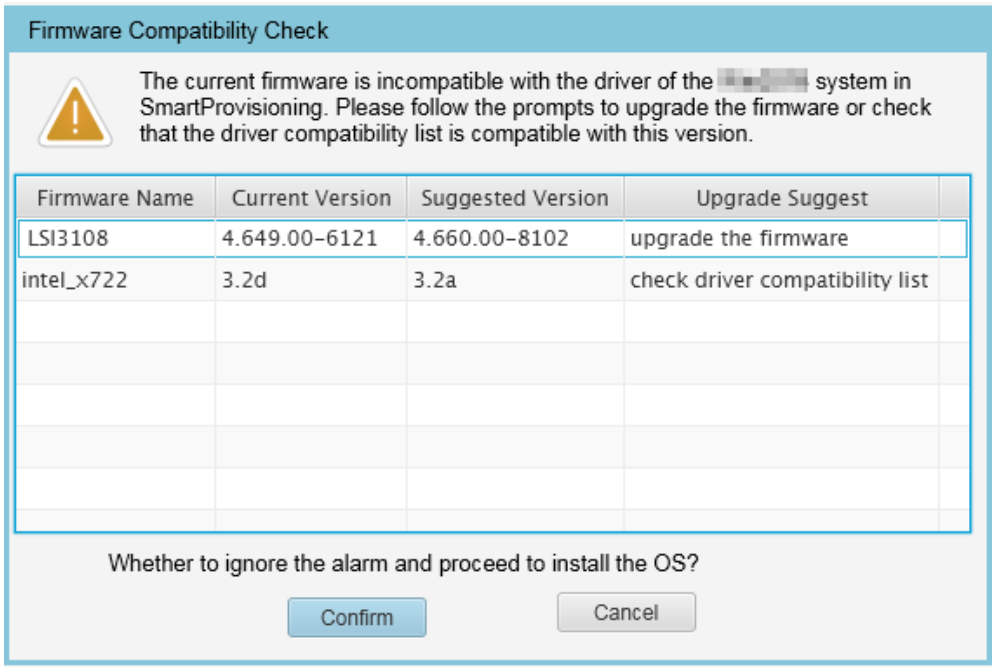
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-359** is displayed. If not, the dialog box shown in **Figure 4-357** is displayed.

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Figure 4-357 Confirmation dialog box



- If the current firmware version is earlier than the target version, upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

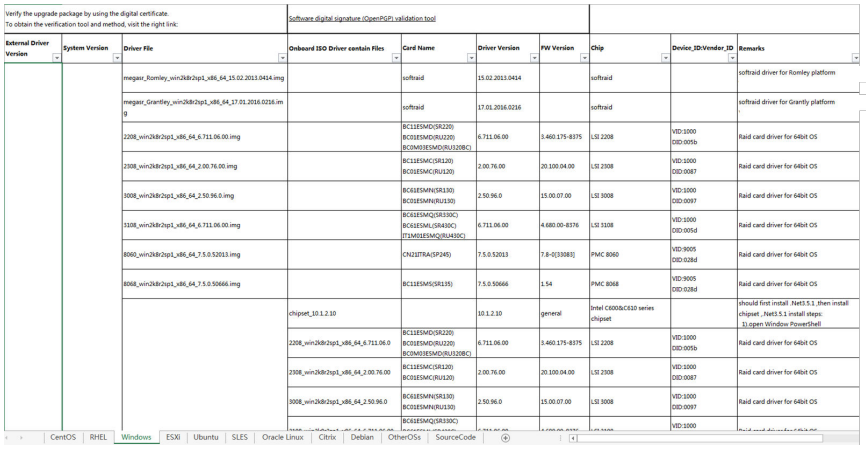
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-358**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the corresponding version in the driver mapping table after installing the OS.

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Figure 4-358 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vender_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 10 The window prompting you to insert the OS medium is displayed. See **Figure 4-359**.

Figure 4-359 Window prompting you to insert the OS medium

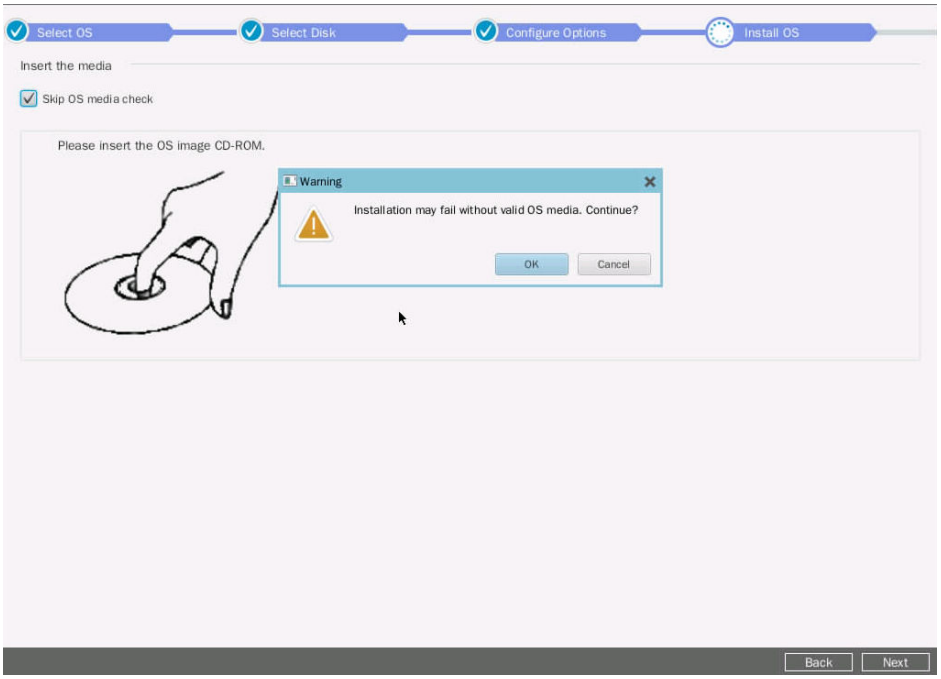


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-360**. Click **OK** or **Cancel** as required.

Figure 4-360 Confirmation dialog box

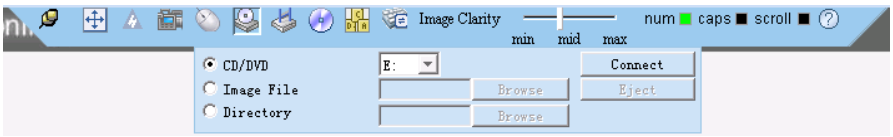


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-361**.

Figure 4-361 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD-ROM drive dialog box, click **Connect**.

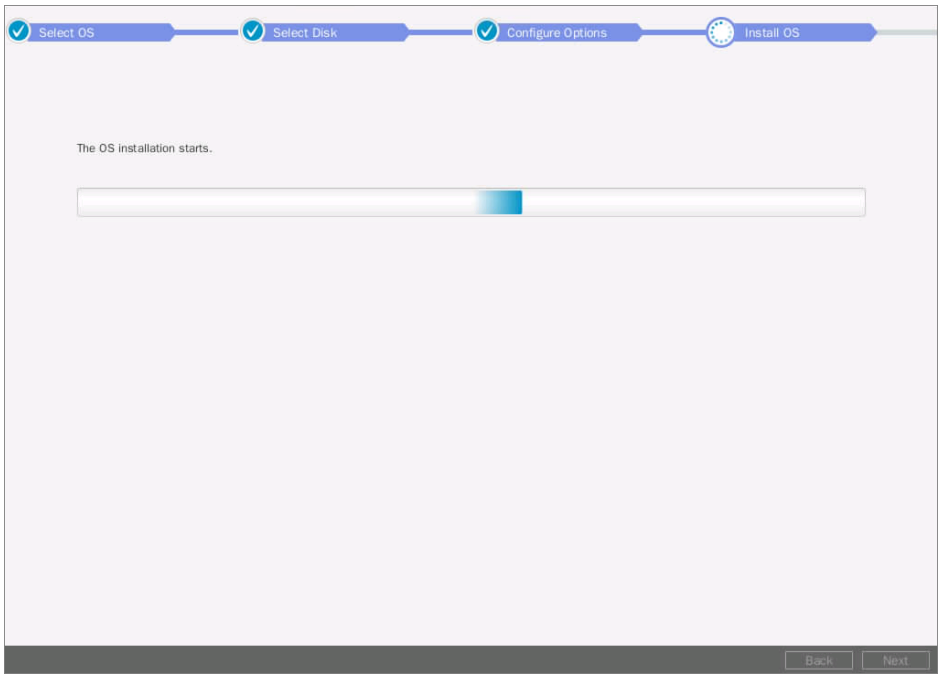
   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 12 Click **Next**.

The OS installation starts, as shown in **Figure 4-362**.

Figure 4-362 Starting the installation



After the OS installation starts, the server restarts automatically. After the server has been restarted, the window shown in **Figure 4-363** is displayed.

Figure 4-363 INSTALLATION SUMMARY



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About 2 minutes later, the OS installation will be performed automatically. See **Figure 4-364**.

Figure 4-364 Installing the OS



NOTE

During Kylin OS installation, if an OS of the same type has been installed, a prompt will be displayed. Confirm the prompt information manually.

After the OS has been installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.9.2 Installing NeoKylin OS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-365**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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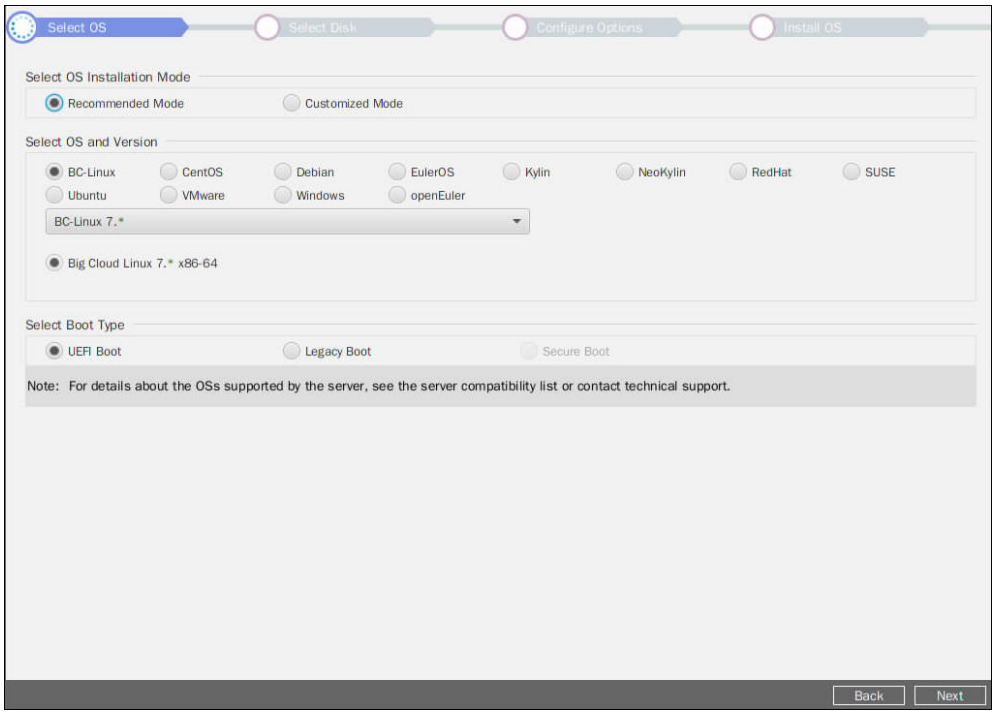
Figure 4-365 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-366**.

Figure 4-366 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

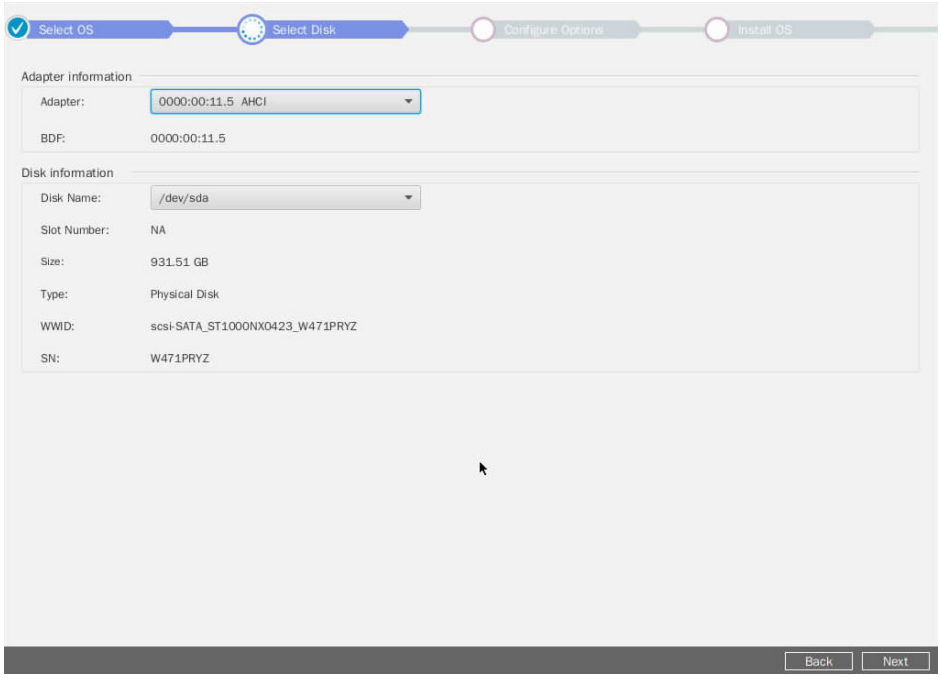
Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * Indicates all operating systems of this series. For example, Kylin 10.* indicates all operating systems of the Kylin 10 series.
- If you select an OS marked with *, insert the OS medium of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS medium. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-367**.

Figure 4-367 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

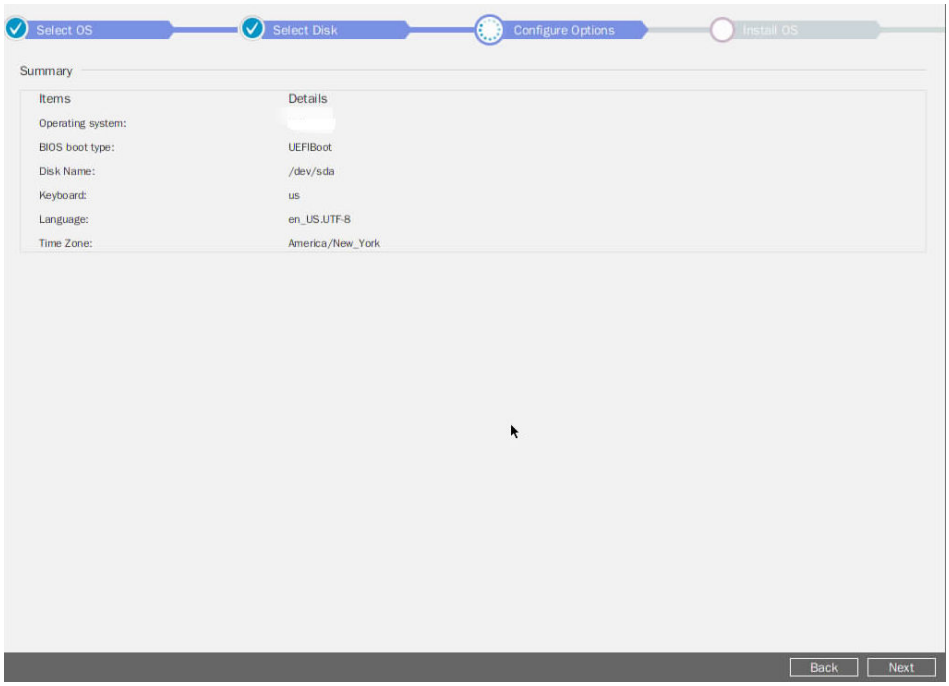
- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- After an installation hard drive is selected, record the value of **WWID**. This value will be used in**Step 18**.

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Step 6 Click **Next**.

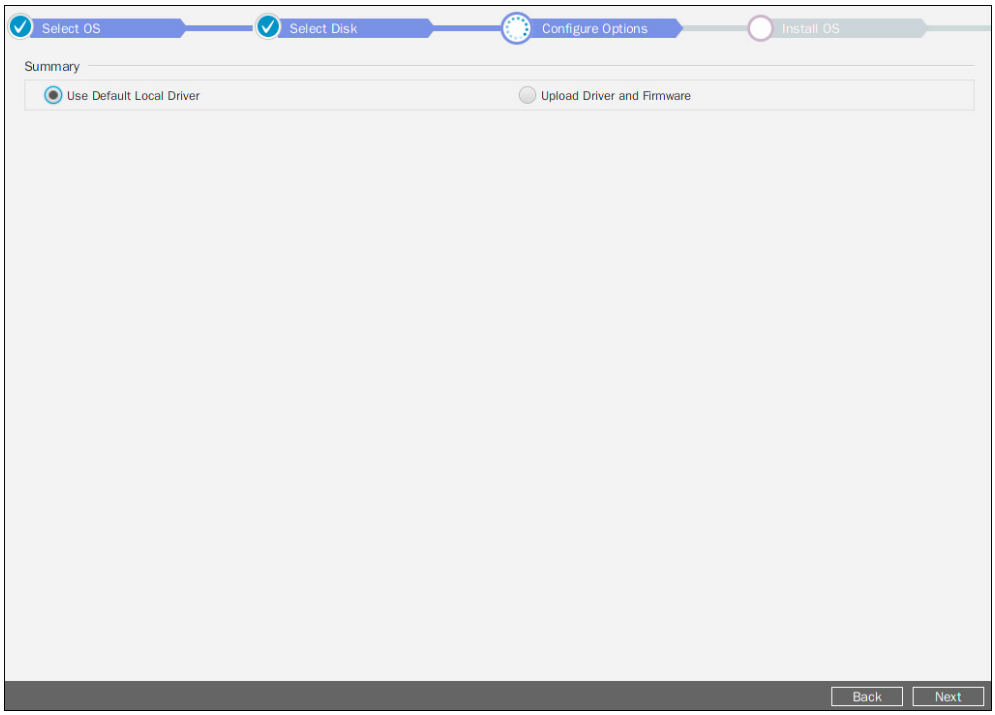
The configuration summary window is displayed, as shown in **Figure 4-368**.

Figure 4-368 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-369**.For details about configuration,see **Table 4-32**.

Figure 4-369 Viewing the configuration summary(2)



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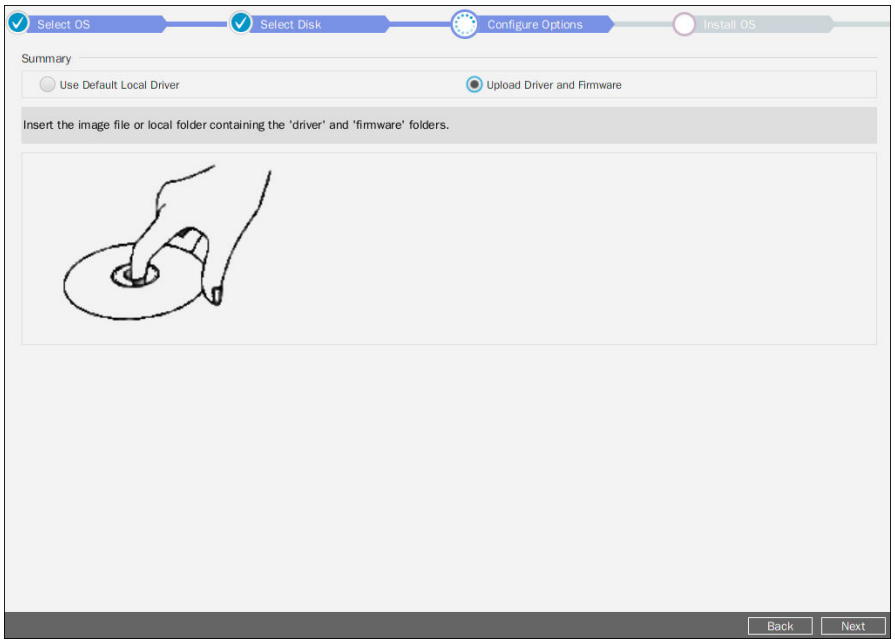
Table 4-32 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

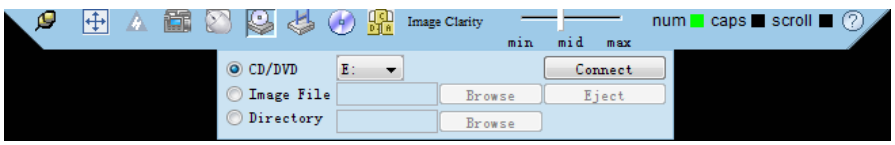
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-370**.

Figure 4-370 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-371**.

Figure 4-371 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

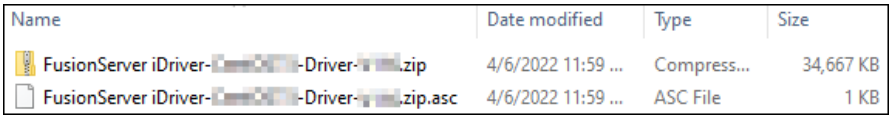
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-372**.

Figure 4-372 Folder



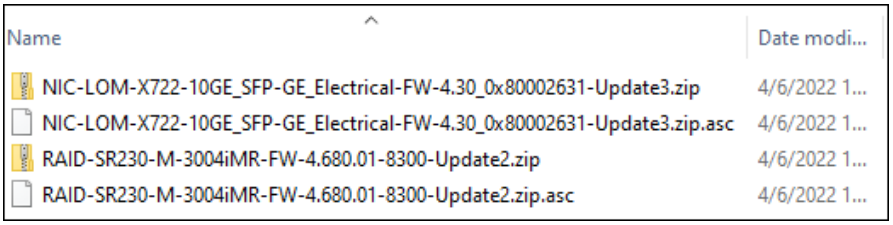
The **driver** folder is shown in **Figure 4-373**.

Figure 4-373 The **driver** folder



The **firmware** folder is shown in **Figure 4-374**.

Figure 4-374 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

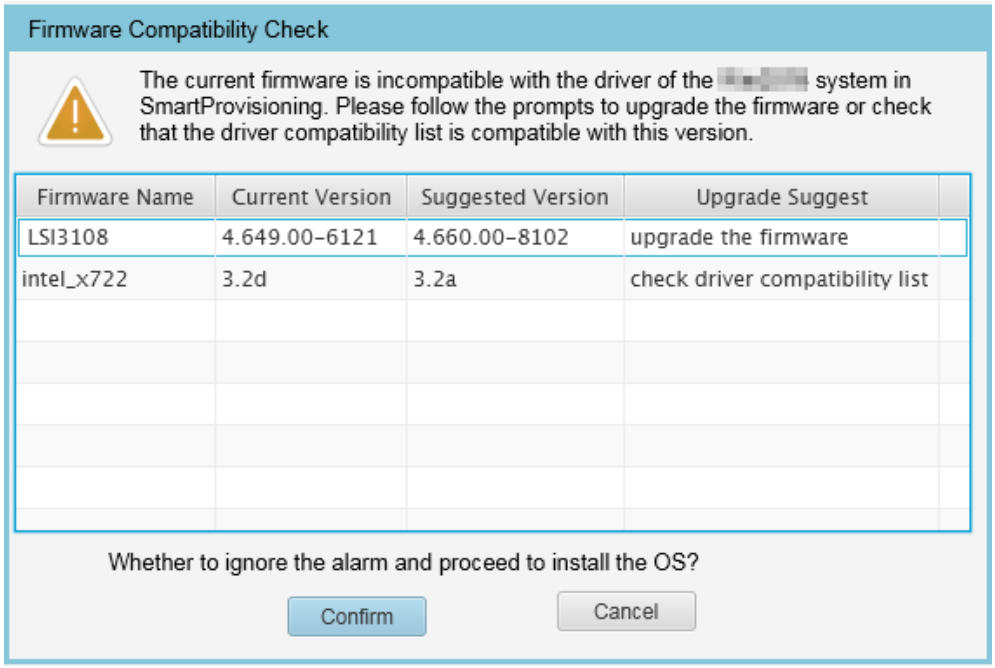
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-377** is displayed. If not, the dialog box shown in **Figure 4-375** is displayed.

Figure 4-375 Confirmation dialog box



- If the current firmware version is earlier than the target version, upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

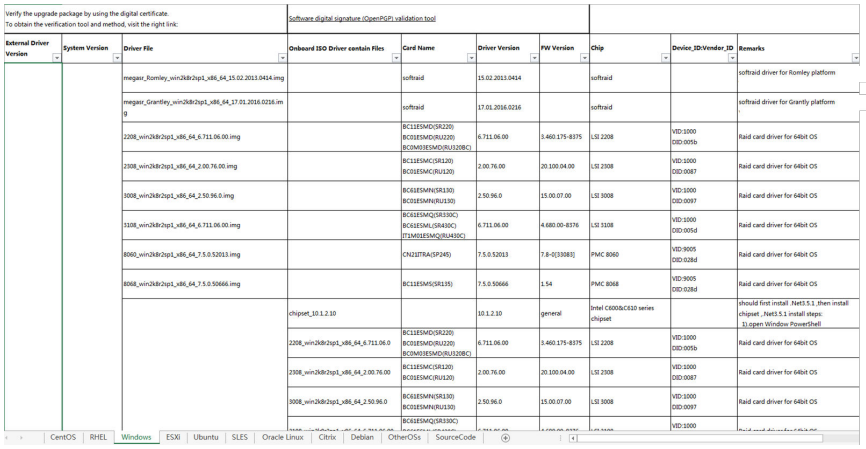
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-376**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the corresponding version in the driver mapping table after installing the OS.

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Figure 4-376 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vender_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed. See **Figure 4-377**.

Figure 4-377 Window prompting you to insert the OS medium

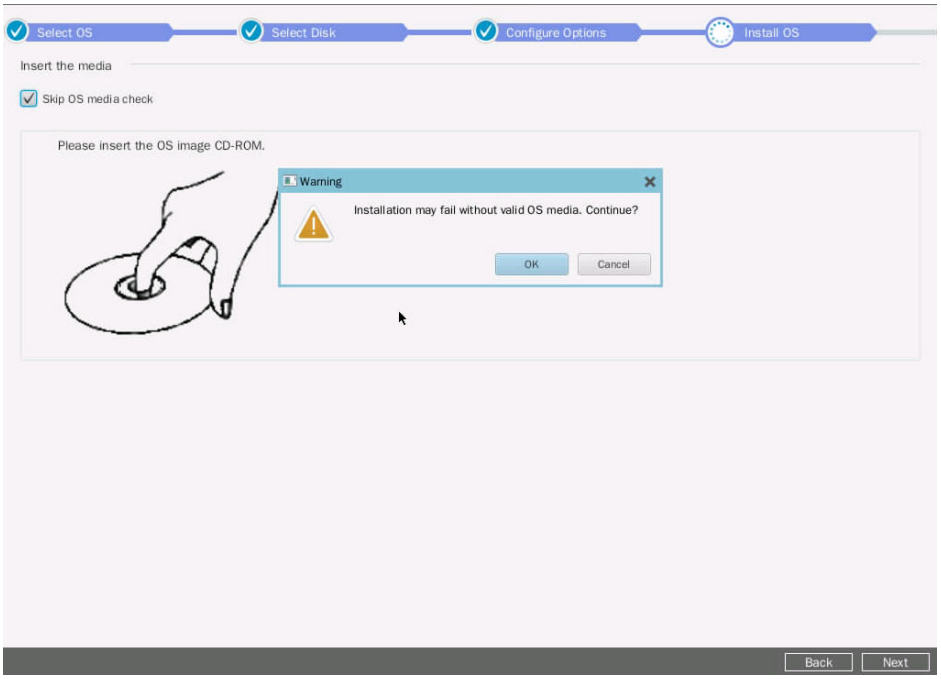


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-378**. Click **OK** or **Cancel** as required.

Figure 4-378 Confirmation dialog box

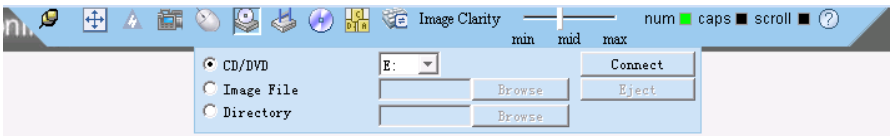


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-379**.

Figure 4-379 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD-ROM drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-380**.

Figure 4-380 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **INSTALLATION SUMMARY** is displayed.

Step 10 Select an installation language and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 11 Click **TIME & DATE**.

The window for setting the time and date zone is displayed, as shown in**Figure 4-381**.

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Figure 4-381 Setting the time and date zone



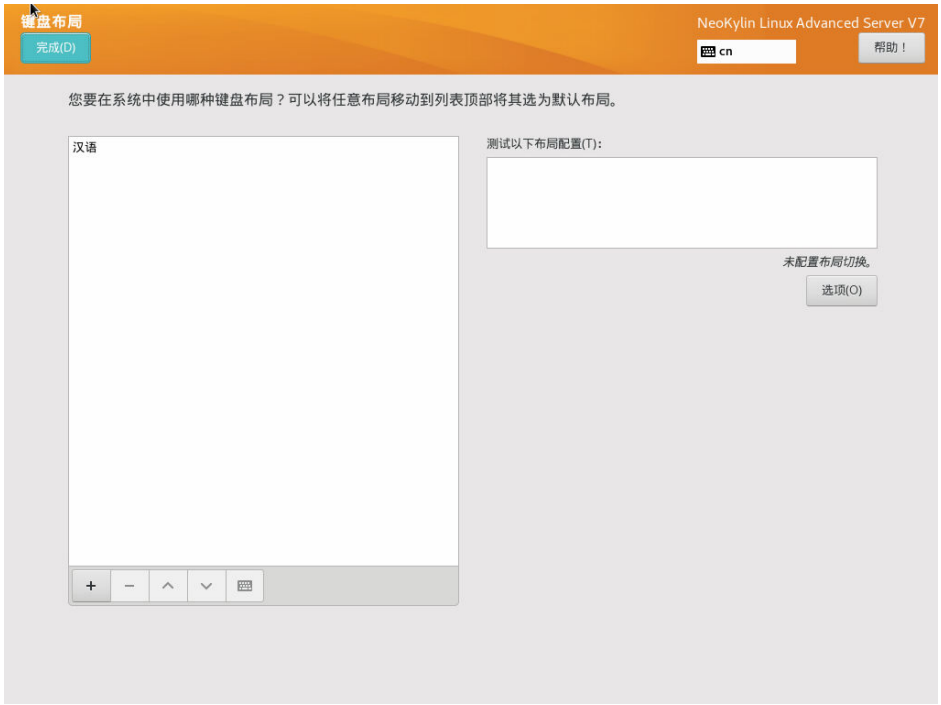
Step 12 Set the time and date zone, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 13 Click **KEYBOARD**.

The window for setting the keyboard is displayed, as shown in**Figure 4-382**

Figure 4-382 Setting the keyboard.



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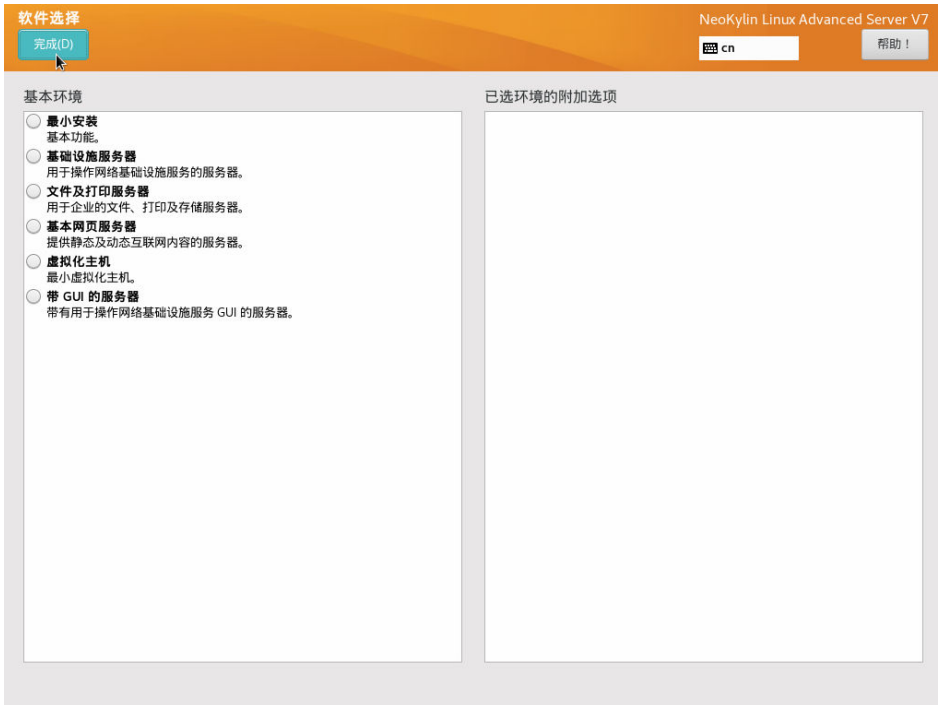
Step 14 Set the keyboard, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 15 Click **Software Selection**.

The window for setting the software selection is displayed, as shown in**Figure 4-383**.

Figure 4-383 Setting the Software Selection



Step 16 Select the software packages to be installed and click **DONE**.

The **INSTALLATION SUMMARY** window is displayed.

Step 17 Click **INSTALLATION DESTINATION**.

The hard drive selection window is displayed, as shown in**Figure 4-384**.

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Figure 4-384 Selecting a hard drive



Step 18 Choose **Local Standard Disks**, select the hard drive selected in **Step 5** and deselect other hard drives.

NOTE

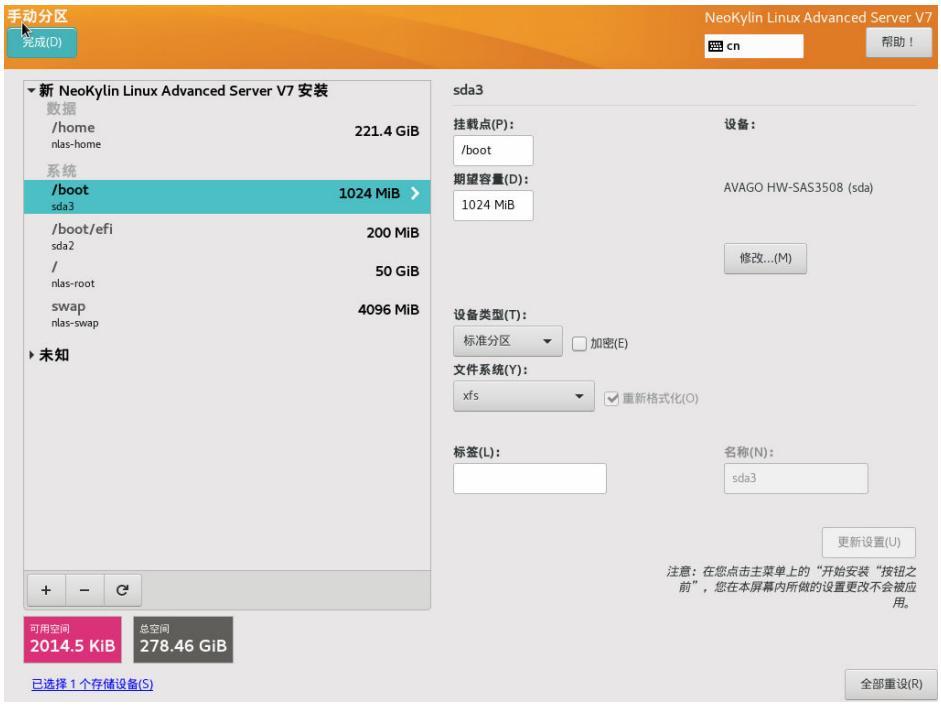
Move the cursor to the icon, name, or drive letter of the hard drive to view the hard drive ID, The ID must be the same as the character after **scsi-3** in the value of **WWID** of the hard drive selected in**Step 5**.

Step 19 Choose **Device Selection** > **Partitioning**, , and select a partition mode. Automatic partitioning and customized partitioning are supported.

- To use the automatic partitioning mode, select **Automatically configure partitioning**.
- To use the customized partitioning mode, select **I will configure partitioning** and click **Done**. The window shown in**Figure 4-385** is displayed.

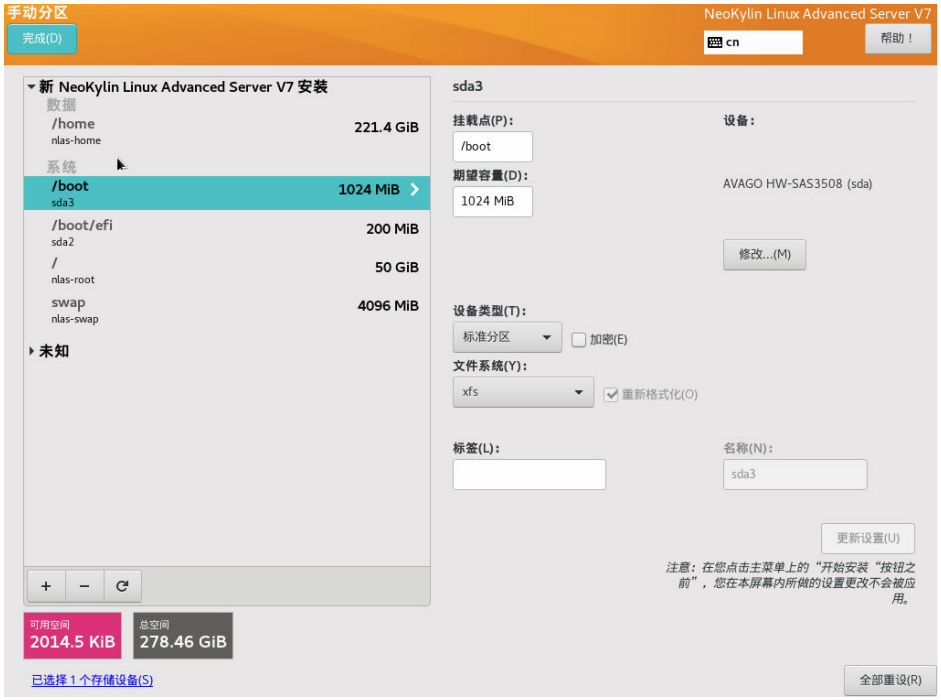
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Figure 4-385 Customized partitioning



You can click + to create partitions. At least four partitions are required, including **/boot/efi**, **/boot**, **swap**, and **/**. You can also click **Click here to create them automatically** to automatically create partitions, as shown in**Figure 4-386**.

Figure 4-386 Creating partitions



Step 20 Click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

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Step 21 Click **Begin Installation**.

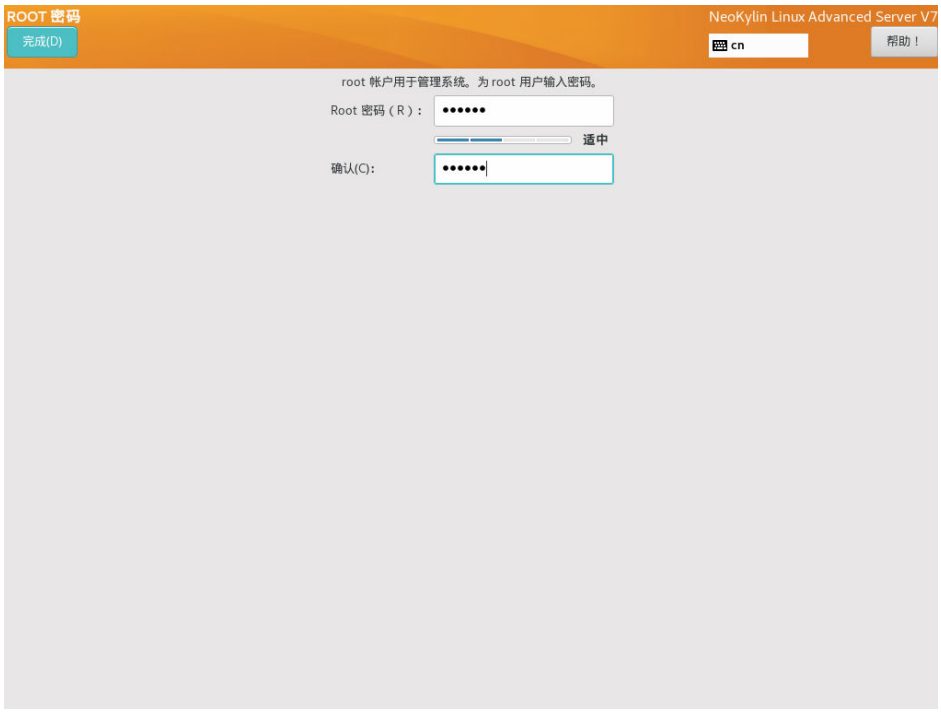
The OS installation starts, as shown in**Figure 4-387**.

Figure 4-387 INSTALLATION SUMMARY



Step 22 Click "Root Password" and set the password of the **root** user, as shown in**Figure 4-388**.

Figure 4-388 Setting the password of the root user



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NOTE

- The password must contain at least six characters.
- The password cannot contain spaces and #$.

Step 23 Set the password of the **root** user and click **Done.**

After the OS has been installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.10 Installing openEulerOS

4.4.1.10.1 Installing openEuler in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in .**Figure 4-389**

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-389 Smart Provisioning main window

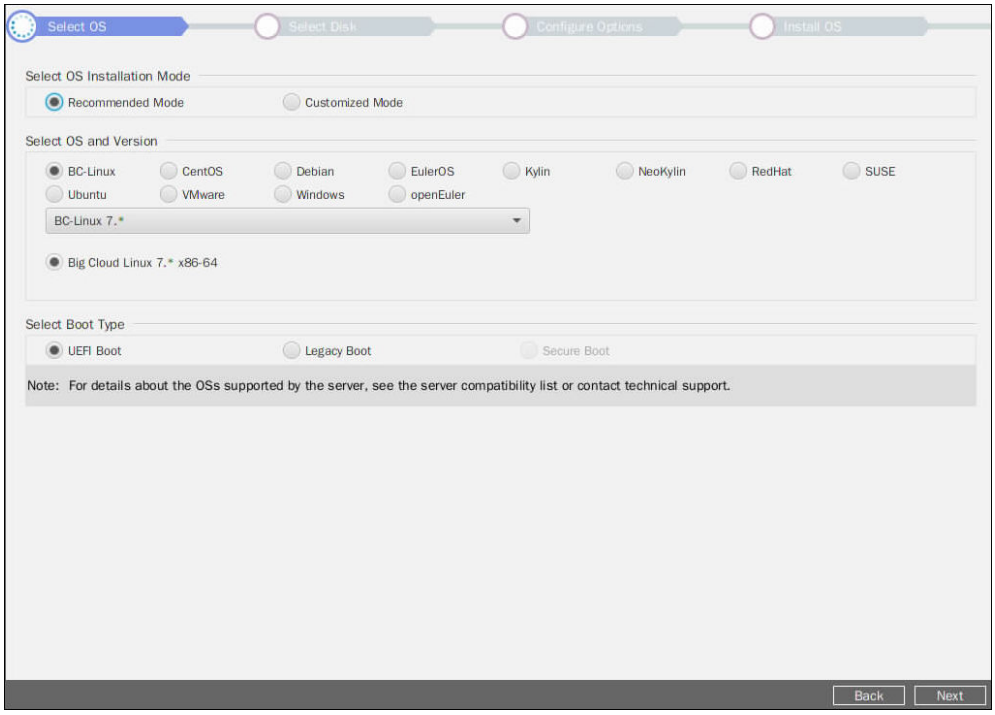


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-390**.

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Figure 4-390 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

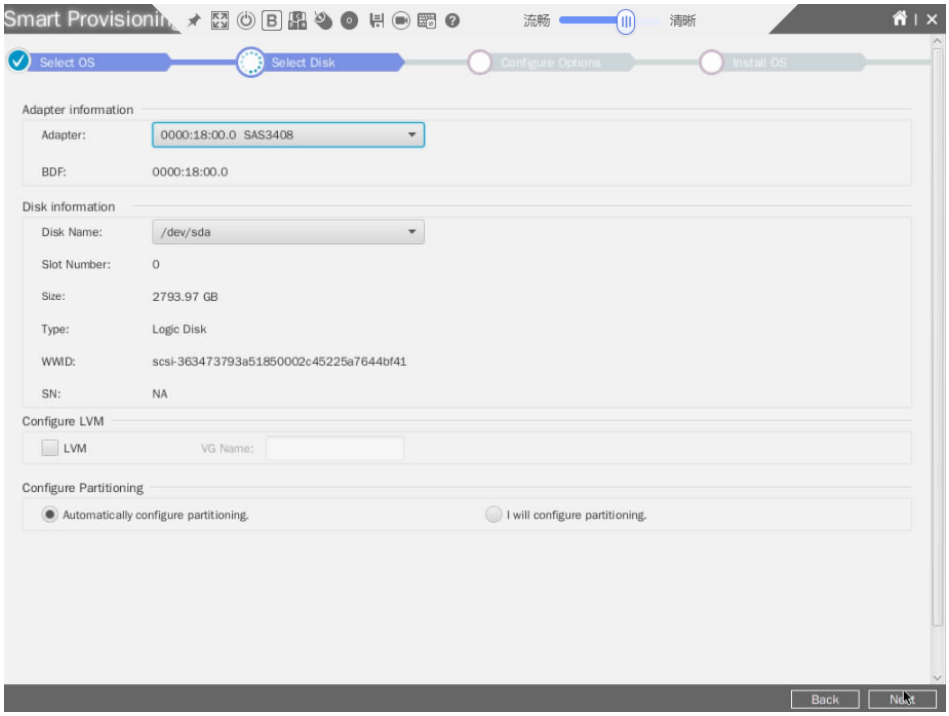
NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, openEuler * indicates all OSs of openEuler.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-391**.

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Figure 4-391 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

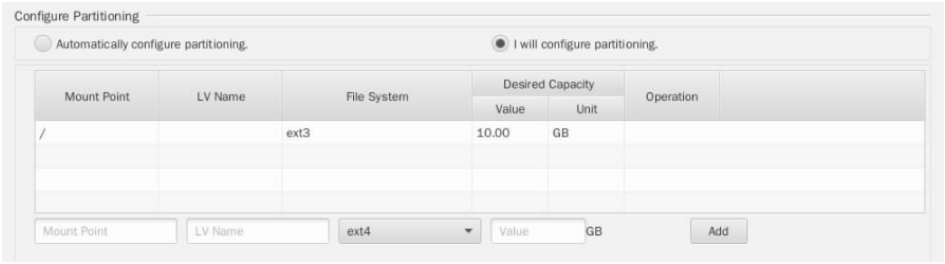
Step 6 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard disk as the boot disk.
- In this window, you can select the automatic partitioning mode (by selecting **Automatically configure partitioning**) or manual partitioning mode (by selecting **I will configure partitioning**). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-392** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard disk partitions must be on the same hard disk or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

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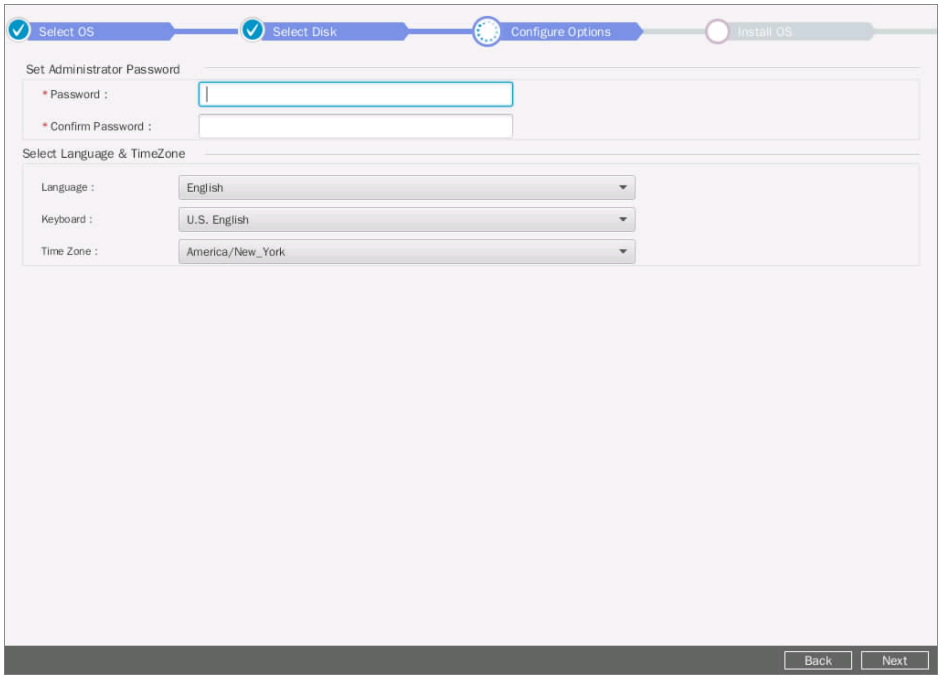
Figure 4-392 Manual partitioning



Step 7 Click **Next**.

The window for setting the password of user **root**, language, keyboard, and time zone is displayed, as shown in **Figure 4-393**.

Figure 4-393 Setting the password of user root, language, keyboard, and time zone



NOTE

- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of user **root**, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-394** is displayed, indicating that the OS version does not support the installation of third-party software.

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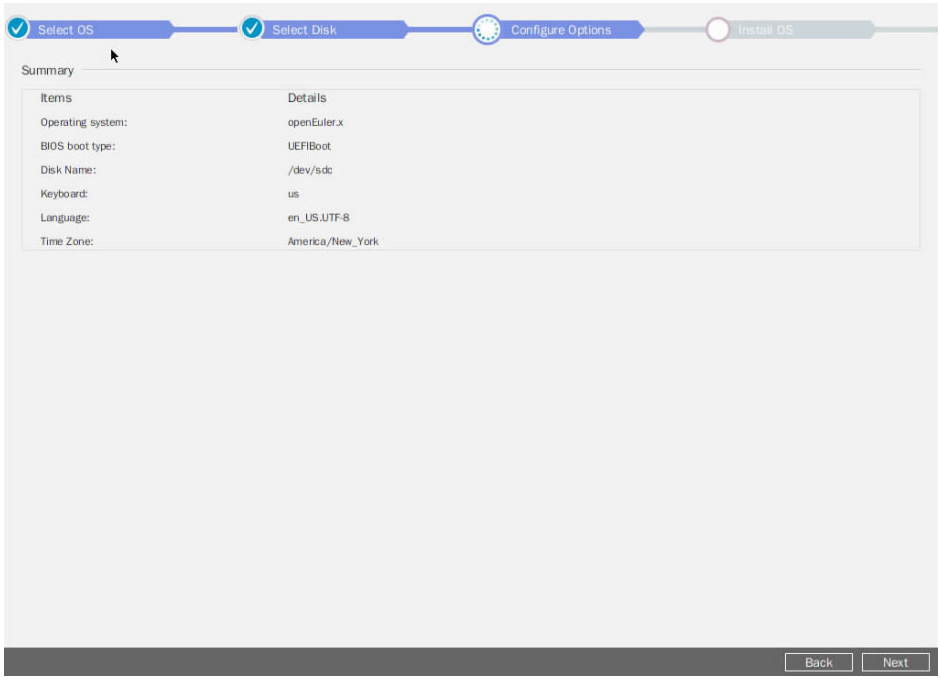
Figure 4-394 Window



Step 9 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-395**.

Figure 4-395 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-396**.For details about configuration,see **Table 4-33**.

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Figure 4-396 Viewing the configuration summary(2)

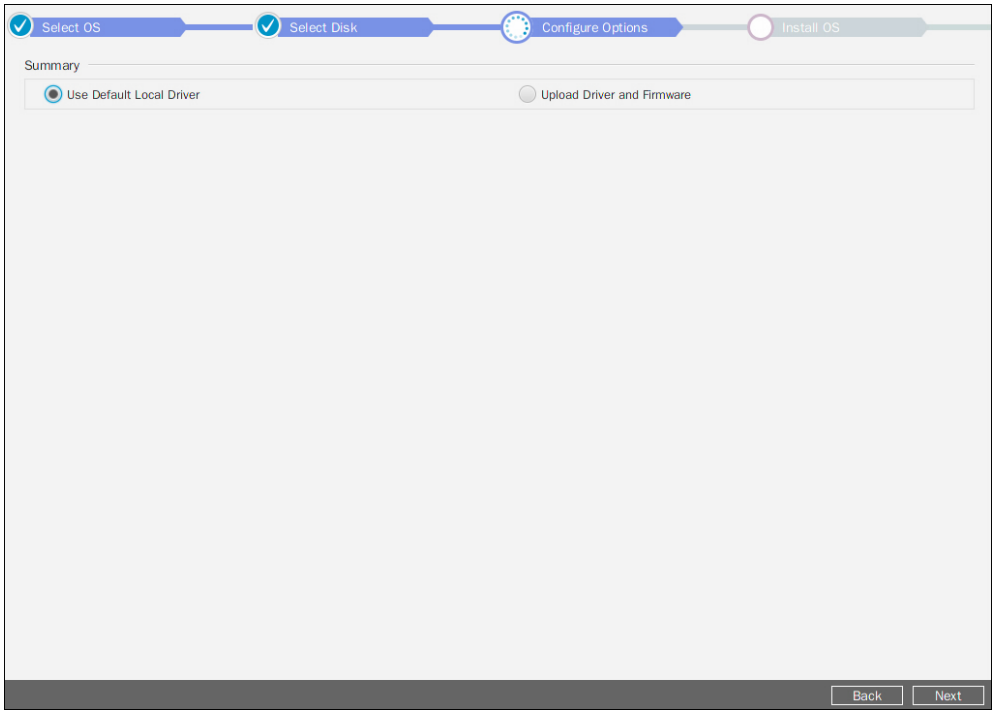


Table 4-33 Configuration Description

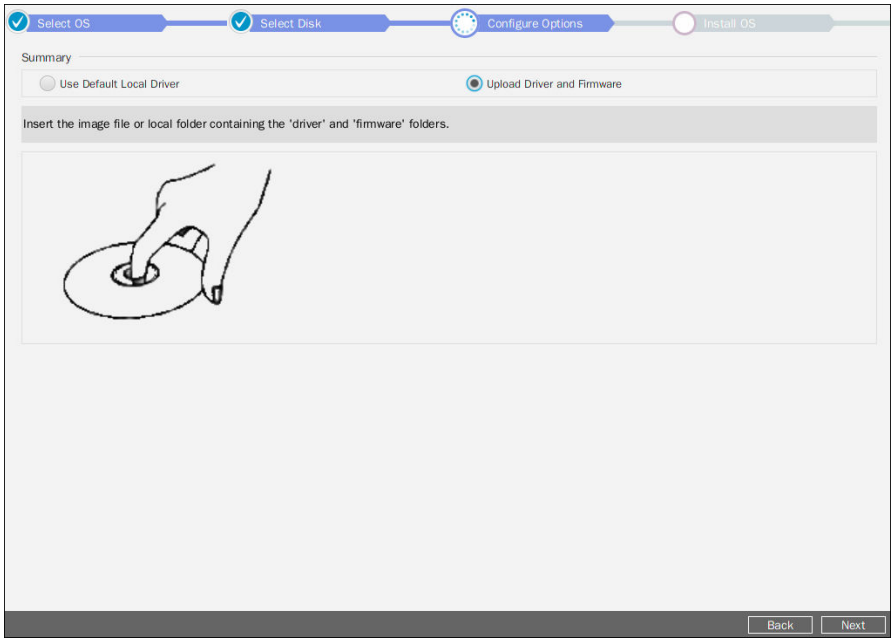
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-397**.

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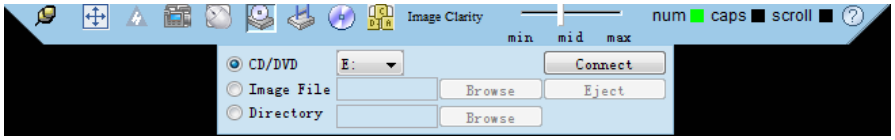
Figure 4-397 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-398**.

Figure 4-398 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

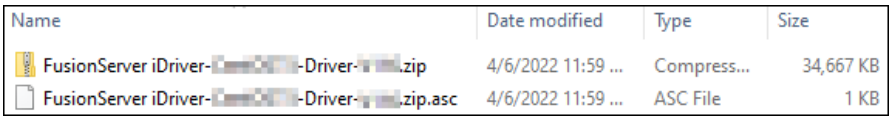
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-399**.

Figure 4-399 Folder



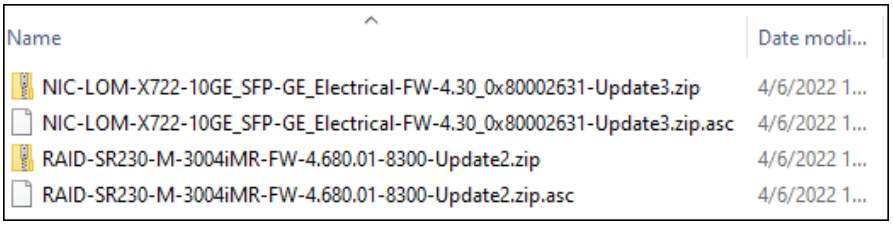
The **driver** folder is shown in **Figure 4-400**.

Figure 4-400 The **driver** folder



The **firmware** folder is shown in **Figure 4-401**.

Figure 4-401 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

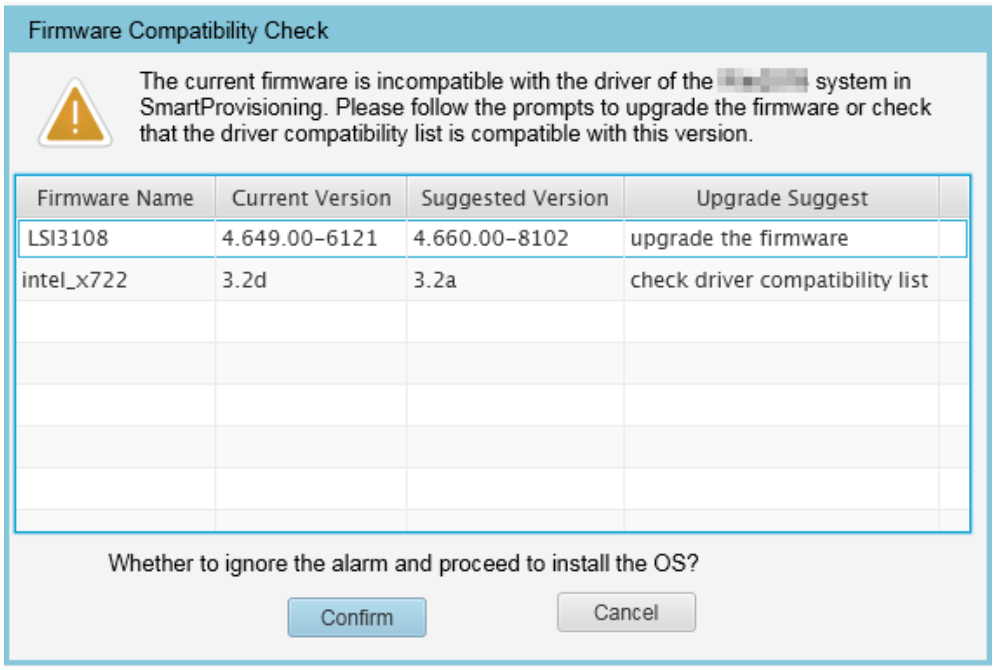
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-404** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-402** is displayed.

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Figure 4-402 Dialog box

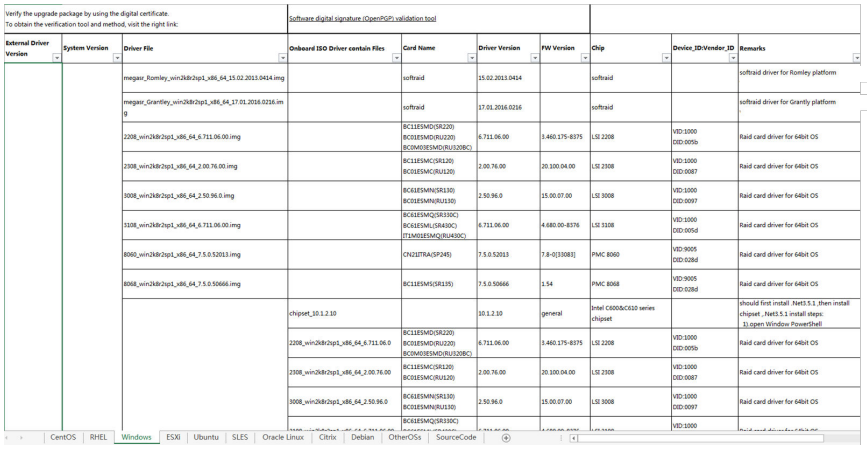


- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

1. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.2**.
2. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-403**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.
   – If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
   – If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-403 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vender_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M03ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8576	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083]	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M03ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-404**.

Figure 4-404 Window prompting you to insert the OS medium

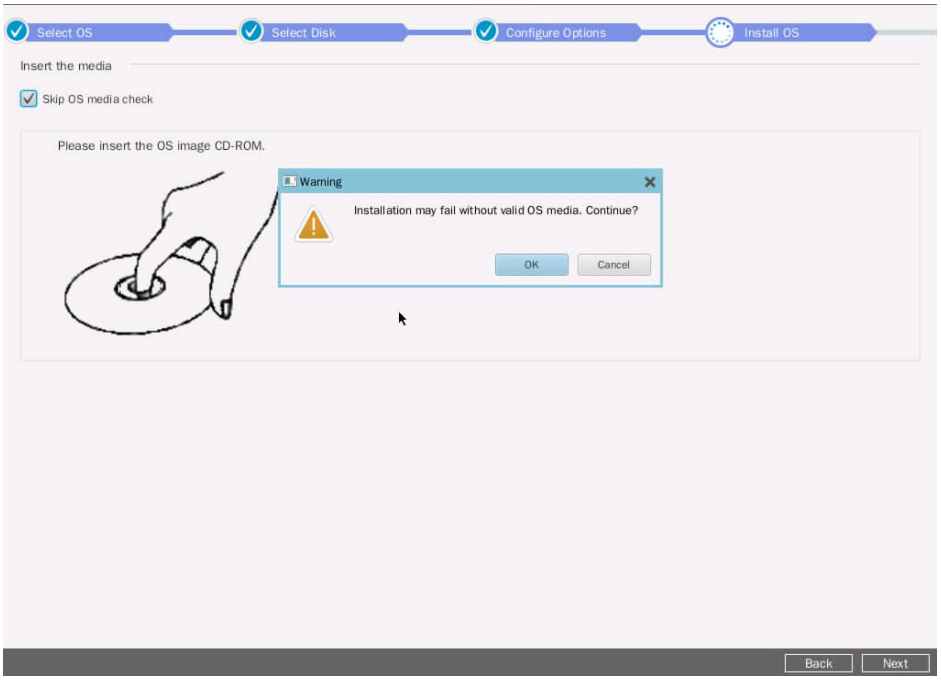


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-405**. Click **OK** or **Cancel** as required.

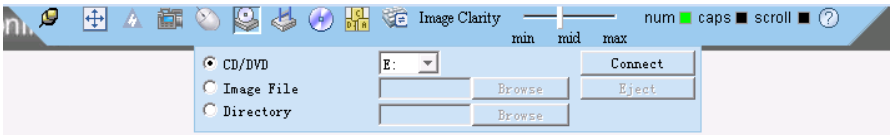
Figure 4-405 Dialog box



Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.
   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-406**.

Figure 4-406 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.
   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD drive dialog box, click **Connect**.
   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 12 Click **Next**.

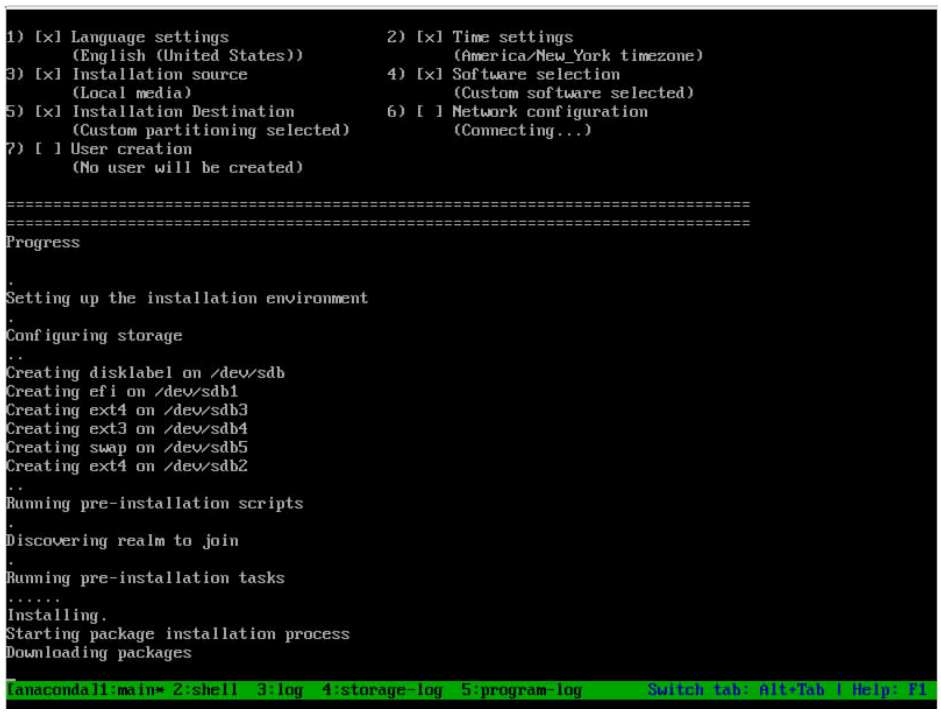
The OS installation starts, as shown in **Figure 4-407**.

Figure 4-407 Starting the installation



After Smart Provisioning installs the OS, the server automatically restarts. After the restart is complete, the OS deployment is started. See **Figure 4-408**.

Figure 4-408 Installation progress



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After the OS is deployed, enter the user name and password to log in to the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.10.2 Installing openEulerOS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-409**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-409 Smart Provisioning main window

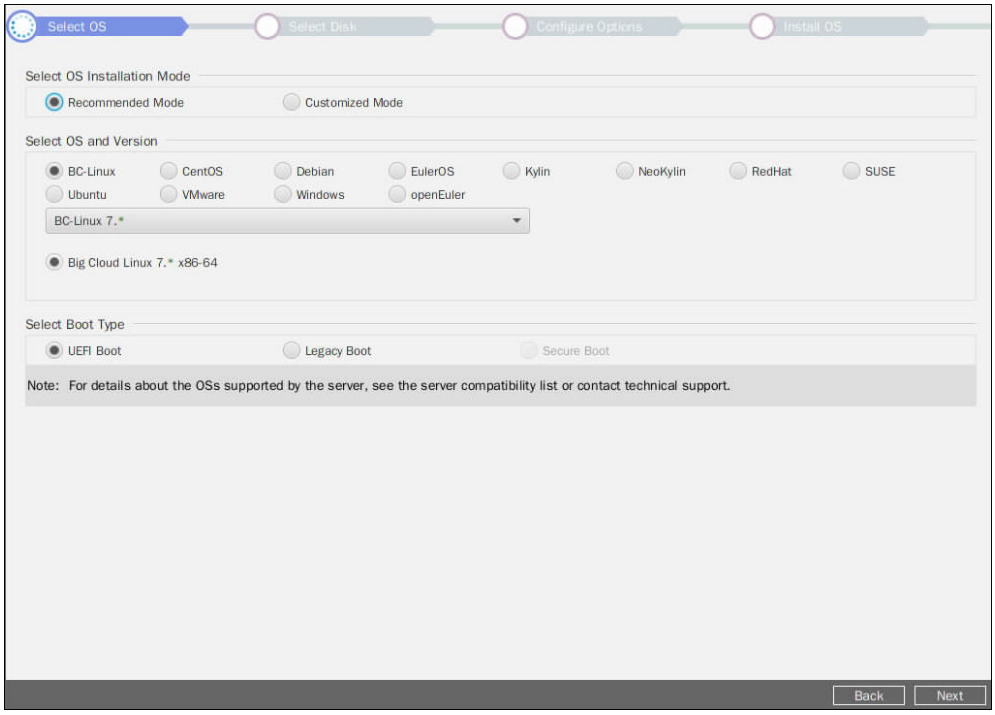


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-410**.

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Figure 4-410 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

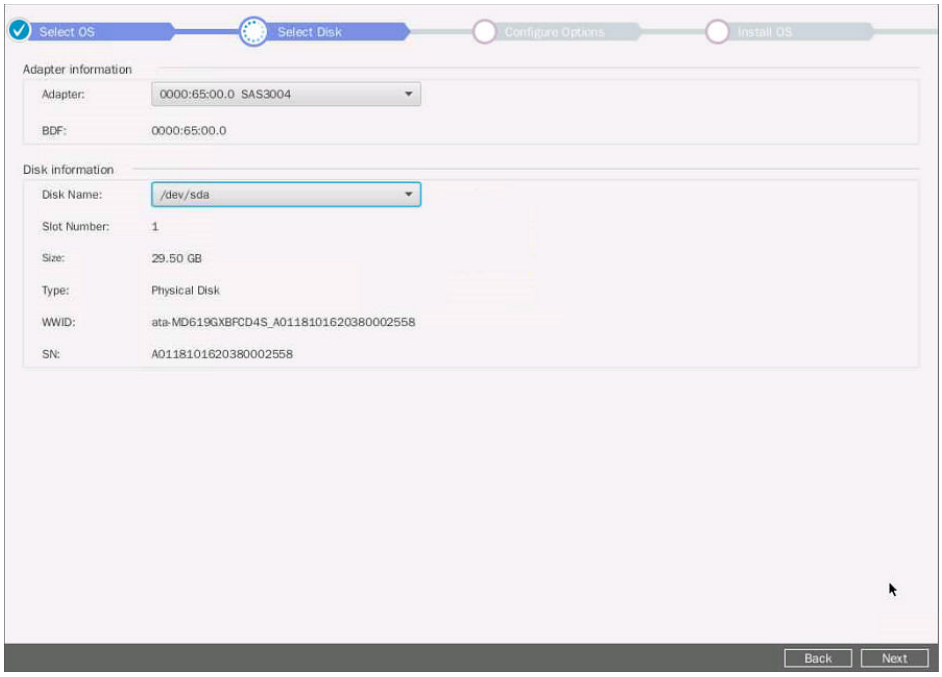
NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, openEuler * indicates all OSs of openEuler.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-411**.

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Figure 4-411 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

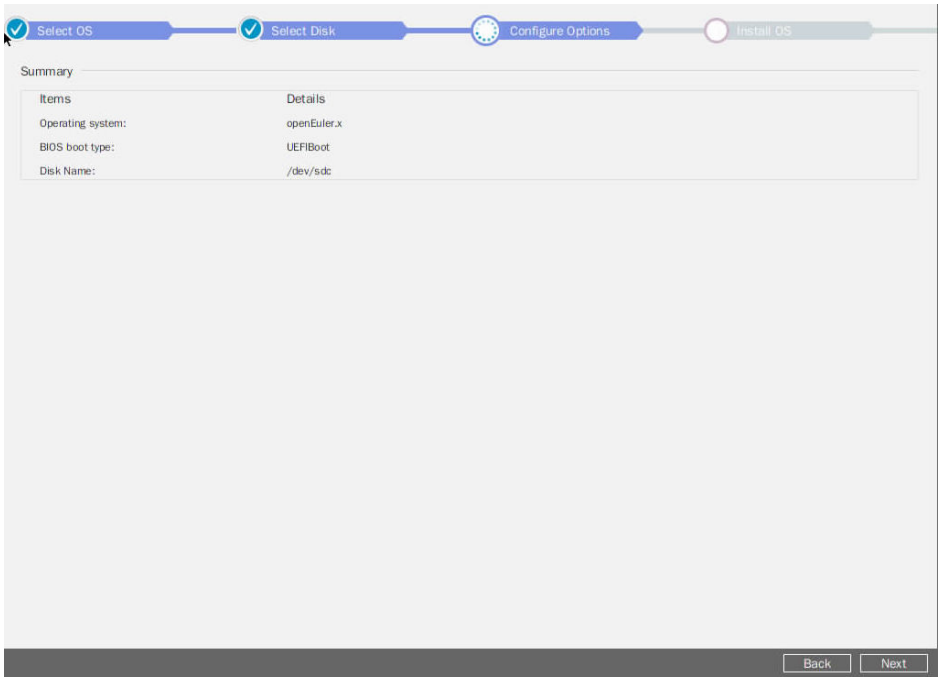
During the installation process, Smart Provisioning sets the selected hard disk to the boot disk.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-412**.

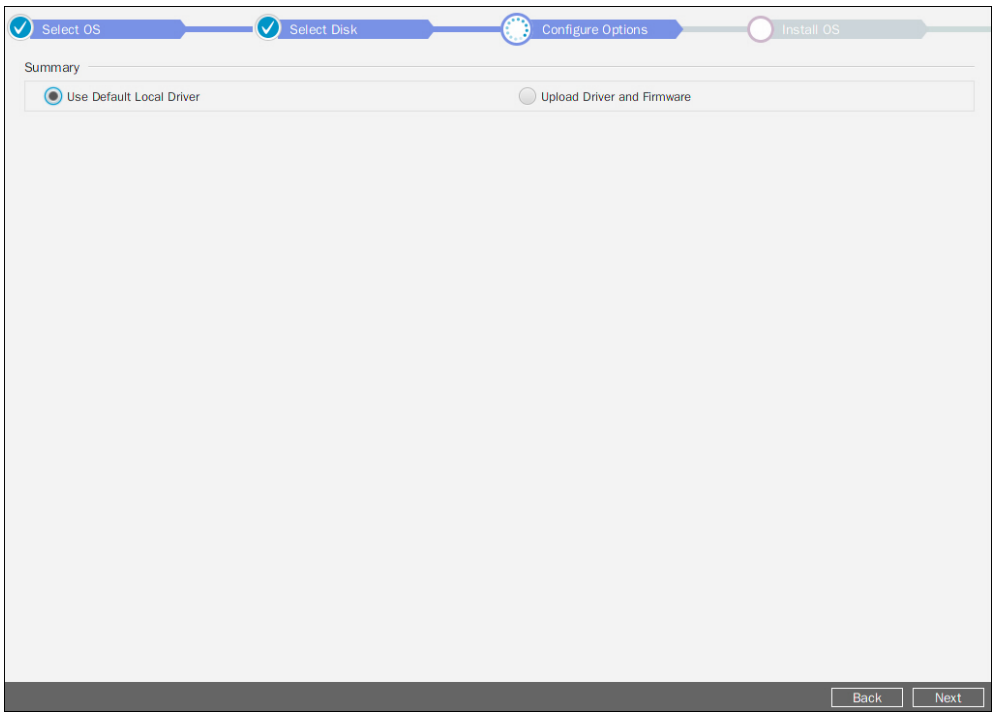
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Figure 4-412 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-413**.For details about configuration,see **Table 4-34**.

Figure 4-413 Viewing the configuration summary(2)



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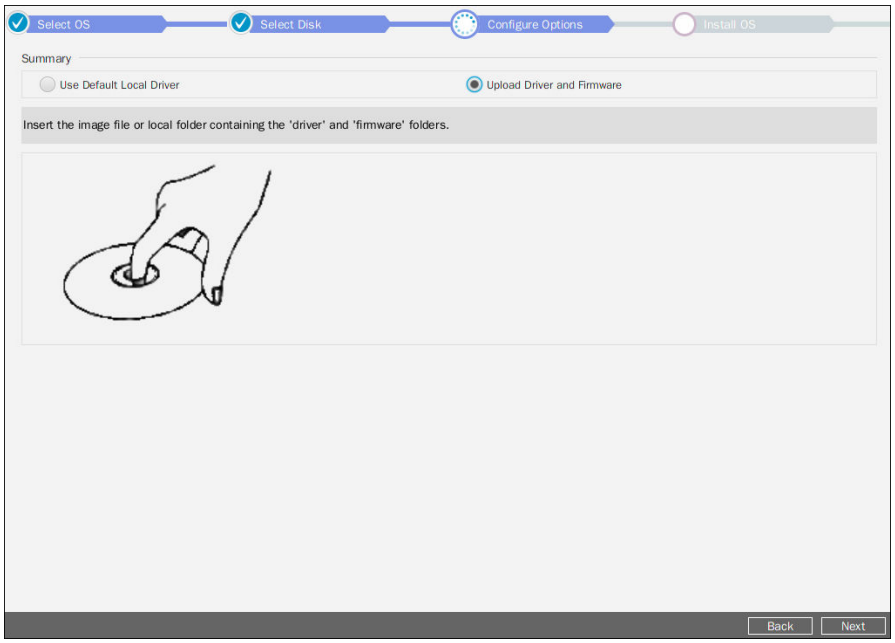
Table 4-34 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

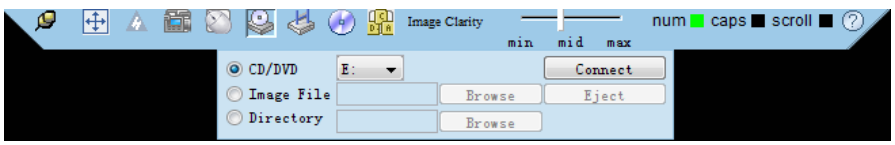
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-414**.

Figure 4-414 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-415**.

Figure 4-415 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

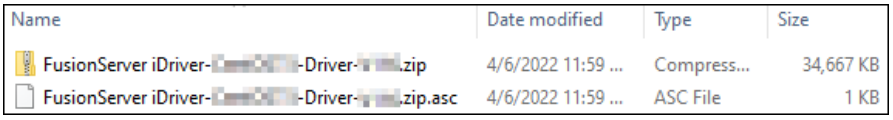
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-416**.

Figure 4-416 Folder



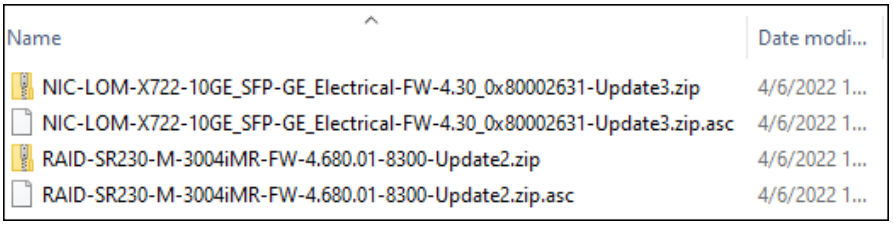
The **driver** folder is shown in **Figure 4-417**.

Figure 4-417 The **driver** folder



The **firmware** folder is shown in **Figure 4-418**.

Figure 4-418 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

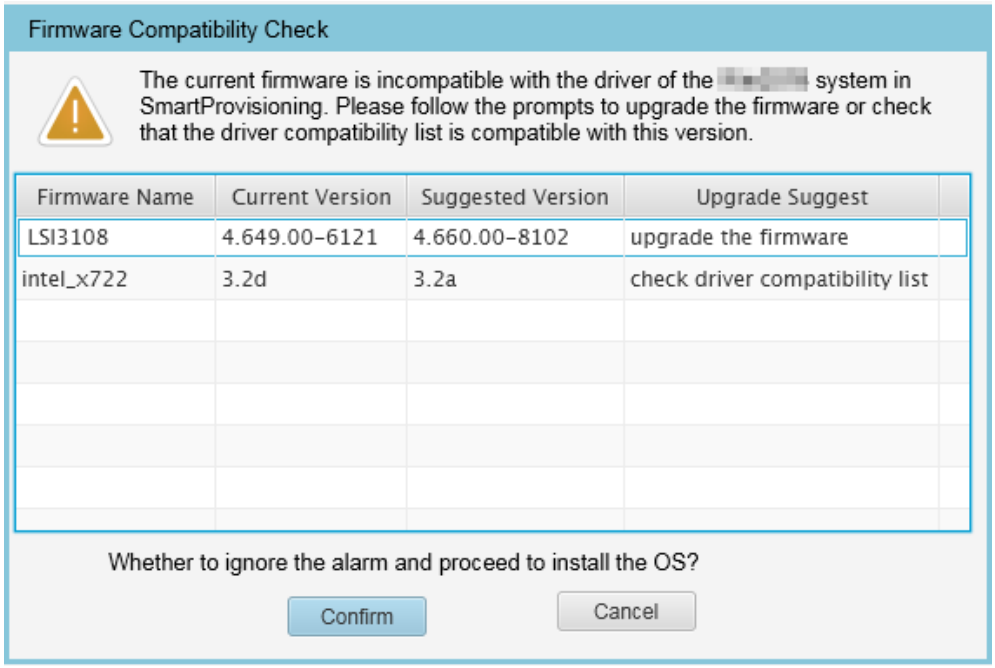
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the page shown in **Figure 4-421** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-419** is displayed.

Figure 4-419 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

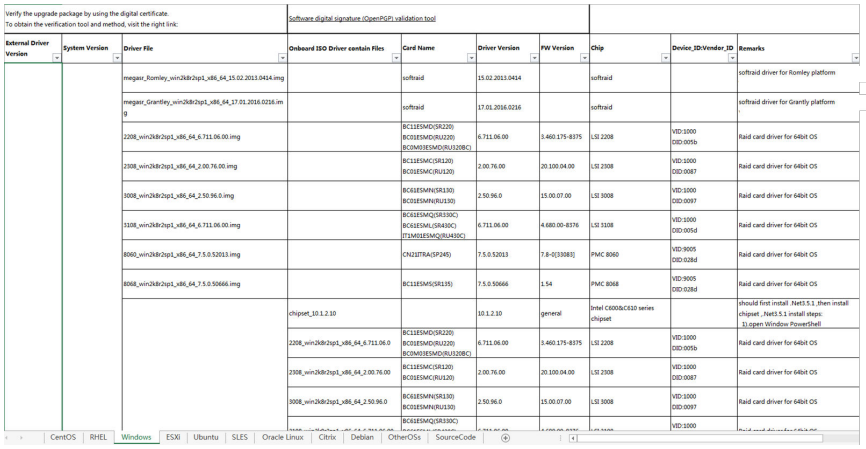
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-420**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-420 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-421**.

Figure 4-421 Window prompting you to insert the OS medium

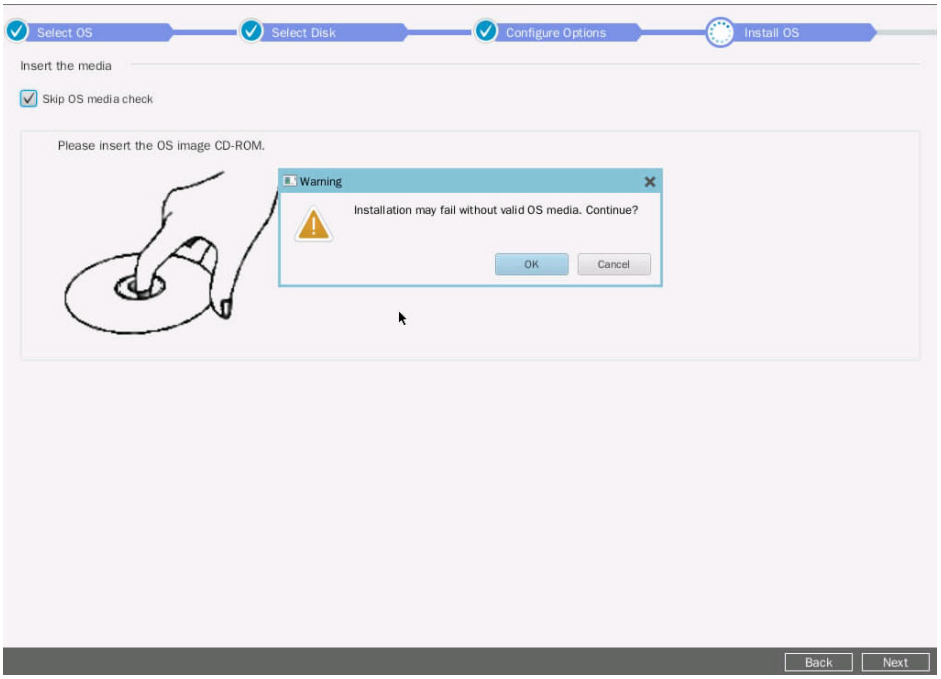


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-422**. Click **OK** or **Cancel**.

Figure 4-422 Dialog box

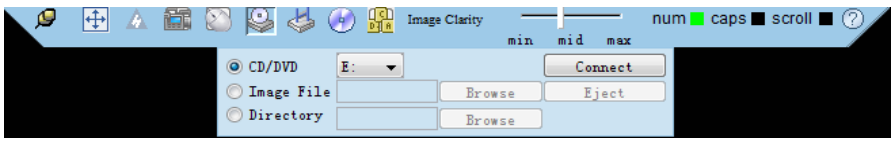


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-423**.

Figure 4-423 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 9 Click **Next**.

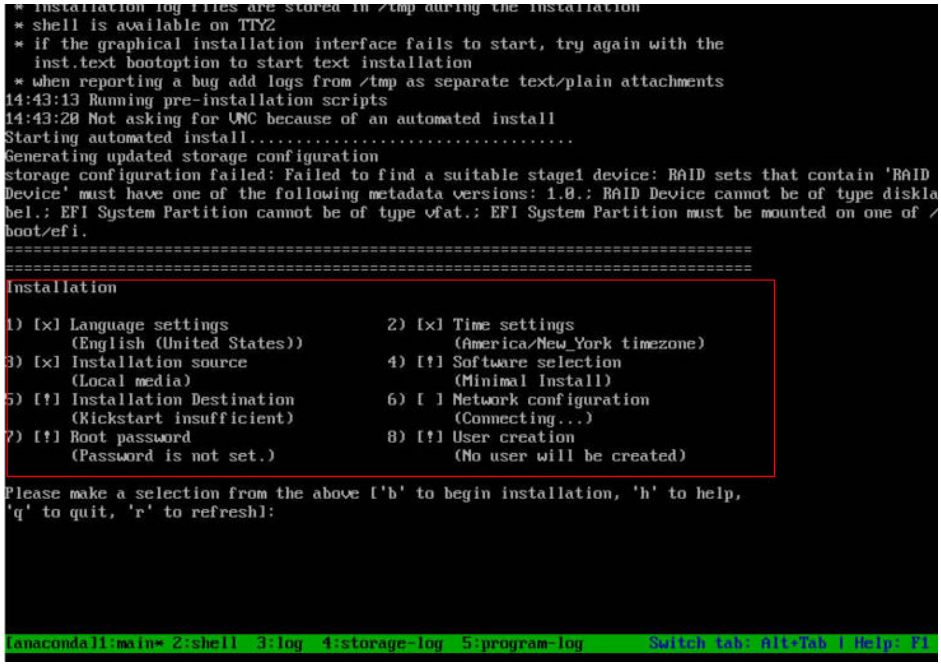
The OS installation starts, as shown in **Figure 4-424**.

Figure 4-424 Starting the installation



After OS installation is complete, the server automatically restarts. After the restart is complete, the window shown in **Figure 4-425** is displayed.

Figure 4-425 OS deployment screen



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NOTE

The **Installation** area lists the information that you need to set for deploying the OS. The information marked with **[!]** is mandatory, and the information marked with **[×]** is optional. If you do not set the information, the default settings are used.

The following describes how to set the language and software installation type. Set other parameters based on the prompted information.

Step 10 Set the language.

1. Enter **1** and press **Enter**.

   The available languages are displayed.

2. Enter **1** for English or **2** for Chinese as required and press **Enter**.

   For **1**, an English version needs to be specified, as shown in **Figure 4-426**. Enter a number such as **1** as required and press **Enter**.

Figure 4-426 Selecting an English version



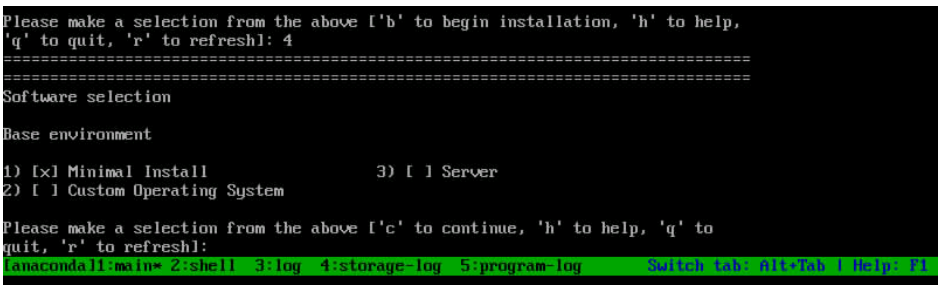
The language is set successfully. Enter **c** and press **Enter**.

Step 11 Select the software installation type.

1. Enter **4** and press **Enter**.

   The software installation types (**Minimal Install** is selected by default) are displayed, as shown in **Figure 4-427**.

Figure 4-427 Software installation types



2. Enter the number (such as **2**) corresponding to a software installation type, and press **Enter**.

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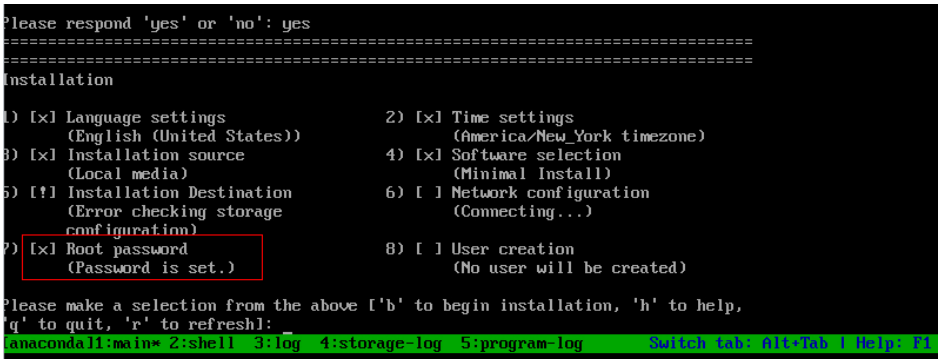
The software installation type is set. Enter **c** and press **Enter**.

Step 12 Set the password.

1. Enter **7** and press **Enter**.
2. Enter the password and press **Enter**.
3. Enter the password again and press **Enter**.

   If **Root password** is marked with **[×]**, the password is set successfully, as shown in **Figure 4-428**. Enter **c** and press **Enter**.

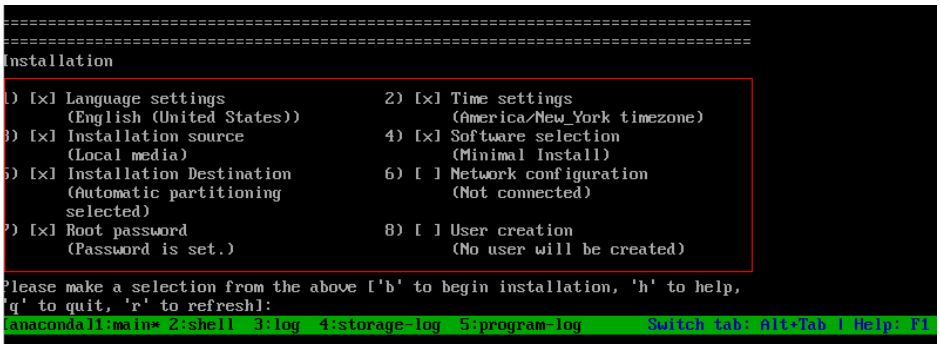
Figure 4-428 Setting the password



Step 13 Set other parameters as prompted.

If no configuration item is marked with **[!]**, the system configuration is complete. See **Figure 4-429**.

Figure 4-429 Prompt information



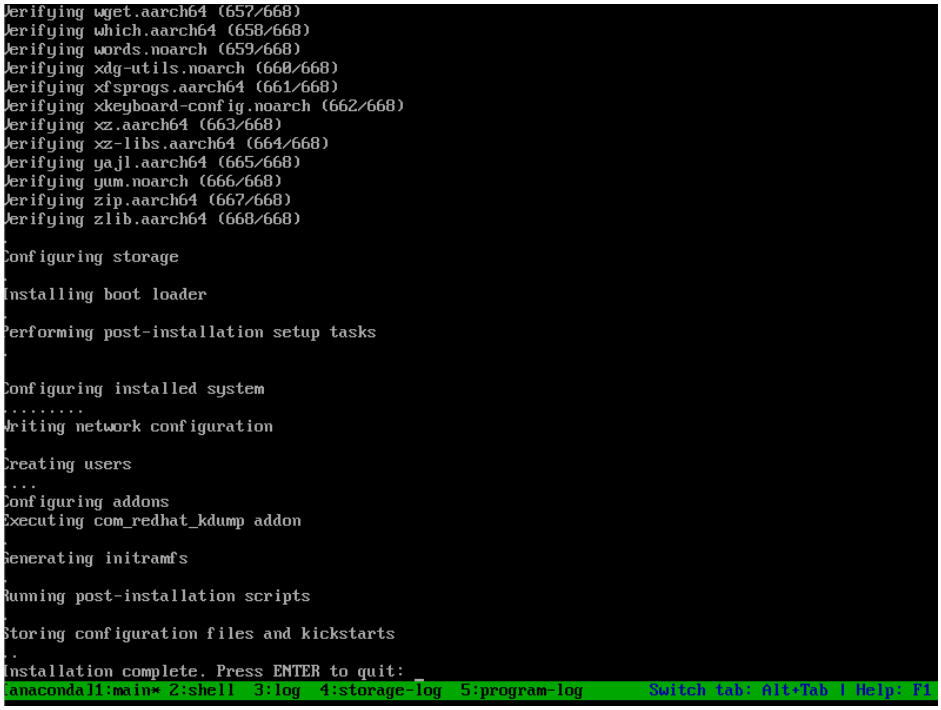
Step 14 Enter **b** and press **Enter**.

The OS deployment starts.

If the page shown in **Figure 4-430** is displayed, the deployment is complete.

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Figure 4-430 Deployment completed



Step 15 After the OS is deployed, press **Enter** to restart the server. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.11 Installing a Debian OS

4.4.1.11.1 Installing a Debian OS in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-431**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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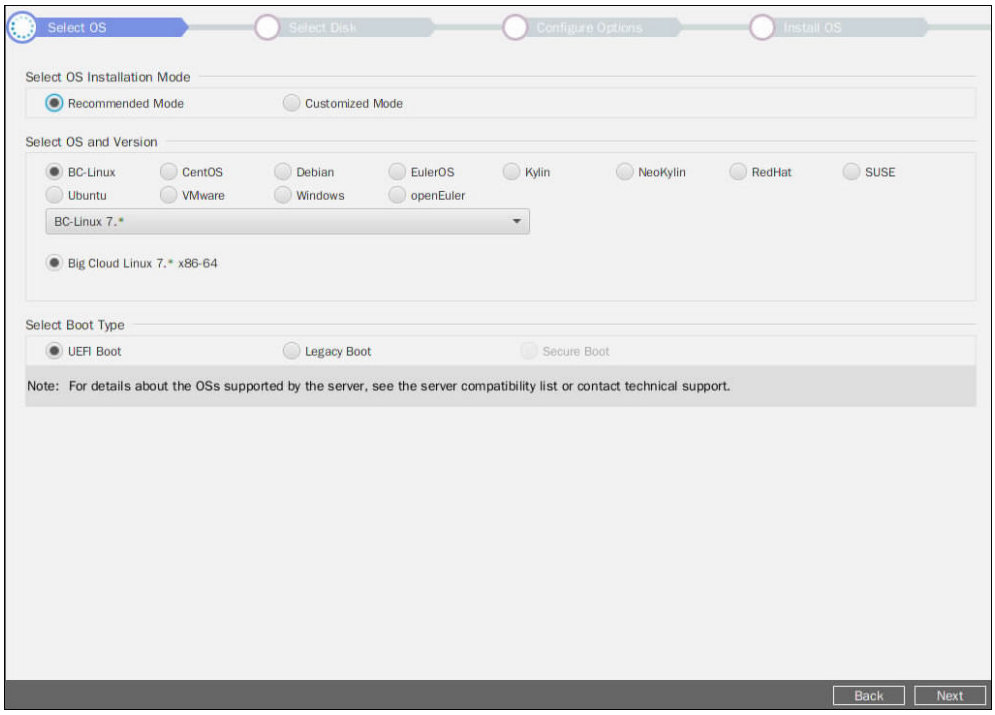
Figure 4-431 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-432**.

Figure 4-432 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

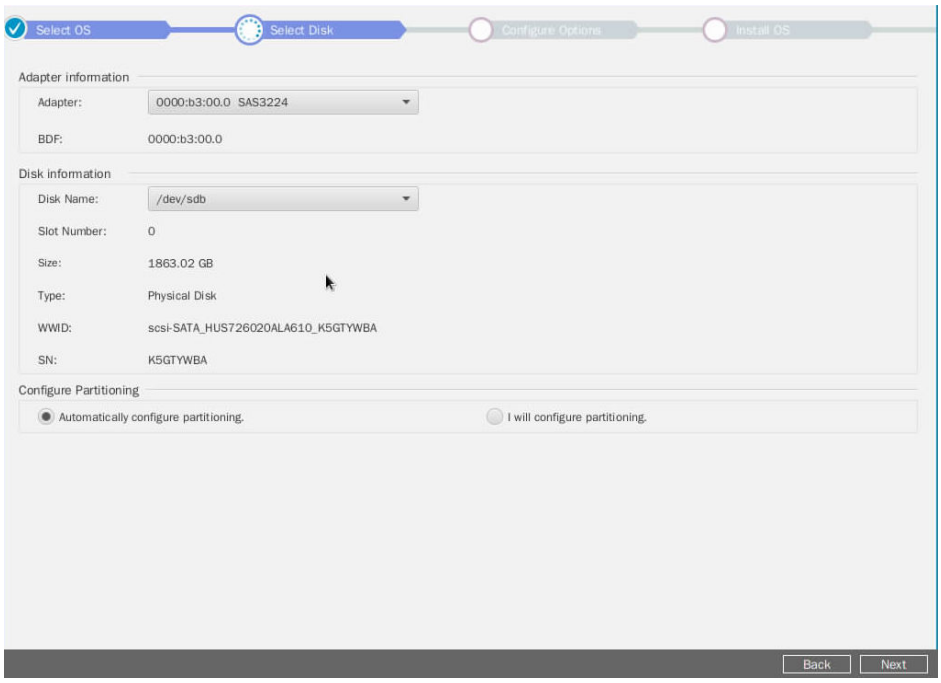
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, Debian 9.* indicates all OSs of Debian 9.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-433**.

Figure 4-433 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

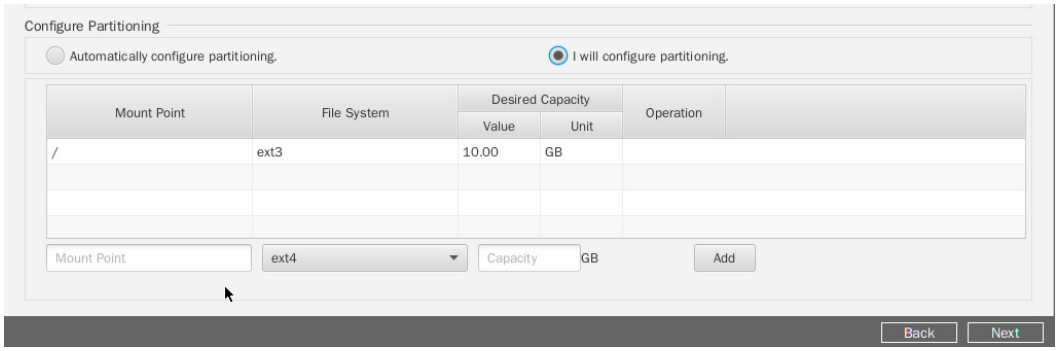
Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

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NOTE

- During the installation process, Smart Provisioning sets the selected hard disk as the boot disk.
- In this window, you can select the automatic partitioning mode (by selecting **Automatically configure partitioning**) or manual partitioning mode (by selecting **I will configure partitioning**). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-434** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 1075 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard disk partitions must be on the same hard disk or RAID array managed by the same RAID controller.

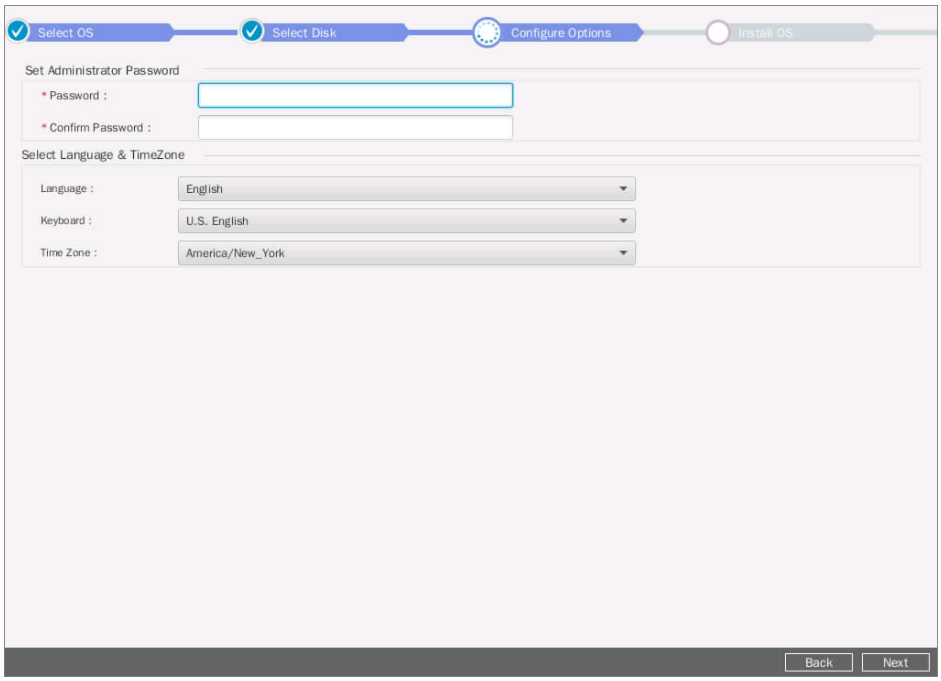
Figure 4-434 Manual partitioning



Step 6 Click **Next**.

The window for setting the password of user **root**, language, keyboard, and time zone is displayed, as shown in **Figure 4-435**.

Figure 4-435 Setting the password of user root, language, keyboard, and time zone



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NOTE

- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 7 Set the password of user **root**, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-436** is displayed, indicating that the OS version does not support the installation of third-party software.

Figure 4-436 Window

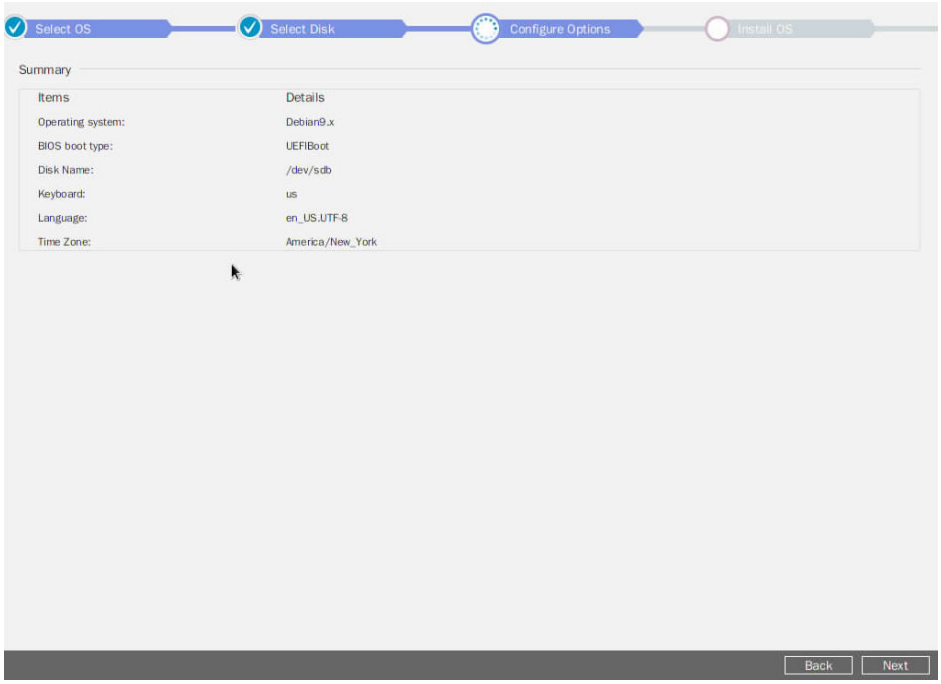


Step 8 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-437**.

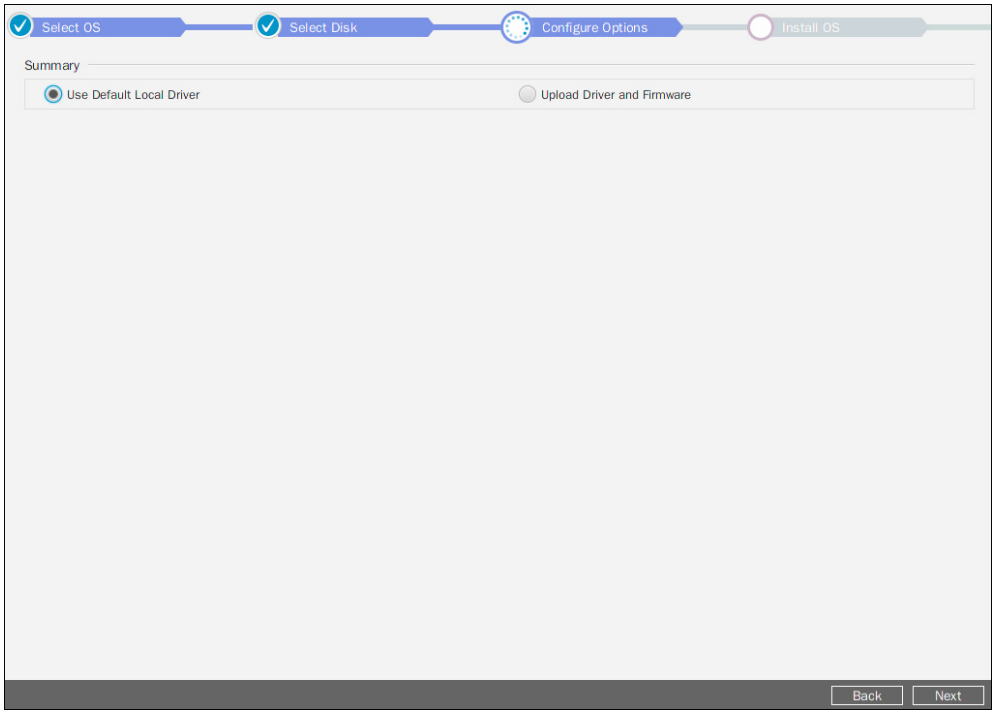
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Figure 4-437 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-438**.For details about configuration,see **Table 4-35**.

Figure 4-438 Viewing the configuration summary(2)



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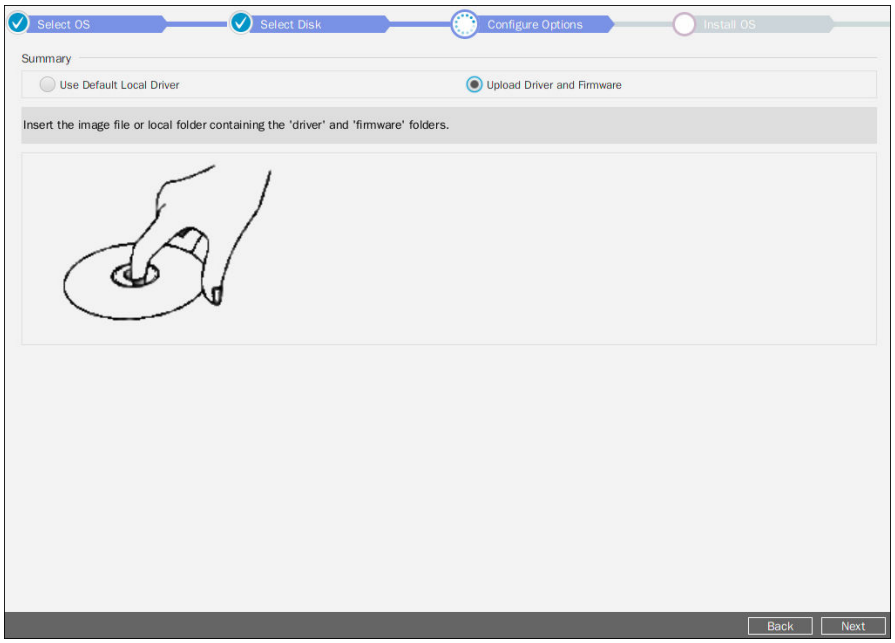
Table 4-35 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

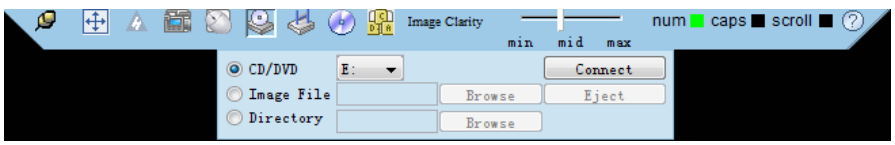
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-439**.

Figure 4-439 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-440**.

Figure 4-440 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

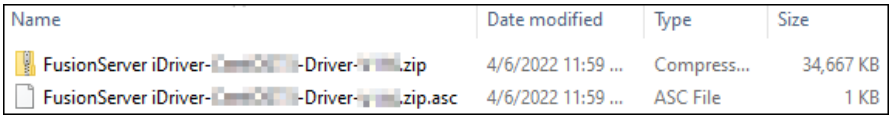
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-441**.

Figure 4-441 Folder



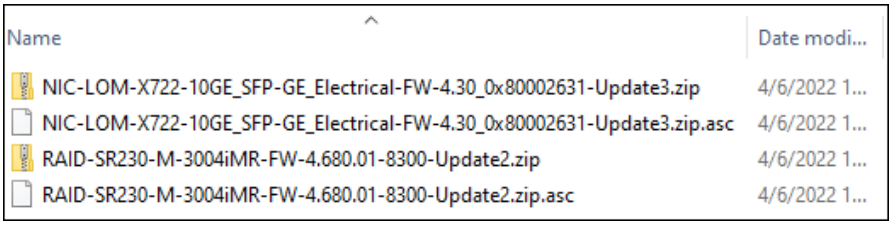
The **driver** folder is shown in **Figure 4-442**.

Figure 4-442 The **driver** folder



The **firmware** folder is shown in **Figure 4-443**.

Figure 4-443 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

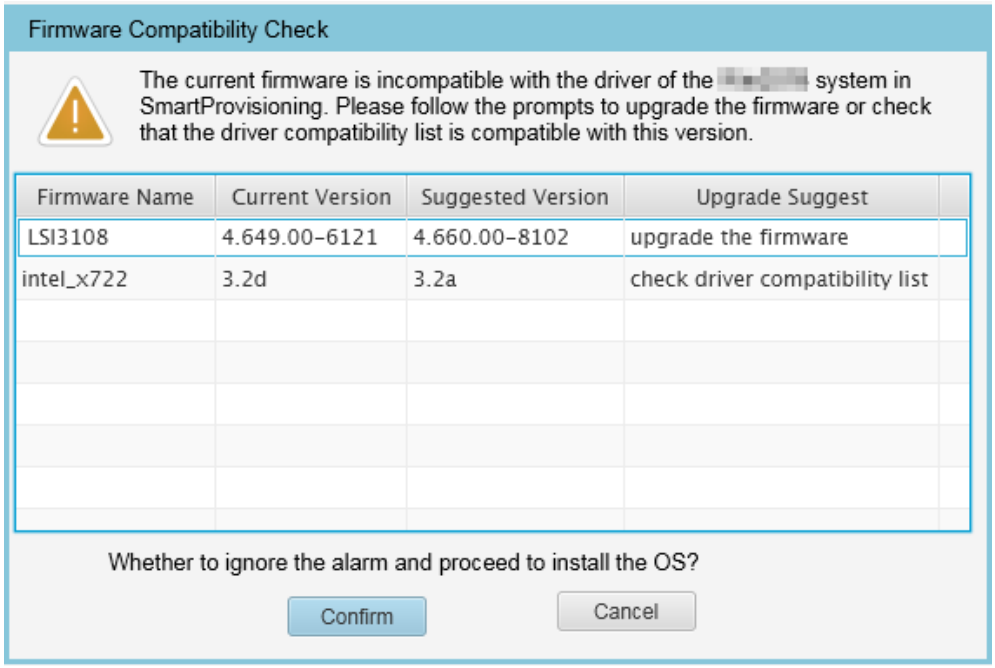
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-446** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-444** is displayed.

Figure 4-444 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

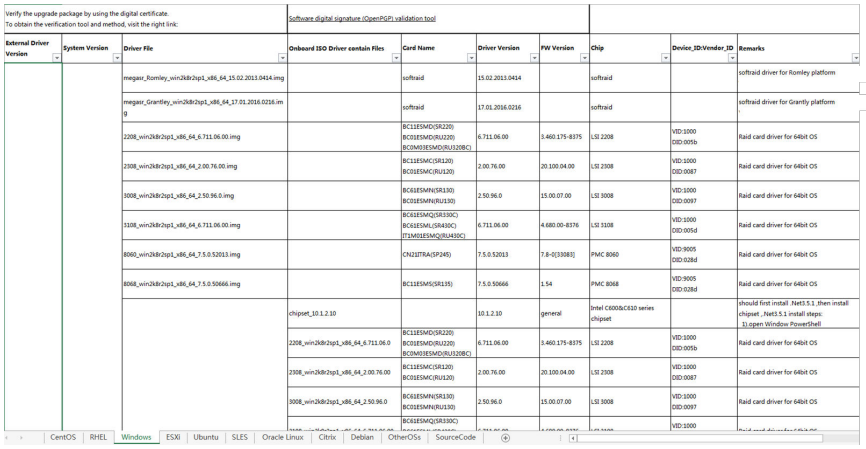
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 8.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-445**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-445 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 9 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-446**.

Figure 4-446 Window prompting you to insert the OS medium

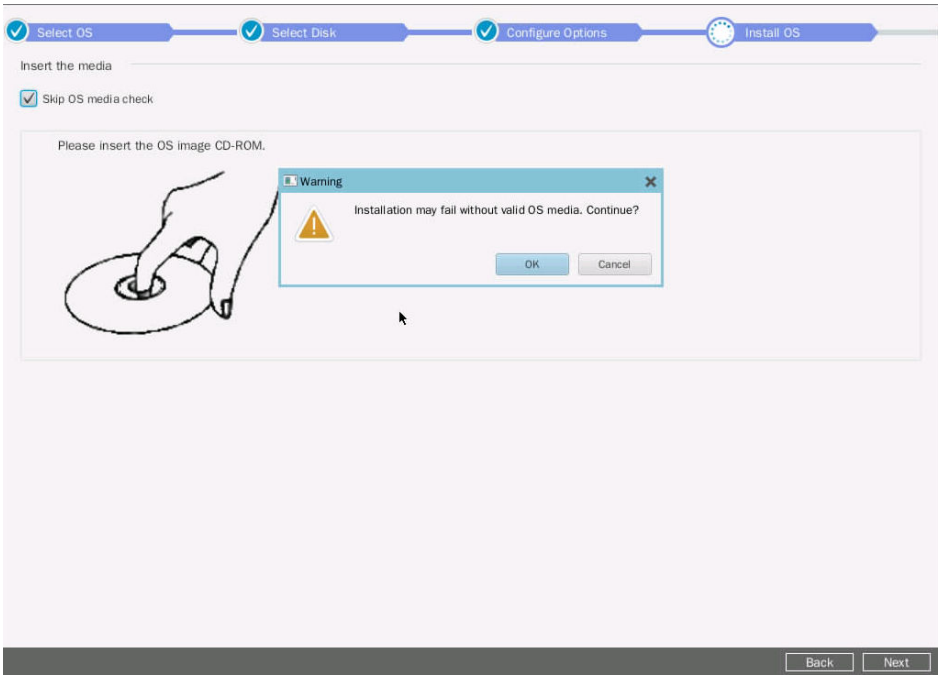


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-447**. Click **OK** or **Cancel** as required. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-447 Dialog box

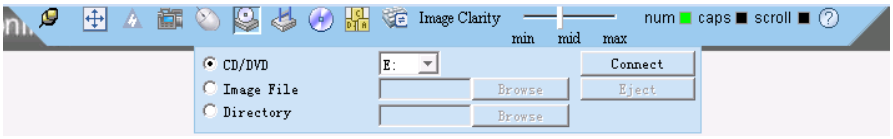


Step 10 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 10.2** to **Step 10.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-448**.

Figure 4-448 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 11 Click **Next**.

The OS installation starts, as shown in **Figure 4-449**.

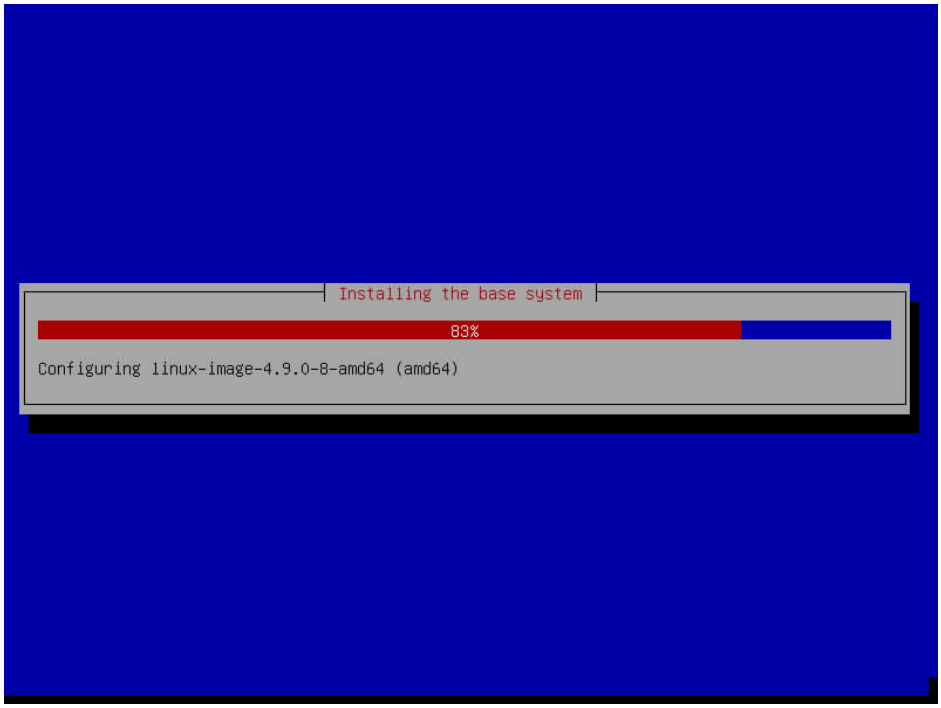
Figure 4-449 Starting the installation



After Smart Provisioning installs the OS, the server automatically restarts. After the restart is complete, the OS deployment is started. See **Figure 4-450**.

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Figure 4-450 Initializing the system



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS, as shown in **Figure 4-451**.

Figure 4-451 Deployment completed



To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.11.2 Installing a Debian OS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-452**.

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- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-452 Smart Provisioning main window

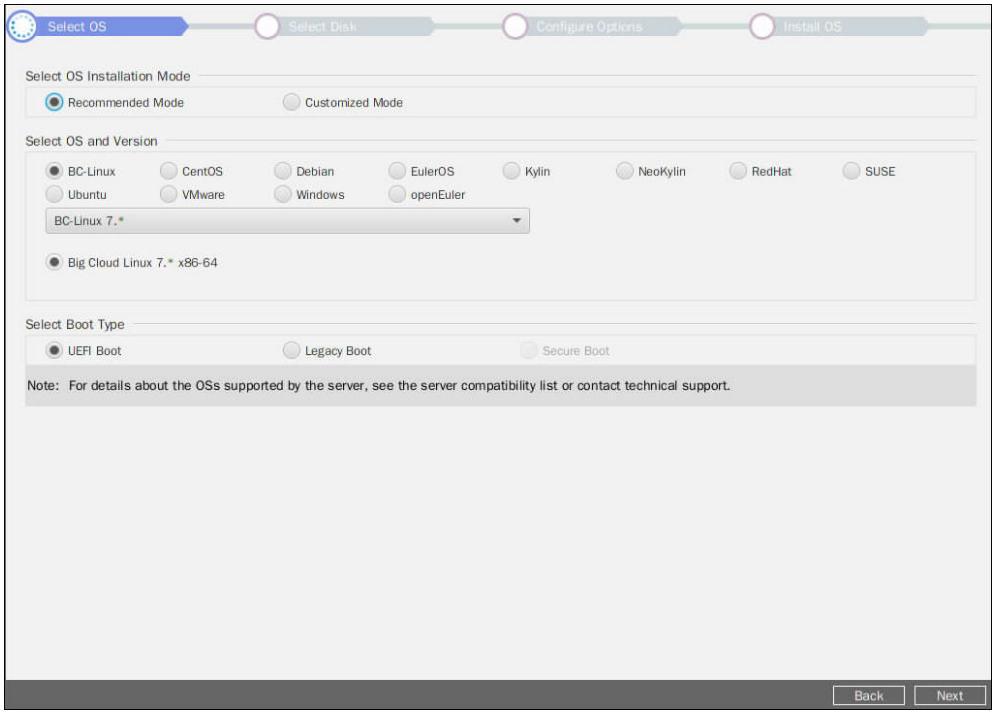


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-453**.

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Figure 4-453 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

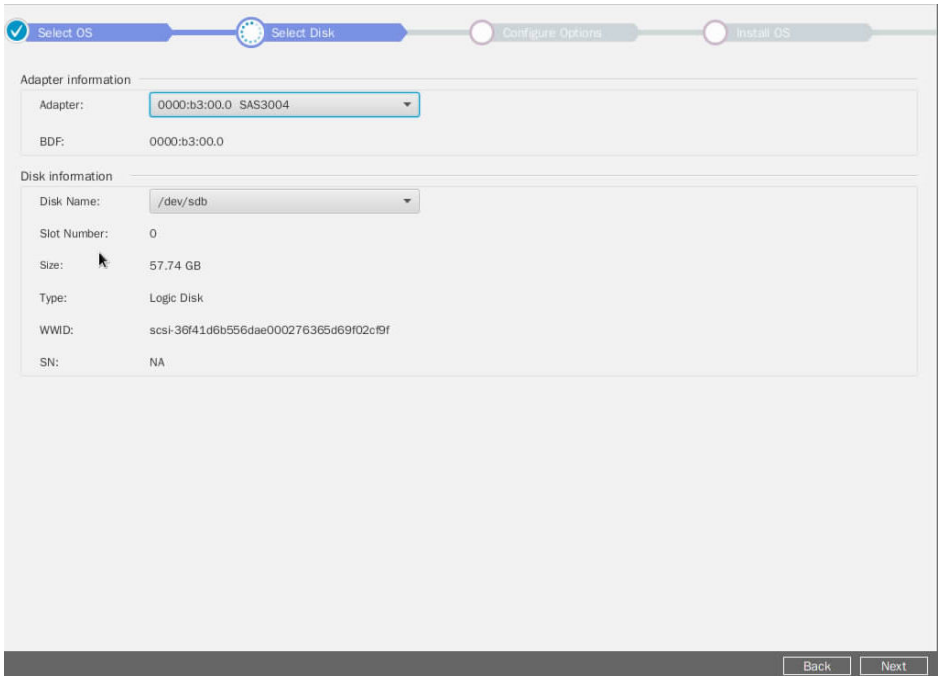
NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, Debian 9.* indicates all OSs of Debian 9.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-454**.

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Figure 4-454 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard disk for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard disk where the OS is to be installed.

NOTE

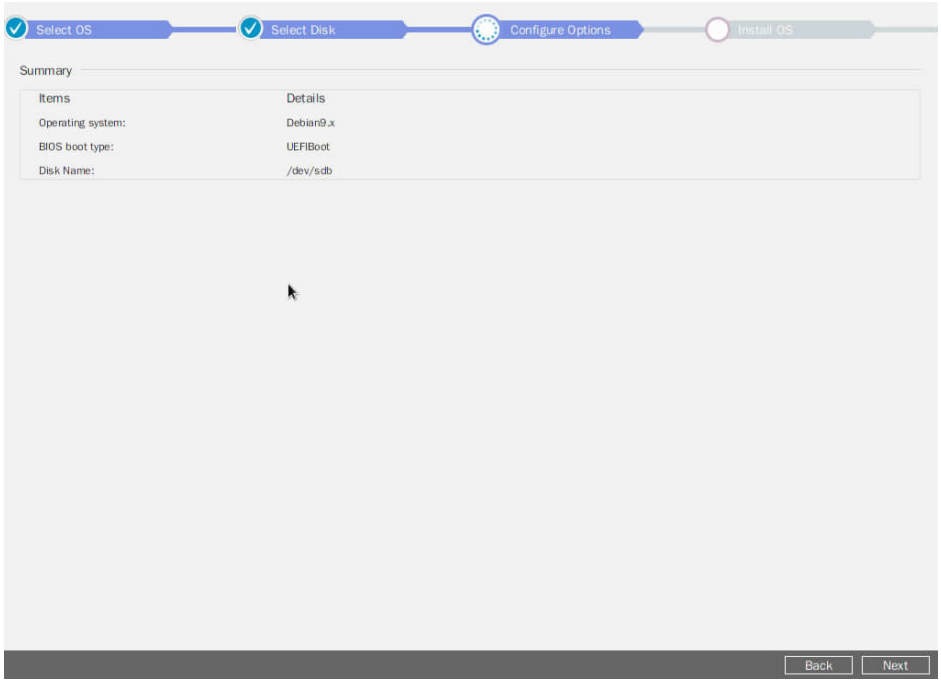
- During the installation process, Smart Provisioning sets the selected hard disk to the boot disk.
- After an installation hard disk is selected, record the value of **WWID**. This value will be used in **Step 15**.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-455**.

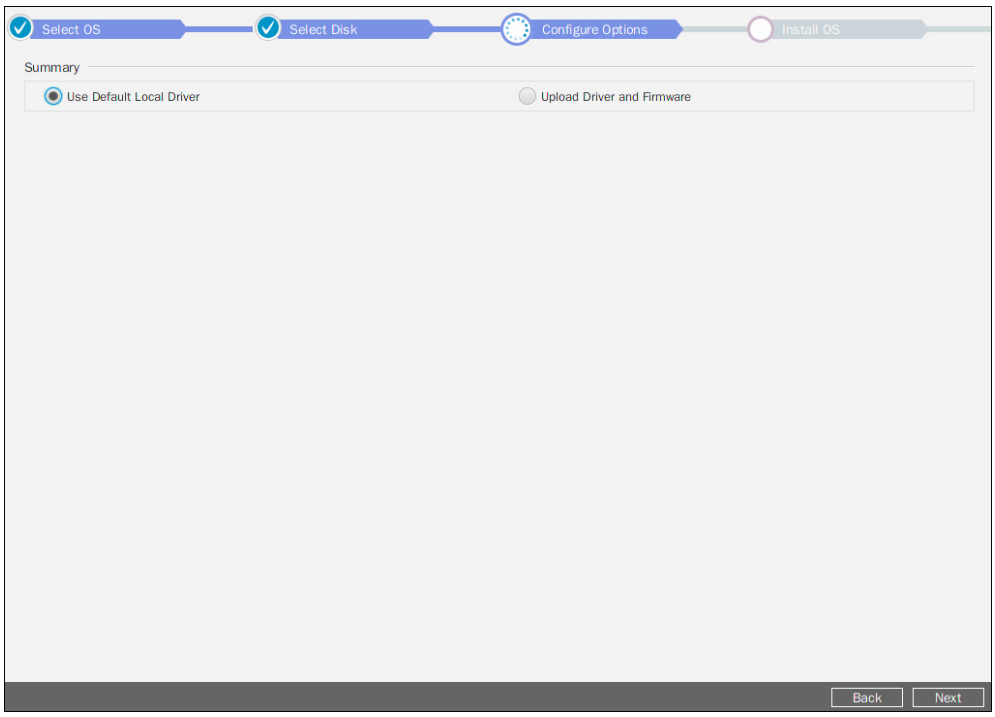
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Figure 4-455 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-456**.For details about configuration,see **Table 4-36**.

Figure 4-456 Viewing the configuration summary(2)



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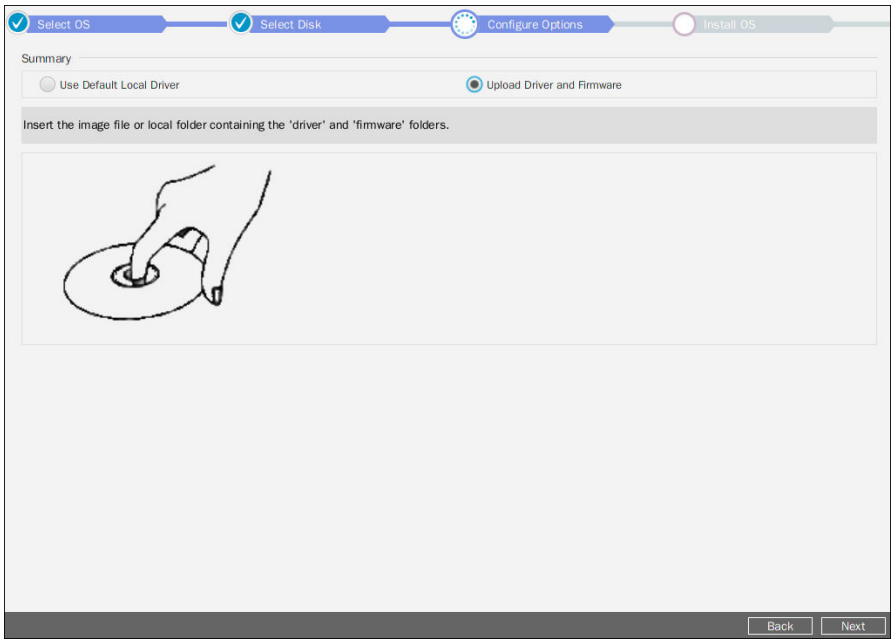
Table 4-36 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

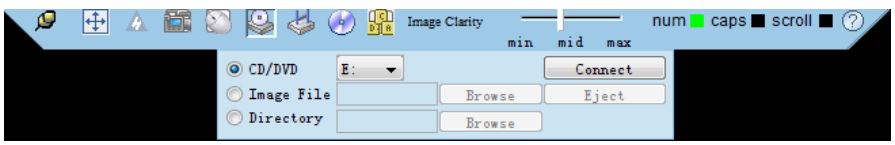
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-457**.

Figure 4-457 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-458**.

Figure 4-458 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

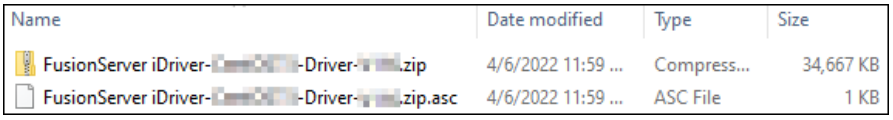
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-459**.

Figure 4-459 Folder



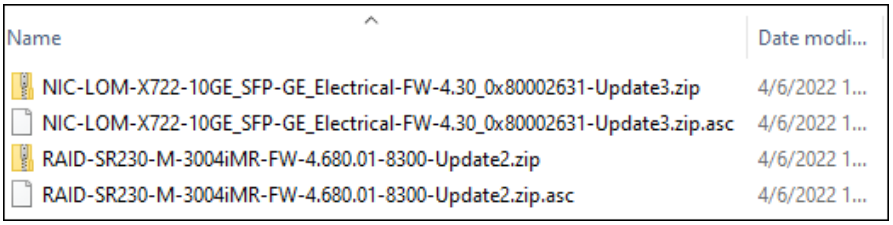
The **driver** folder is shown in **Figure 4-460**.

Figure 4-460 The **driver** folder



The **firmware** folder is shown in **Figure 4-461**.

Figure 4-461 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

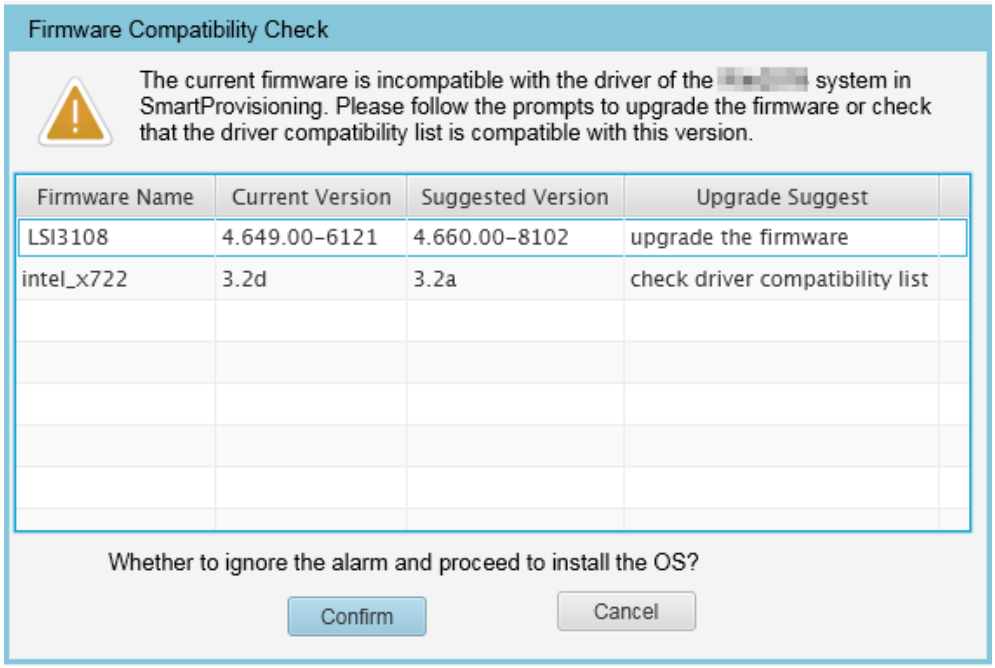
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-464** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-462** is displayed.

Figure 4-462 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

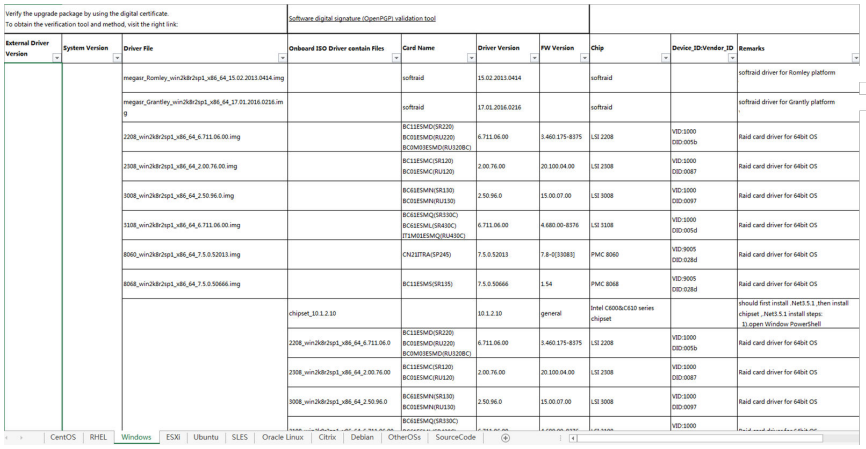
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-463**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-463 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-464**.

Figure 4-464 Window prompting you to insert the OS medium

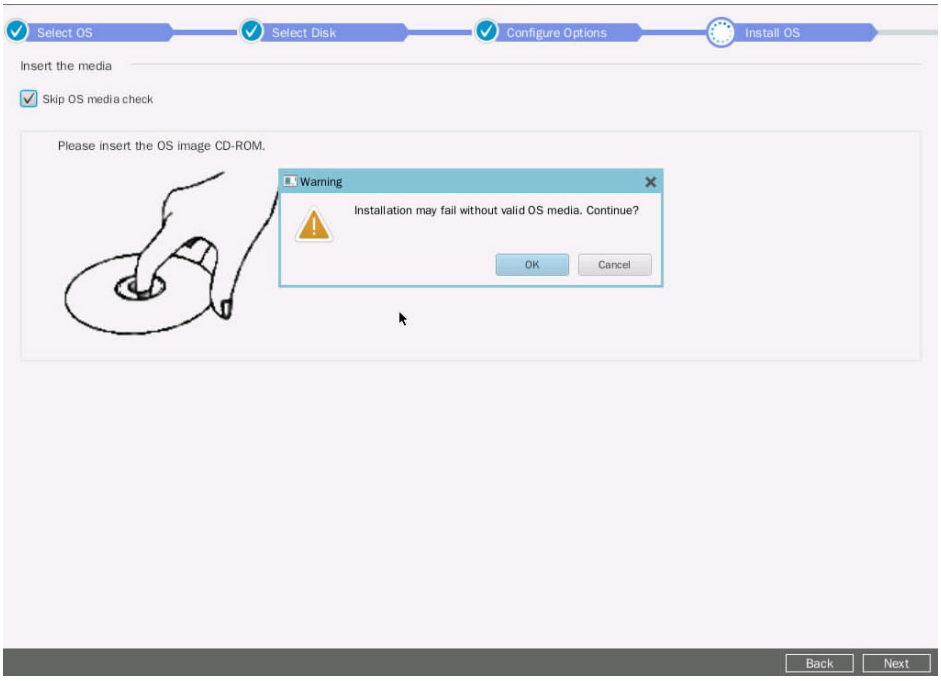


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-465**. Click **OK** or **Cancel** according to the actual situation. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-465 Dialog box

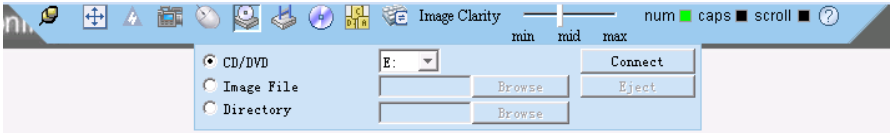


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-466**.

Figure 4-466 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-467**.

Figure 4-467 Starting the installation



After Smart Provisioning installs the operating system, the server restarts automatically. The language setting screen is displayed, as shown in **Figure 4-468**.

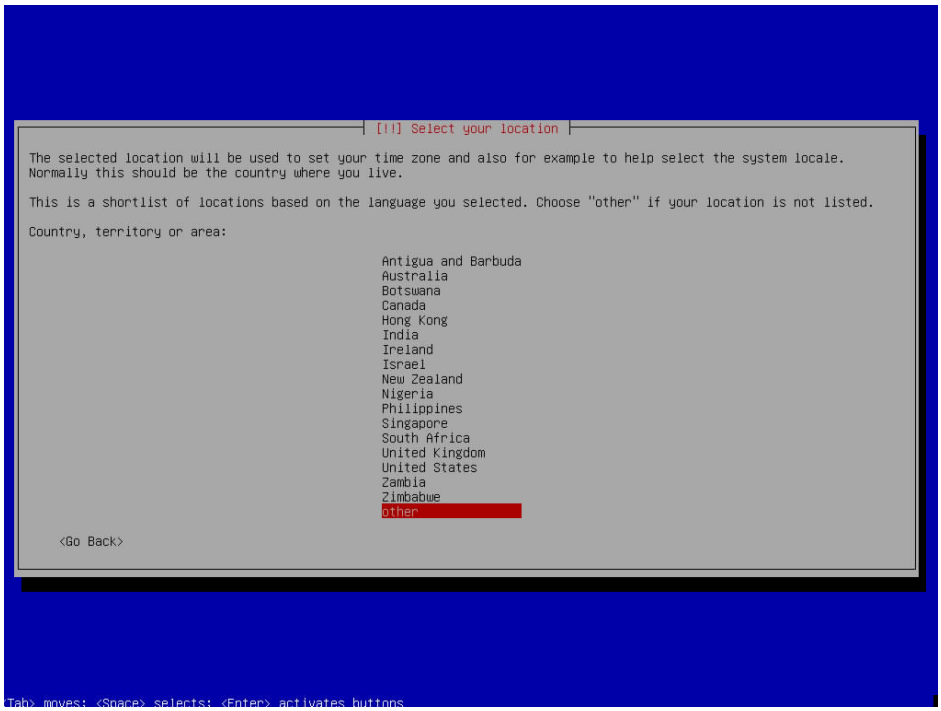
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Figure 4-468 Selecting a language (1)



Step 10 On the screen for selecting your location, choose **Other** > **Asia** > **China** and press **Enter**.

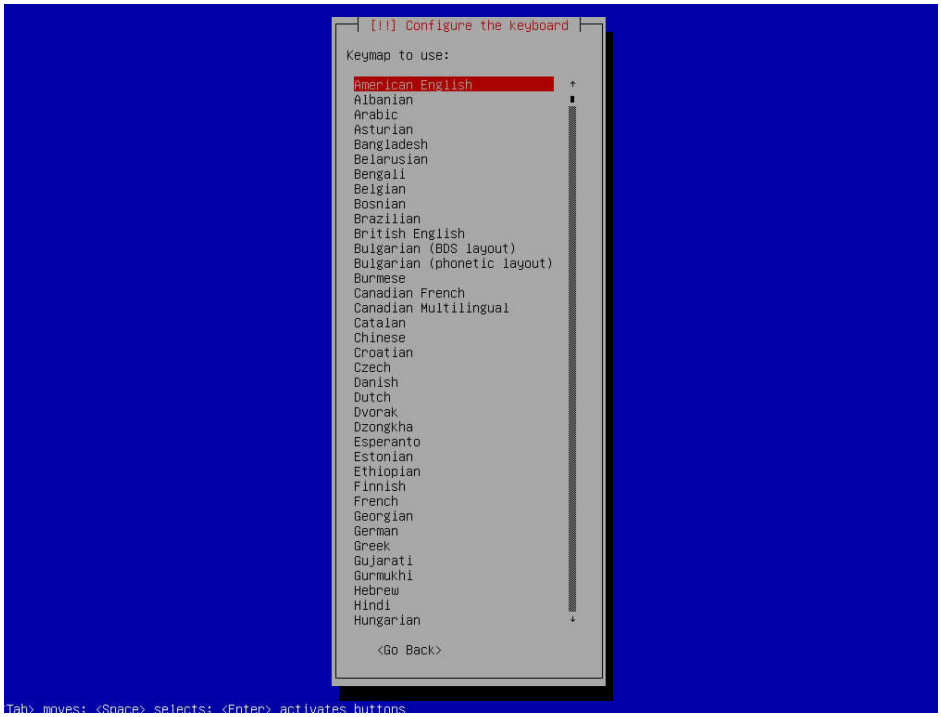
Figure 4-469 Selecting a language (2)



Step 11 On the screen for configuring the keyboard, select **American English** and press **Enter**.

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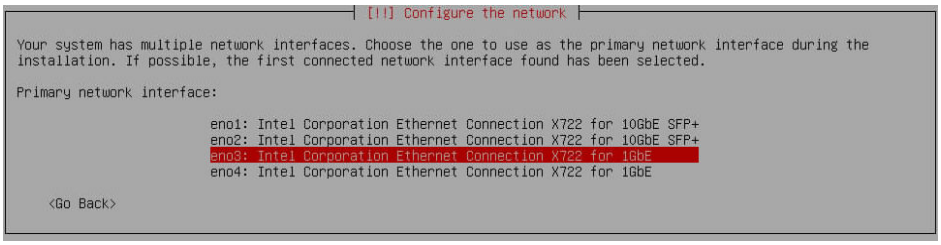
Figure 4-470 Configuring the keyboard



Step 12 On the screen for configuring the network, do not configure the network at this time. Configure the network after entering the OS.

1. Select **eno1: Intel Corporation Ethernet Connection X722 for 10GbE SPF+** and press **Enter**.

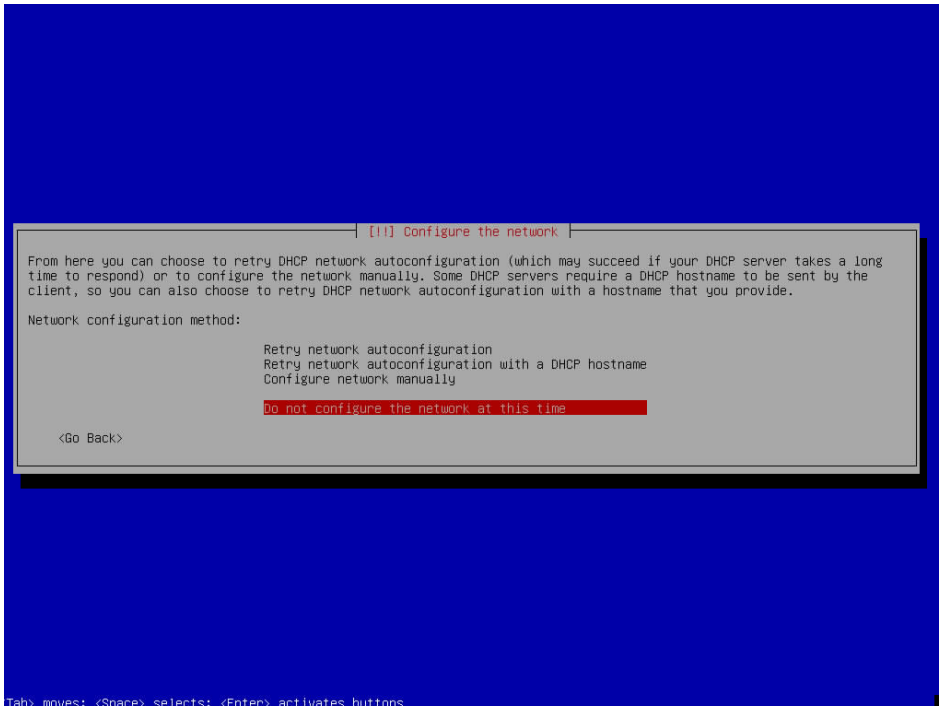
   Figure 4-471 Configuring the network (1)

2. Select **Do not configure the network at this time** and press **Enter**.

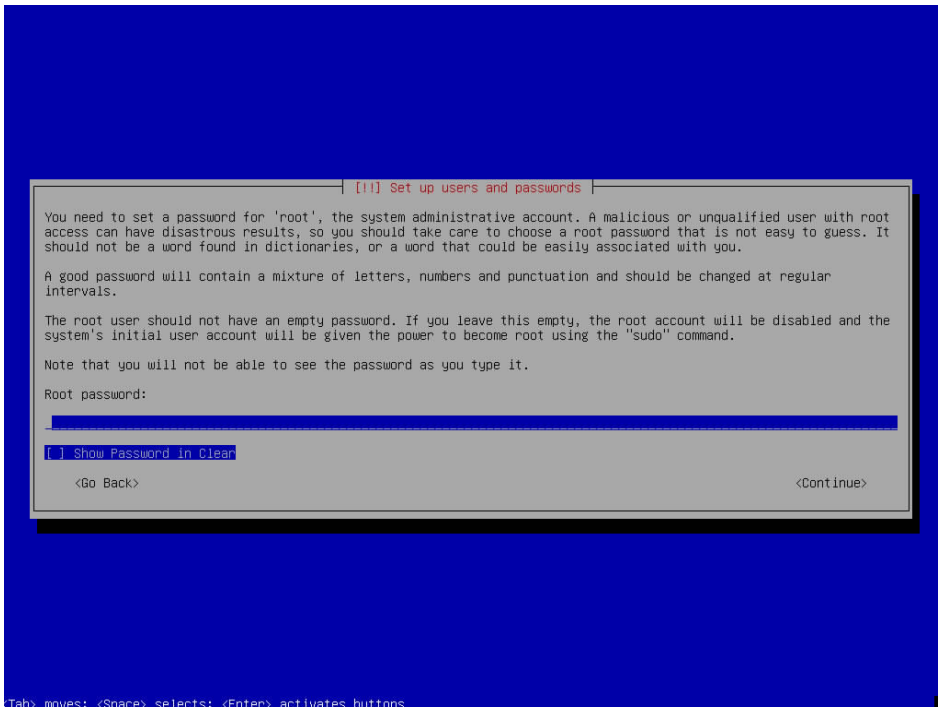
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Figure 4-472 Configuring the network (2)



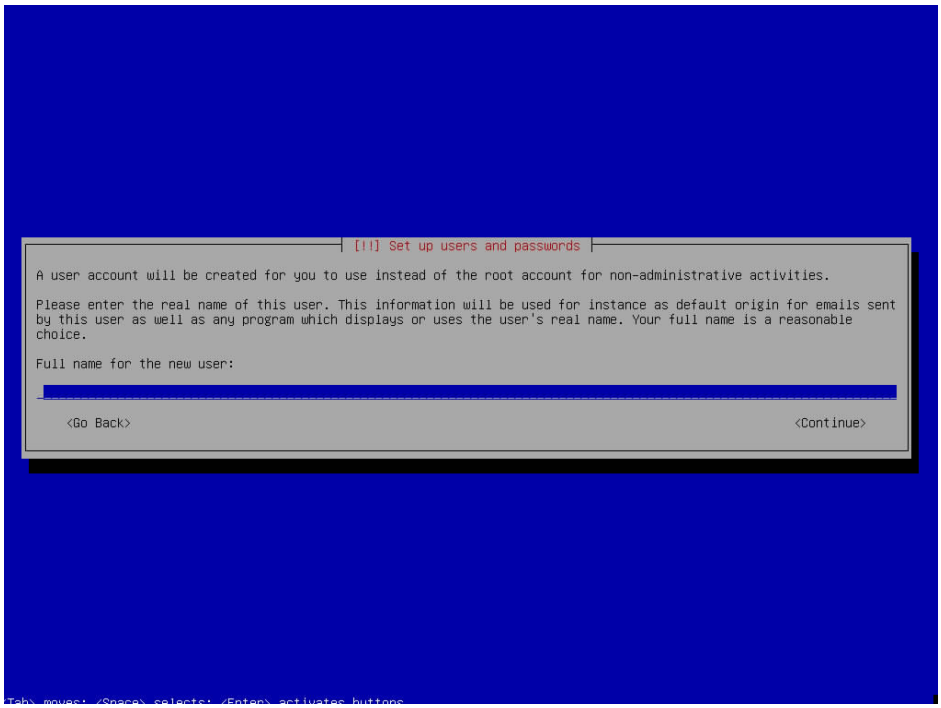
Step 13 On the screen for setting up users and passwords, set the user name and password.

Figure 4-473 Setting up users and passwords (1)



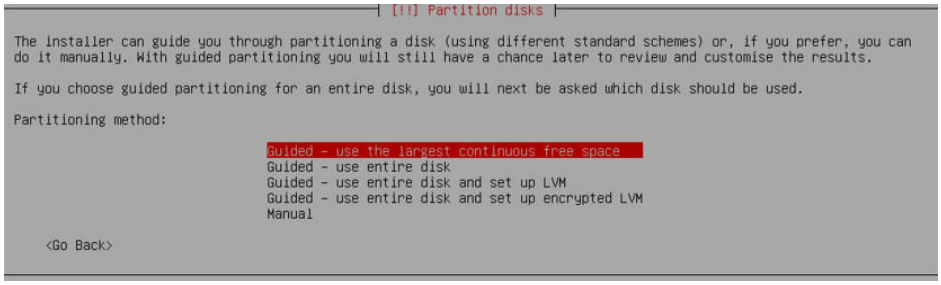
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Figure 4-474 Setting up users and passwords (2)



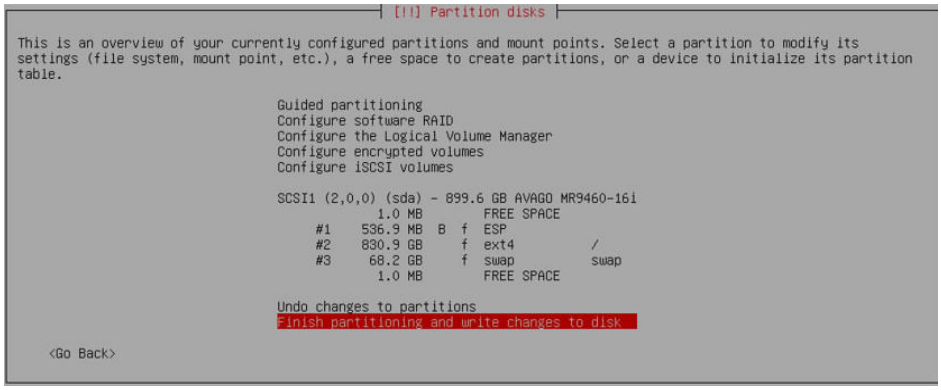
Step 14 On the screen for selecting a partitioning method, select a method and press **Enter**.

Figure 4-475 Selecting a partitioning method



Step 15 On the screen for selecting a hard disk for partitioning, select a hard disk of which the size is the same as that of the hard disk selected in **Step 5**.

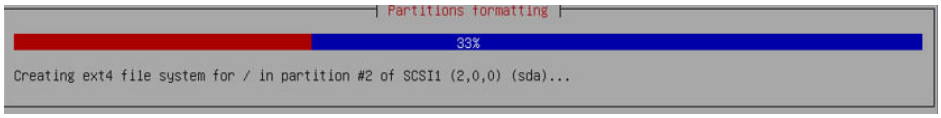
Figure 4-476 Selecting a hard disk



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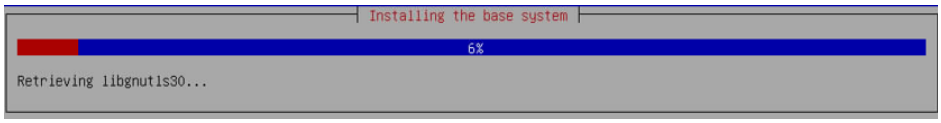
Step 16 The hard disk partitioning starts, as shown in **Figure 4-477**.

Figure 4-477 Partitioning the hard disk



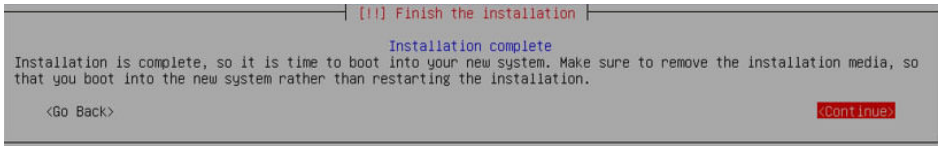
Step 17 The OS installation starts, as shown in **Figure 4-478**.

Figure 4-478 Installing the OS



Step 18 After the installation is complete, select **Continue** and press **Enter** to restart the server.

Figure 4-479 Confirming the restart



The server restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.12 Installing Kylin OS

4.4.1.12.1 Installing Kylin OS in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-480**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

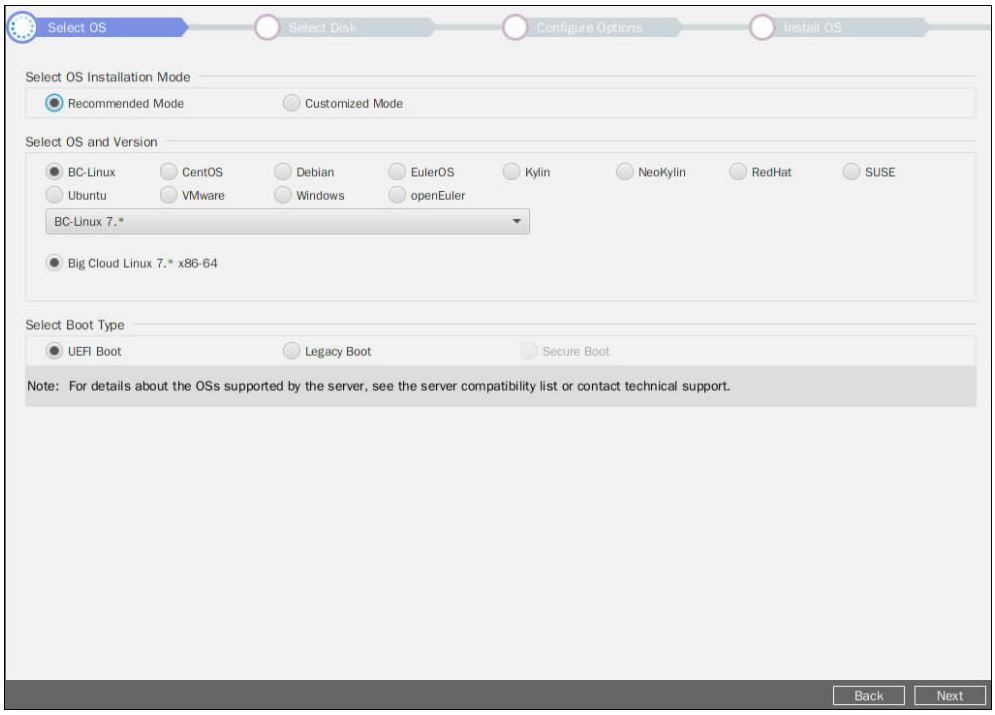
Figure 4-480 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-481**.

Figure 4-481 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

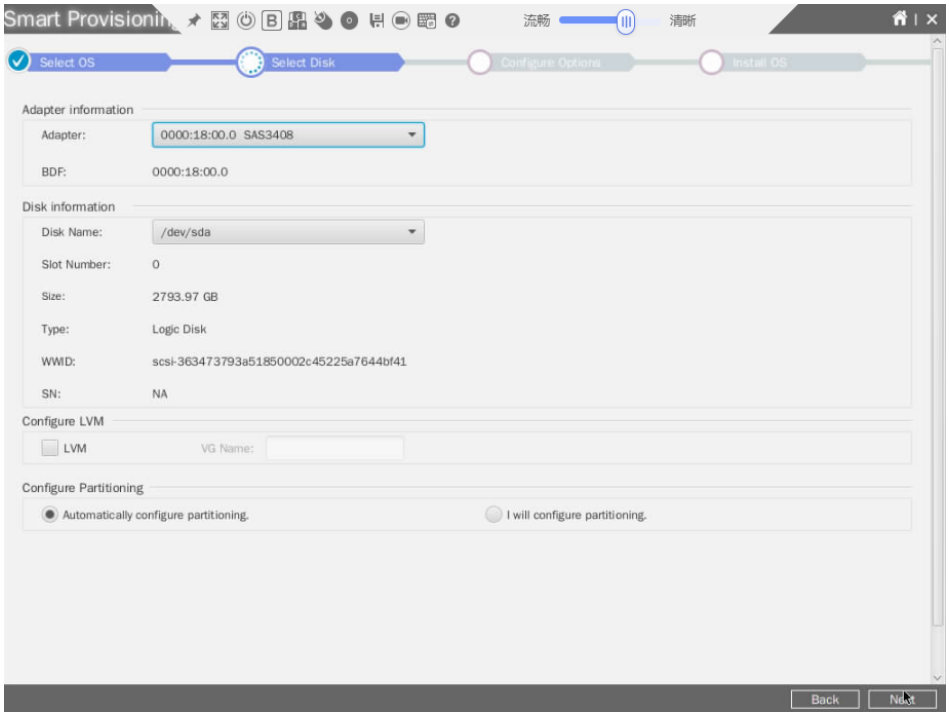
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * Indicates all operating systems of this series. For example, Kylin 10.* indicates all operating systems of the Kylin 10 series.
- If you select an OS marked with *, insert the OS medium of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS medium. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-482**.

Figure 4-482 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

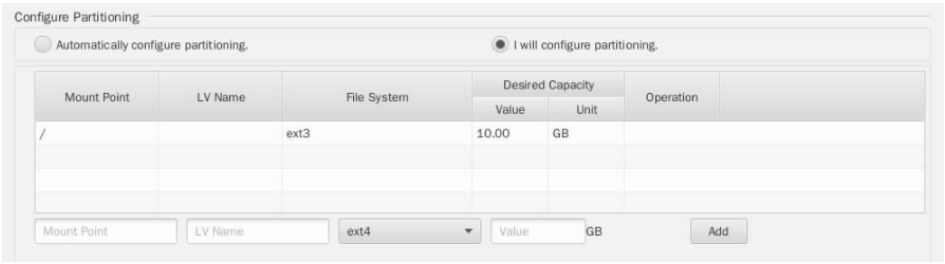
 Copyright © XFUSION INTERNATIONAL PTE. LTD.

Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select **Automatically configure partitioning**(automatic partitioning) or **I will configure partitioning**(manual partitioning). If automatic partitioning is selected, the system automatically creates partitions. If manual partitioning is selected, the window shown in **Figure 4-483** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-483 Creating partitions manually

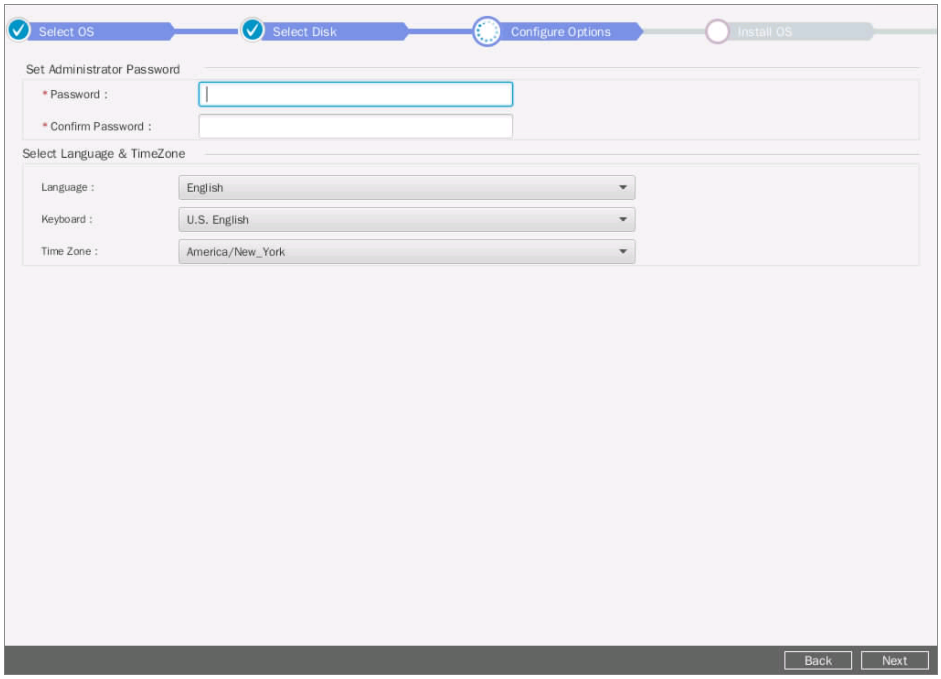


Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-484**.

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Figure 4-484 Setting the password of the **root** user, language, keyboard, and time zone



NOTE

- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-485** is displayed, indicating that the OS version does not support the installation of third-party software.

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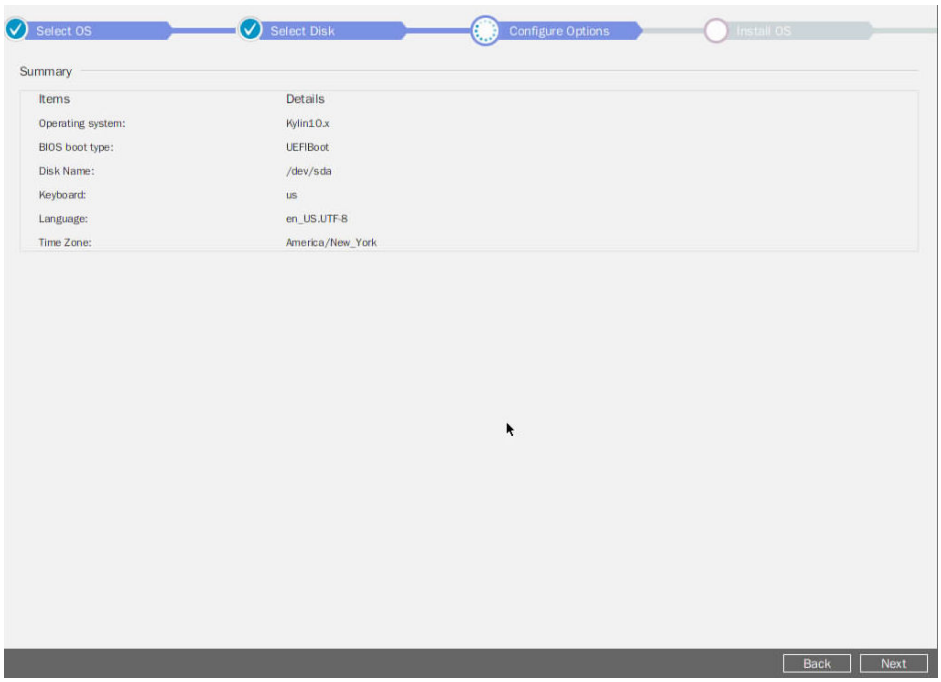
Figure 4-485 Confirmation dialog box



Step 9 Click **Next**.

The configuration summary window is displayed. See **Figure 4-486**.

Figure 4-486 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-487**.For details about configuration,see **Table 4-37**.

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Figure 4-487 Viewing the configuration summary(2)

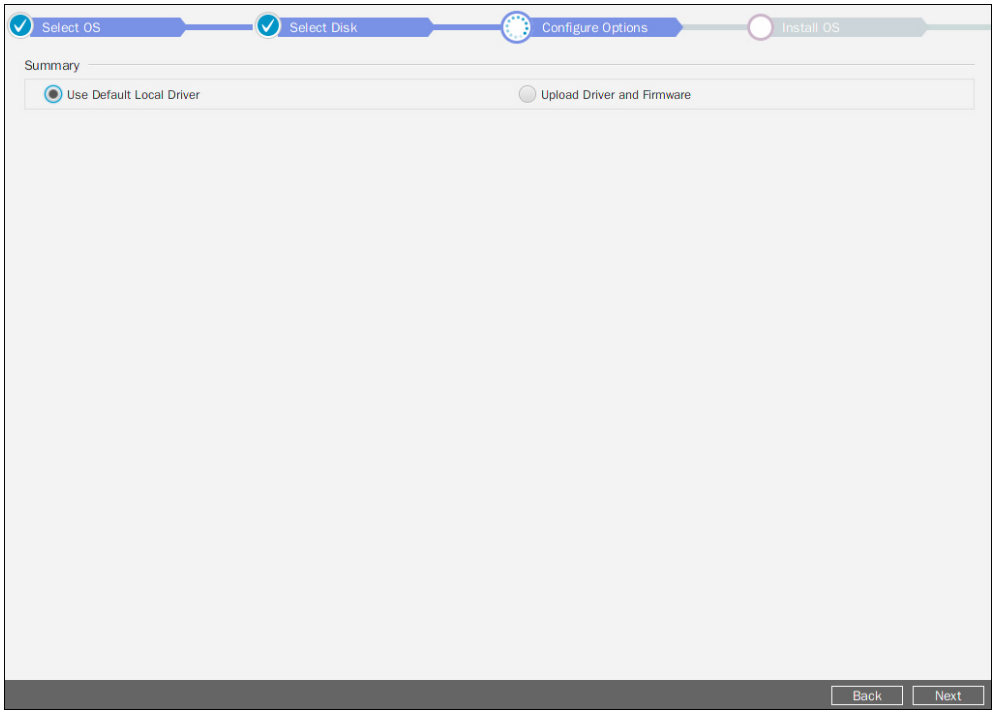


Table 4-37 Configuration Description

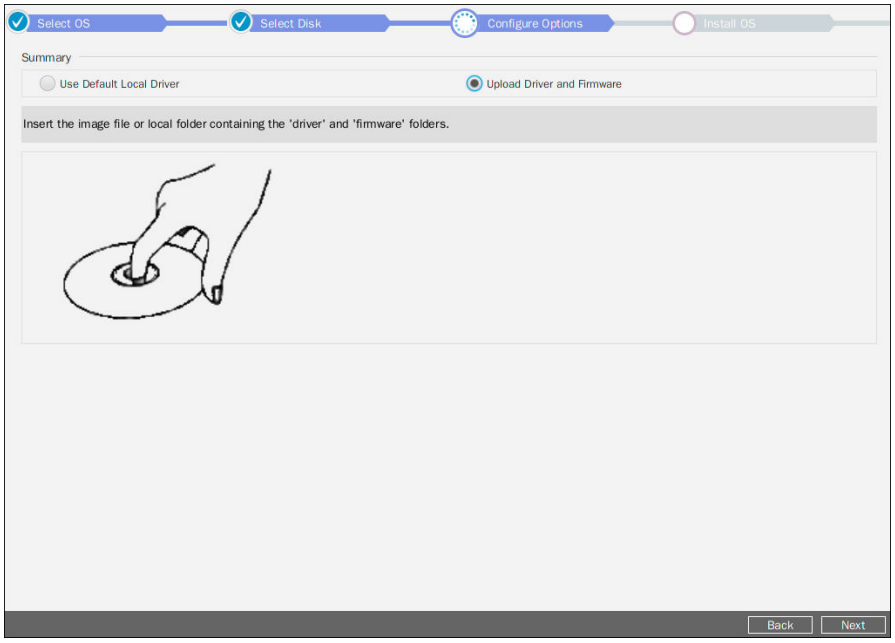
Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-488**.

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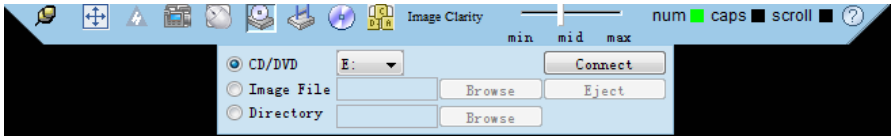
Figure 4-488 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-489**.

Figure 4-489 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

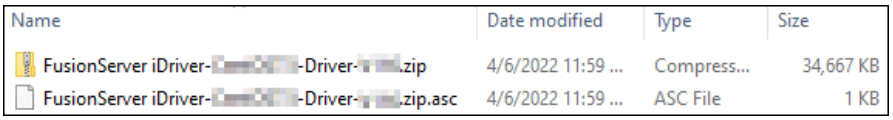
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-490**.

Figure 4-490 Folder



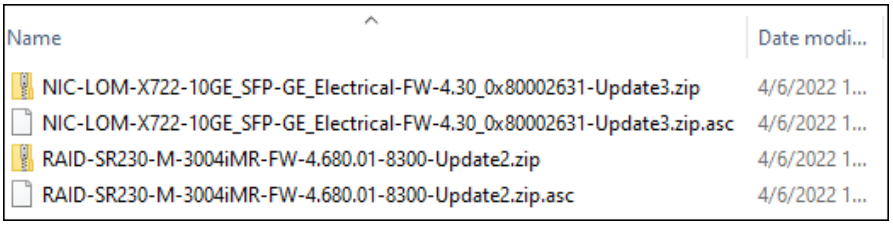
The **driver** folder is shown in **Figure 4-491**.

Figure 4-491 The **driver** folder



The **firmware** folder is shown in **Figure 4-492**.

Figure 4-492 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

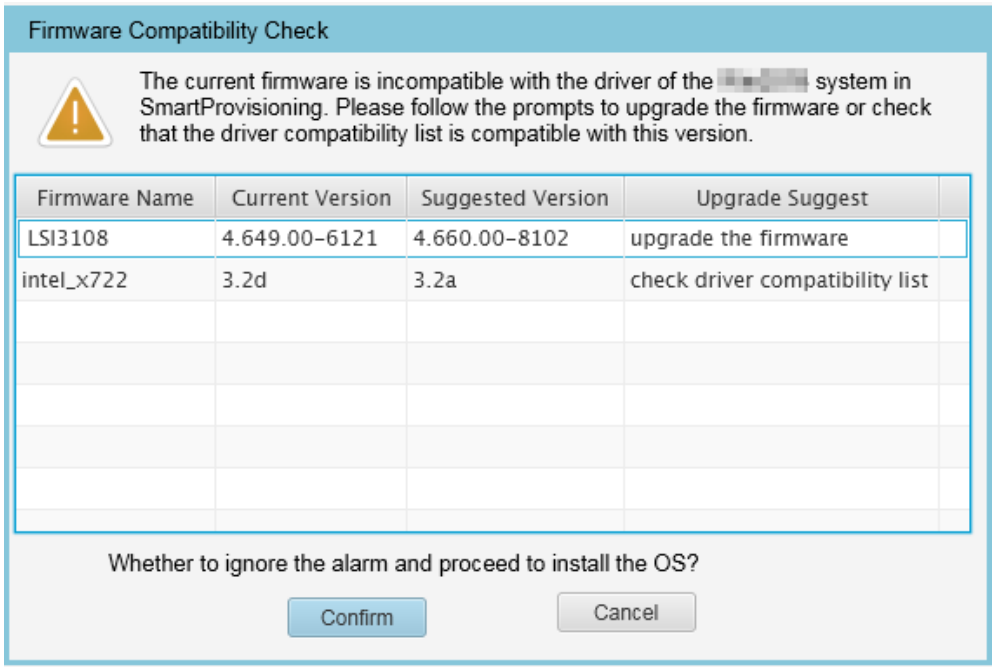
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-495** is displayed. If not, the dialog box shown in **Figure 4-493** is displayed.

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Figure 4-493 Confirmation dialog box



- If the current firmware version is earlier than the target version, upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

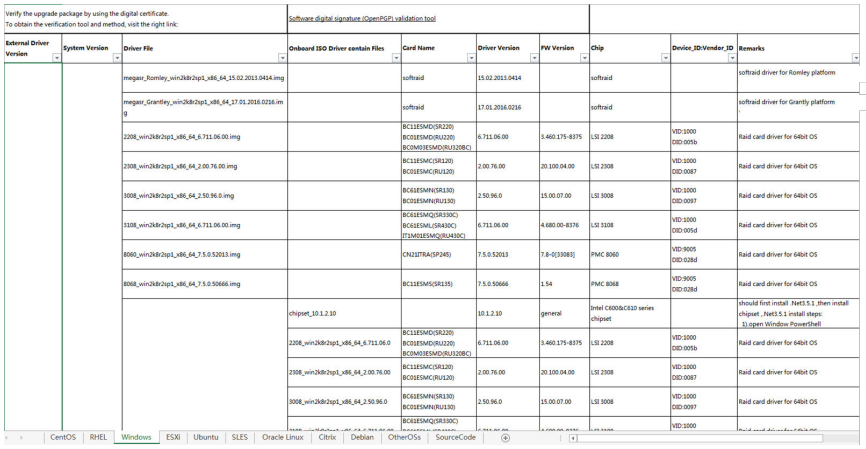
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-494**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the corresponding version in the driver mapping table after installing the OS.

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Figure 4-494 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 10 The window prompting you to insert the OS medium is displayed. See **Figure 4-495**.

Figure 4-495 Window prompting you to insert the OS medium

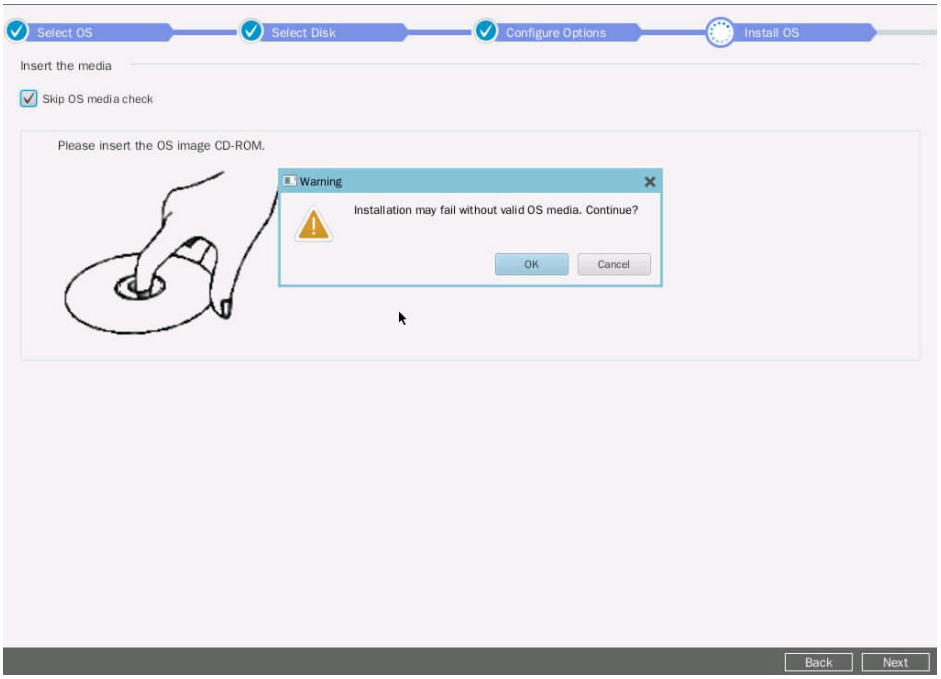


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-496**. Click **OK** or **Cancel** as required.

Figure 4-496 Confirmation dialog box

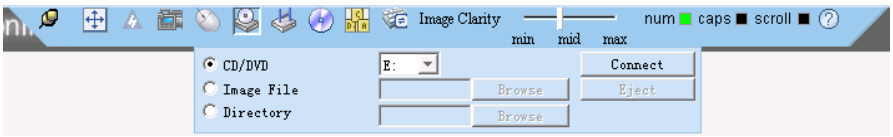


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-497**.

Figure 4-497 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD-ROM drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 12 Click **Next**.

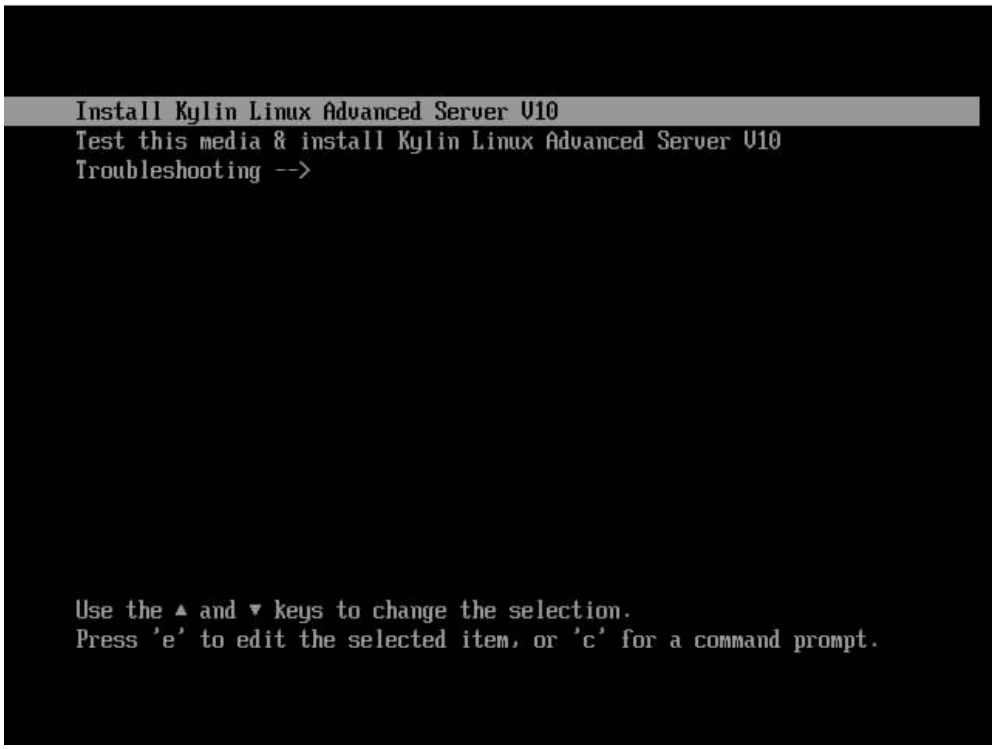
The OS installation starts, as shown in **Figure 4-498**.

Figure 4-498 Starting the installation



After the OS installation starts, the server restarts automatically. After the server has been restarted, the window shown in **Figure 4-499** is displayed.

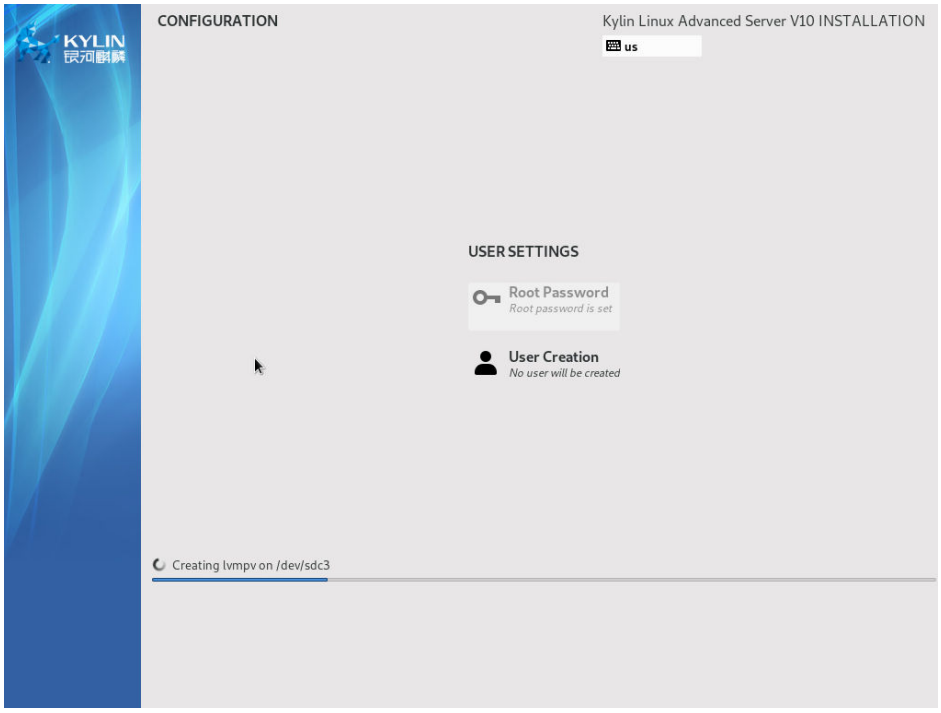
Figure 4-499 Installation summary screen



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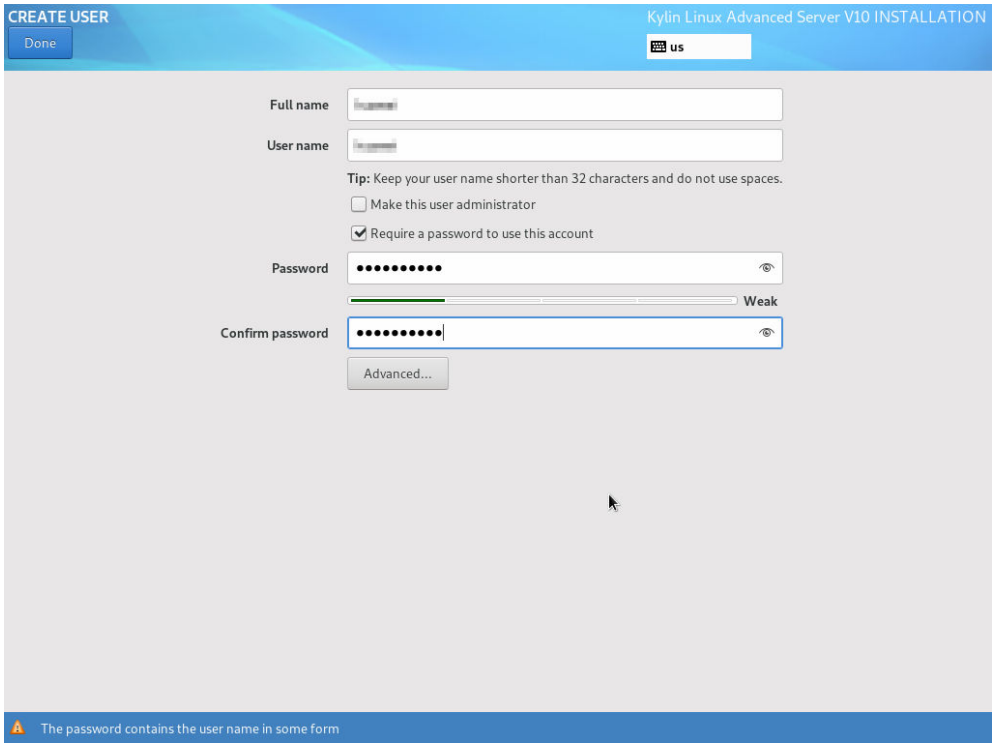
About 2 minutes later, the OS installation will be performed automatically. See **Figure 4-500**.

Figure 4-500 OS installation



Step 13 Click **User Creation**, enter the user name and password, and click **Done**, as shown in **Figure 4-501**.

Figure 4-501 Creating a user



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NOTE

During Kylin OS installation, if an OS of the same type has been installed, a prompt will be displayed. Confirm the prompt information manually.

After the OS has been installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.12.2 Installing Kylin OS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-502**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-502 Smart Provisioning main window

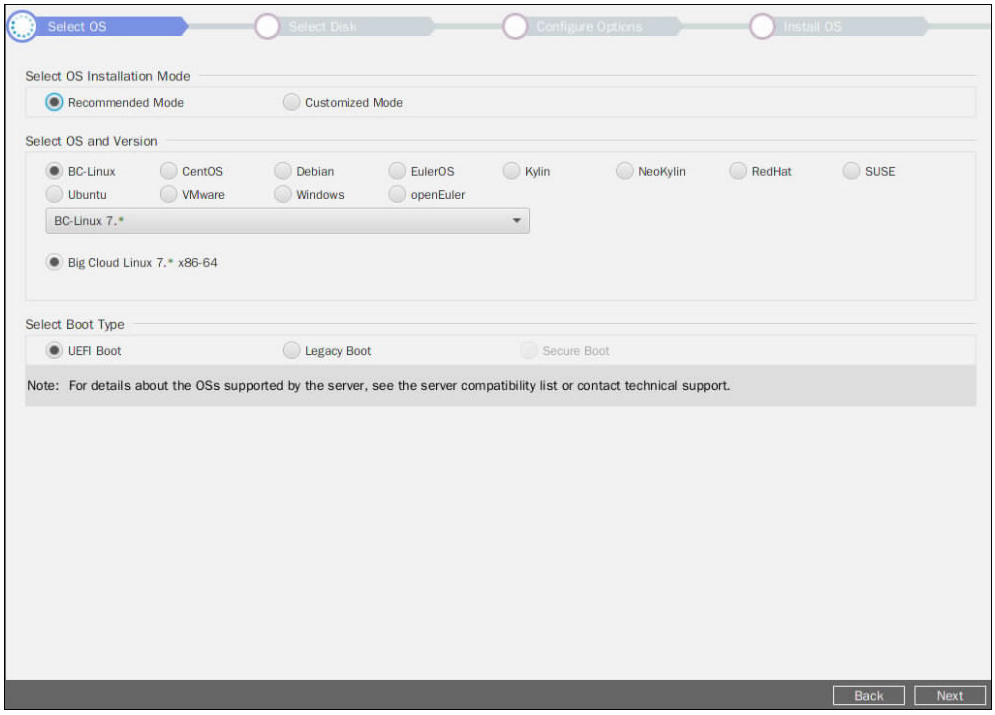


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-503**.

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Figure 4-503 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

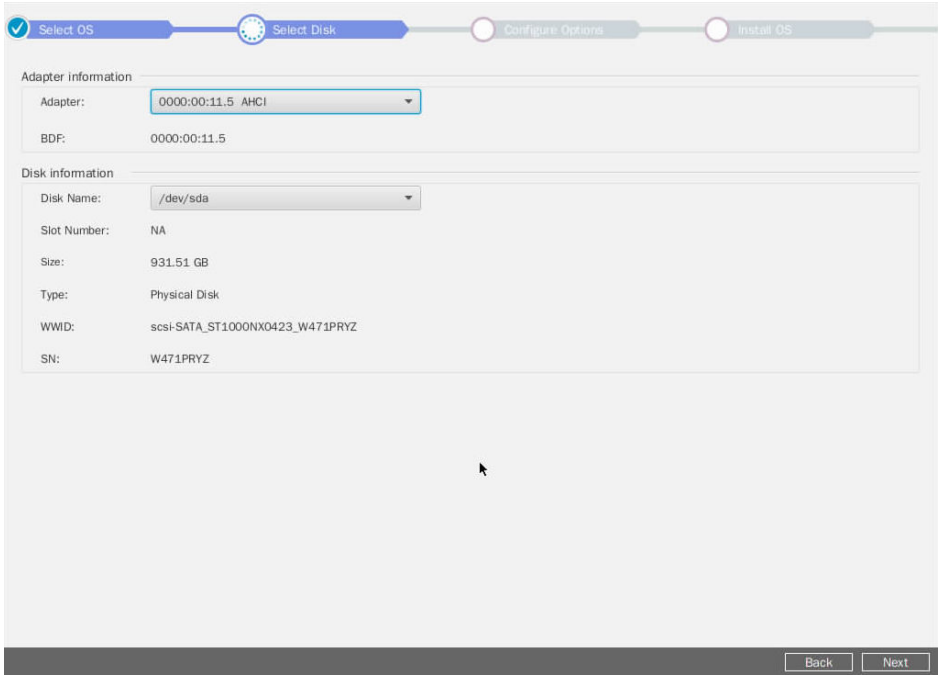
NOTE

- The selected OS version must be the same as that in the DVD-ROM or ISO image file.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * Indicates all operating systems of this series. For example, Kylin 10.* indicates all operating systems of the Kylin 10 series.
- If you select an OS marked with *, insert the OS medium of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS medium. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-504**.

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Figure 4-504 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

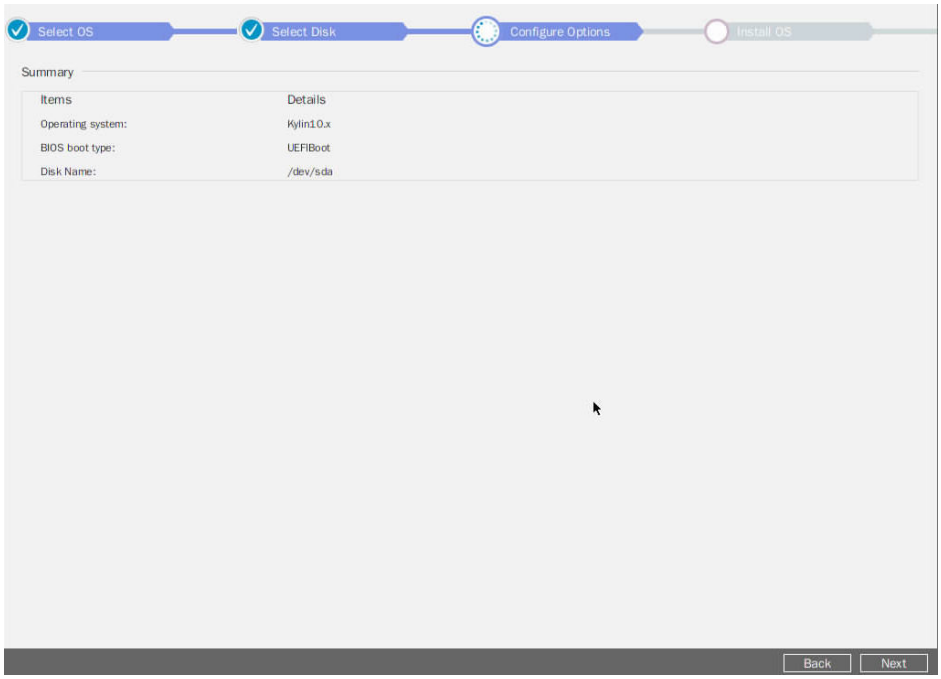
- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.
- After an installation hard drive is selected, record the value of **WWID**. This value will be used in **Step 18**.

Step 6 Click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-505**.

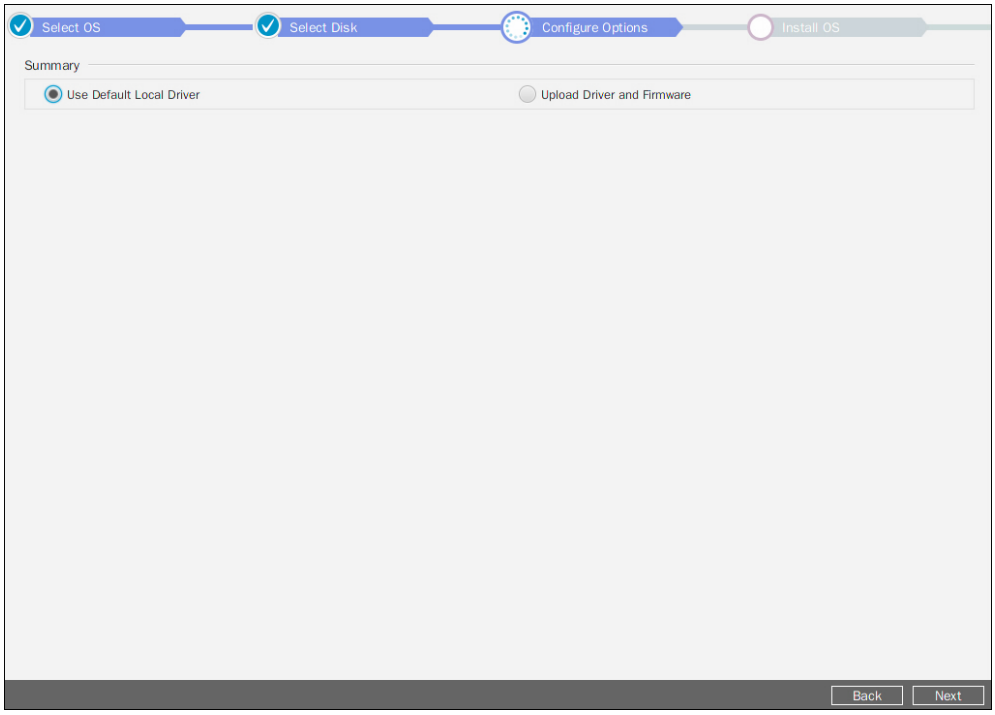
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Figure 4-505 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-506**.For details about configuration,see **Table 4-38**.

Figure 4-506 Viewing the configuration summary(2)



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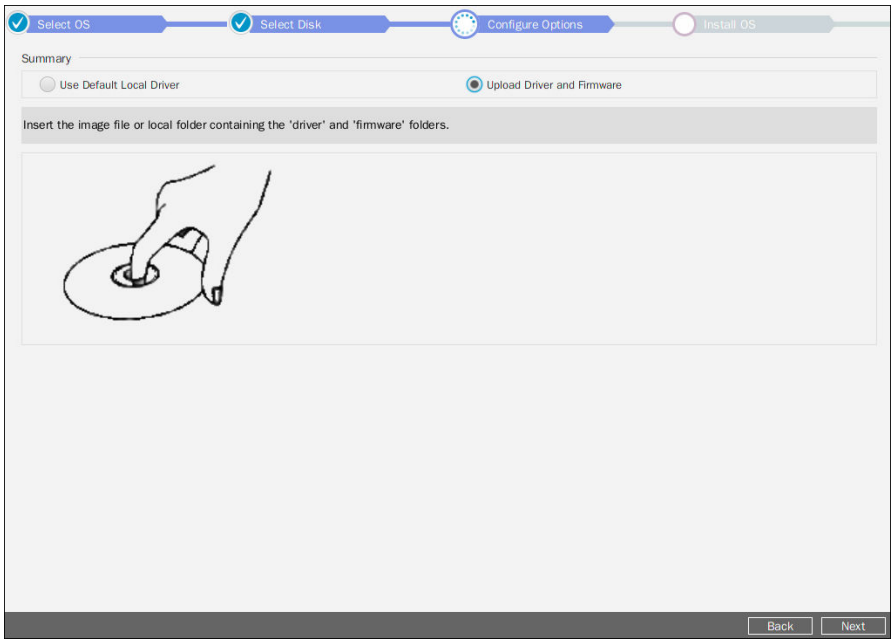
Table 4-38 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

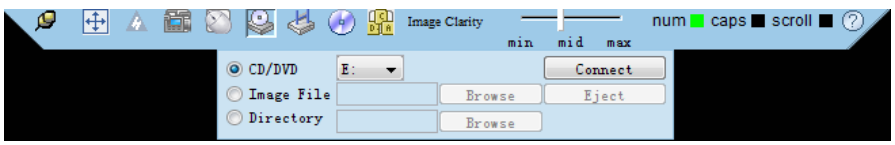
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-507**.

Figure 4-507 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-508**.

Figure 4-508 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

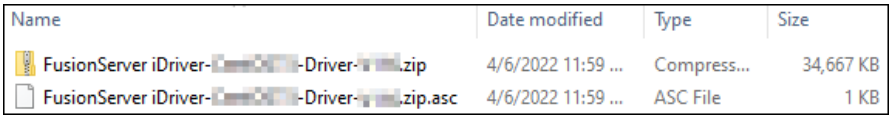
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-509**.

Figure 4-509 Folder



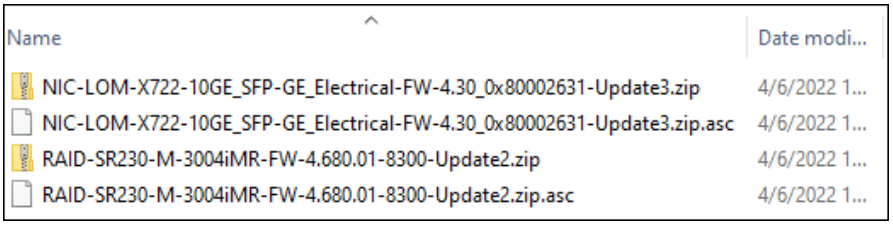
The **driver** folder is shown in **Figure 4-510**.

Figure 4-510 The **driver** folder



The **firmware** folder is shown in **Figure 4-511**.

Figure 4-511 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

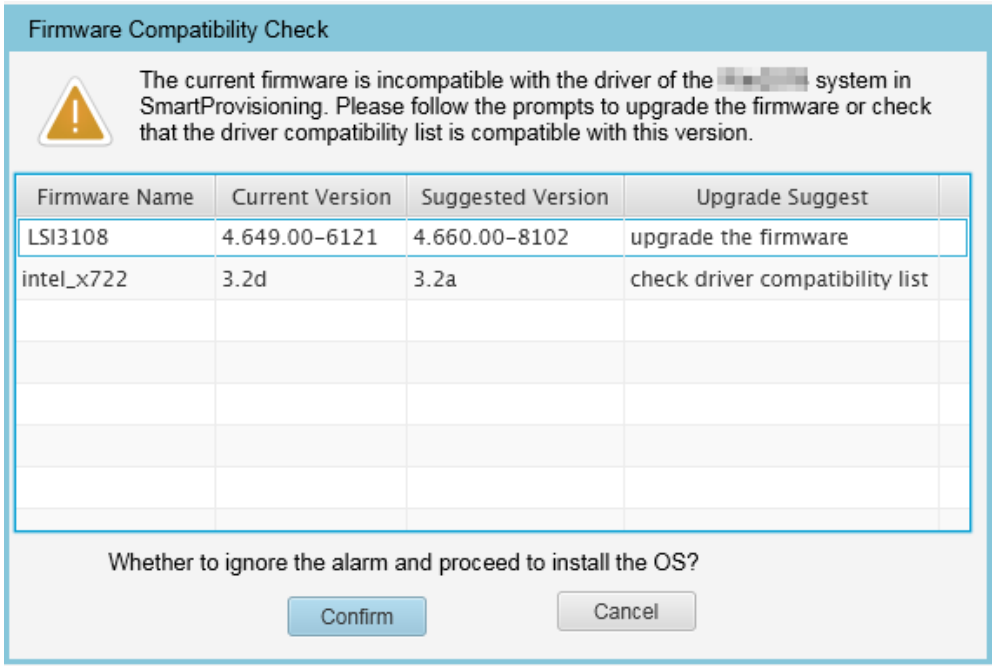
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-514** is displayed. If not, the dialog box shown in **Figure 4-512** is displayed.

Figure 4-512 Confirmation dialog box



- If the current firmware version is earlier than the target version, upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

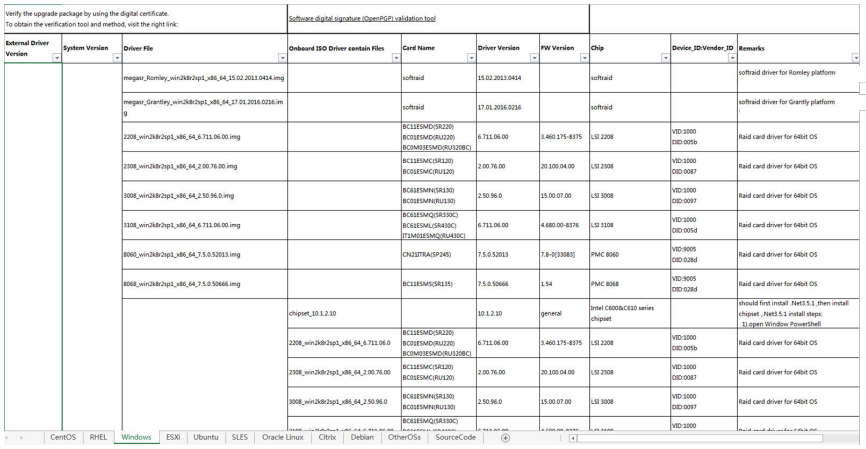
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 6.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-513**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the corresponding version in the driver mapping table after installing the OS.

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Figure 4-513 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

CentOS | RHEL | Windows | ESXi | Ubuntu | SLES | Oracle Linux | Citrix | Debian | OtherOSs | SourceCode

Step 7 The window prompting you to insert the OS medium is displayed. See **Figure 4-514**.

Figure 4-514 Window prompting you to insert the OS medium

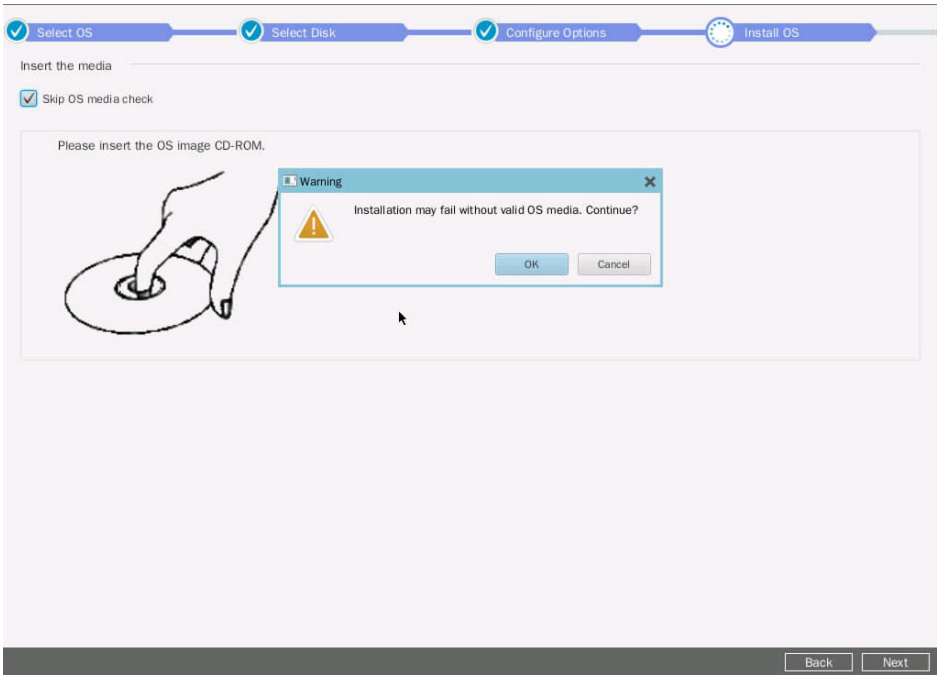


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the DVD-ROM matches the selected system. After you select **Skip OS media check**, "Installation may fail without valid OS media. Continue?" is displayed. See **Figure 4-515**. Click **OK** or **Cancel** as required.

Figure 4-515 Confirmation dialog box

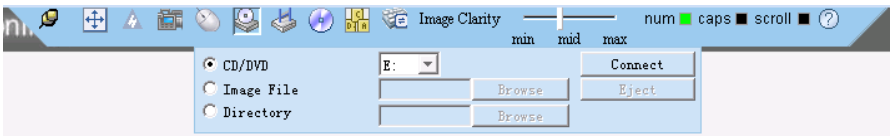


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD-ROM, insert the DVD-ROM of the OS to be installed into the DVD-ROM drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-516**.

Figure 4-516 Virtual DVD-ROM drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.
6. In the virtual DVD-ROM drive dialog box, click **Connect**.

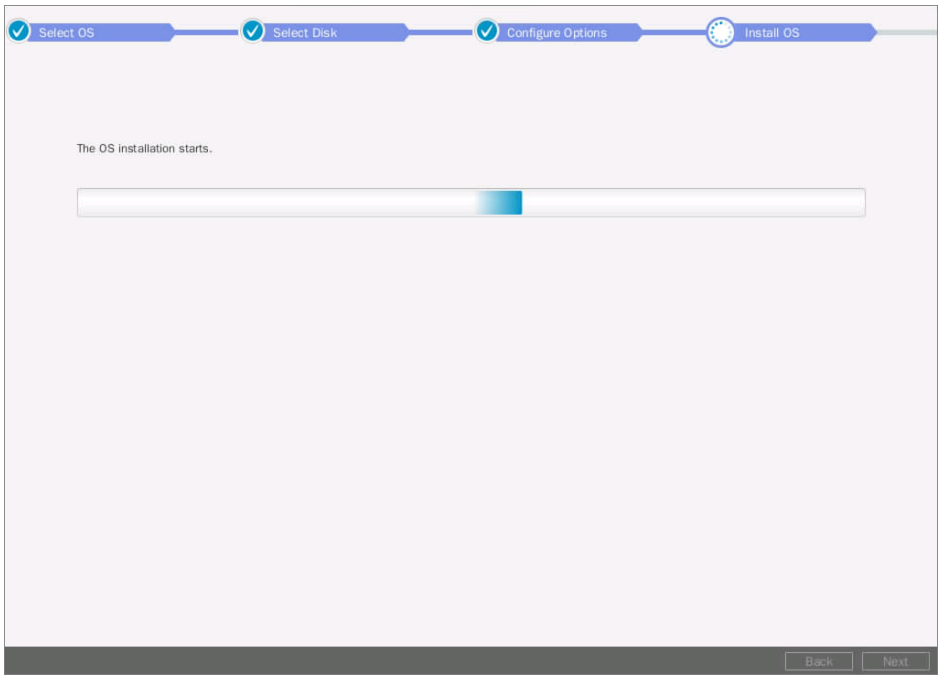
   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

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Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-517**.

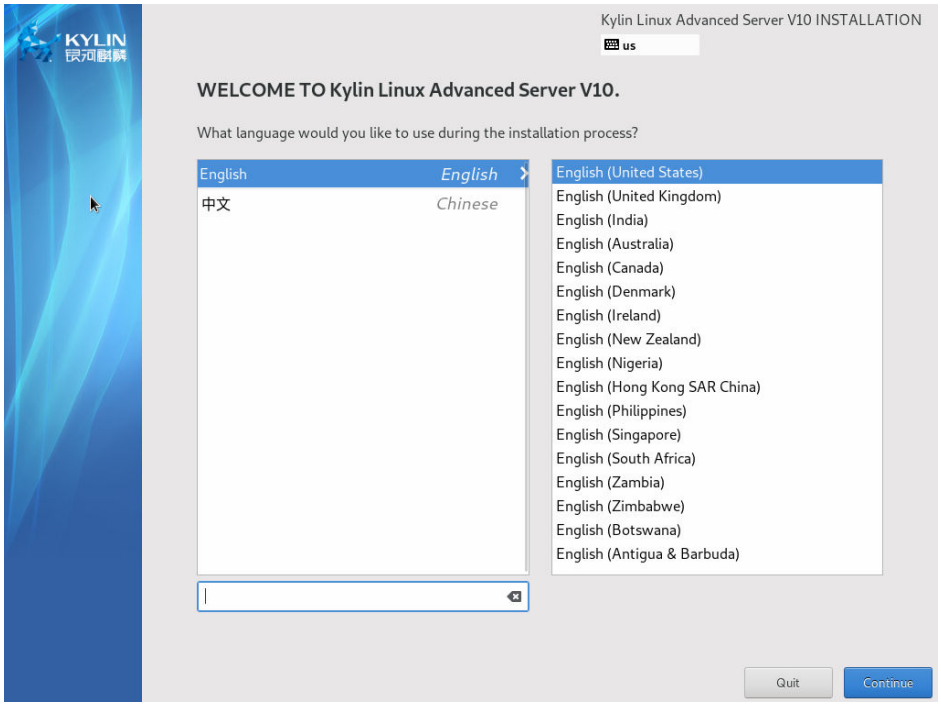
Figure 4-517 Starting the installation



Step 10 Select **Install Kylin Linux Advanced Server V10** and press **Enter**.

The language setting window is displayed. See **Figure 4-518**.

Figure 4-518 Setting a language



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Step 11 Select a language and click **Continue**.

The OS configuration window is displayed, as shown in **Figure 4-519**.

Figure 4-519 Configuring the OS



Step 12 In the **LOCALIZATION** area, set the following parameters and click **Done**.

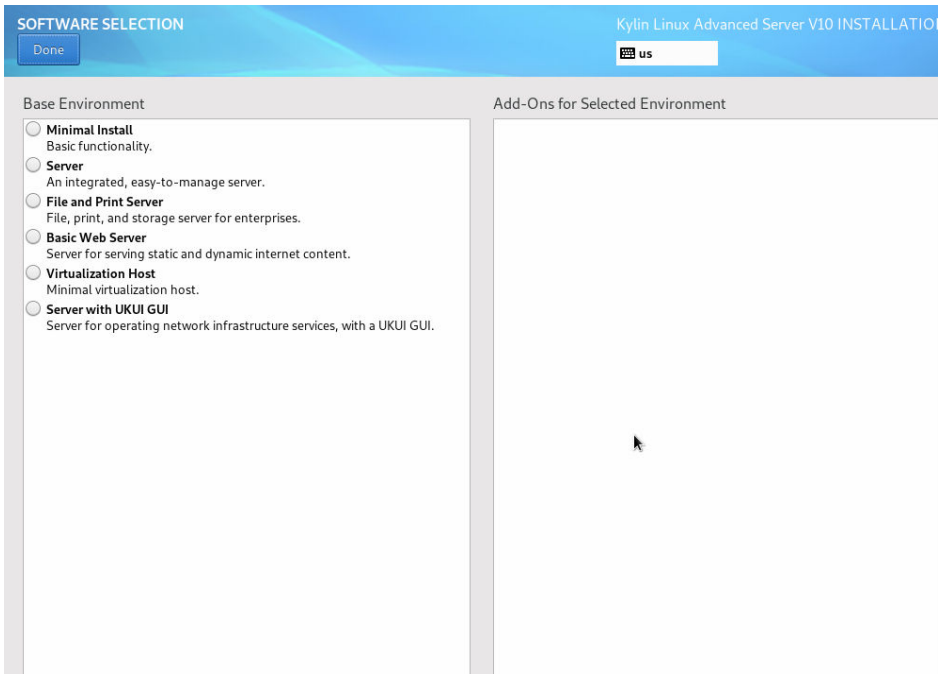
- Click **Time&Date** and set the system time to the local time.
- In the **Keyboard** area, select the keyboard layout. You are advised to select English.
- In the **Language Support** area, select a language. You are advised to select English (United States).

Step 13 In the **SOFTWARE** area, click **Software Selection**.

The SOFTWARE SELECTION screen is displayed, as shown in **Figure 4-520**.

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Figure 4-520 SOFTWARE SELECTION screen



Step 14 You are advised to select **Server with UKUI GUI**. Select the **Add-Ons for Selected Environment** on the right, and click **Done**.

Step 15 In the **SYSTEM** area, click **Installation Destination**.

The INSTALLATION DESTINATION screen is displayed, as shown in **Figure 4-521**.

Figure 4-521 INSTALLATION DESTINATION screen

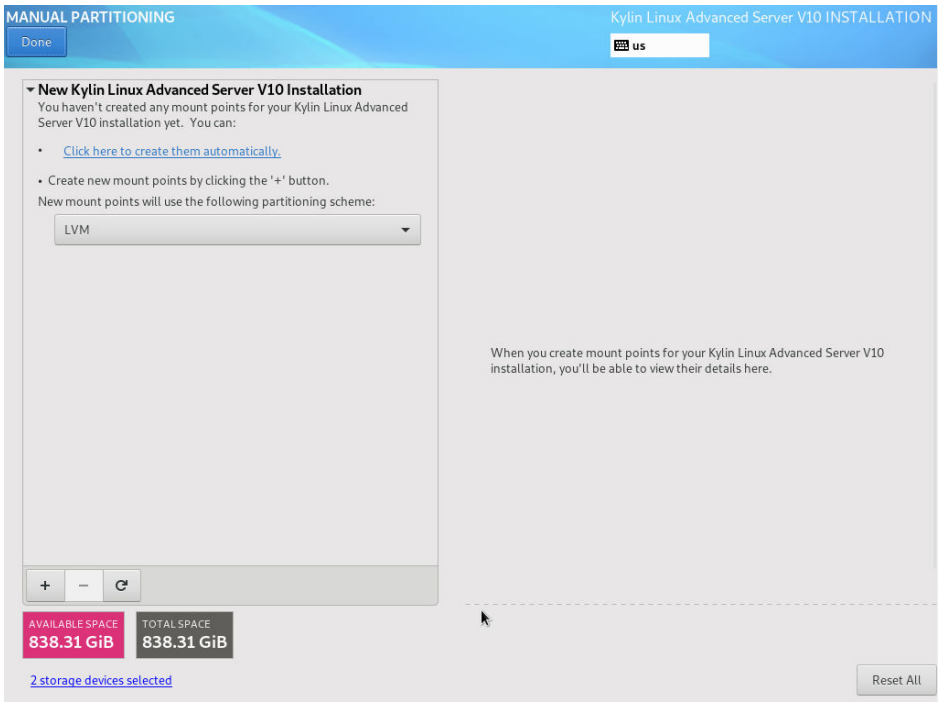


Step 16 Select the hard drive where the OS is to be installed, select **Custom** to create partitions, and click **Done**.

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The MANUAL PARTITIONING screen is displayed, as shown in **Figure 4-522**.

Figure 4-522 MANUAL PARTITIONING screen



Step 17 Select **Standard Partition** from the drop-down list box. Select **LVM** or **Standard Partition** as required.

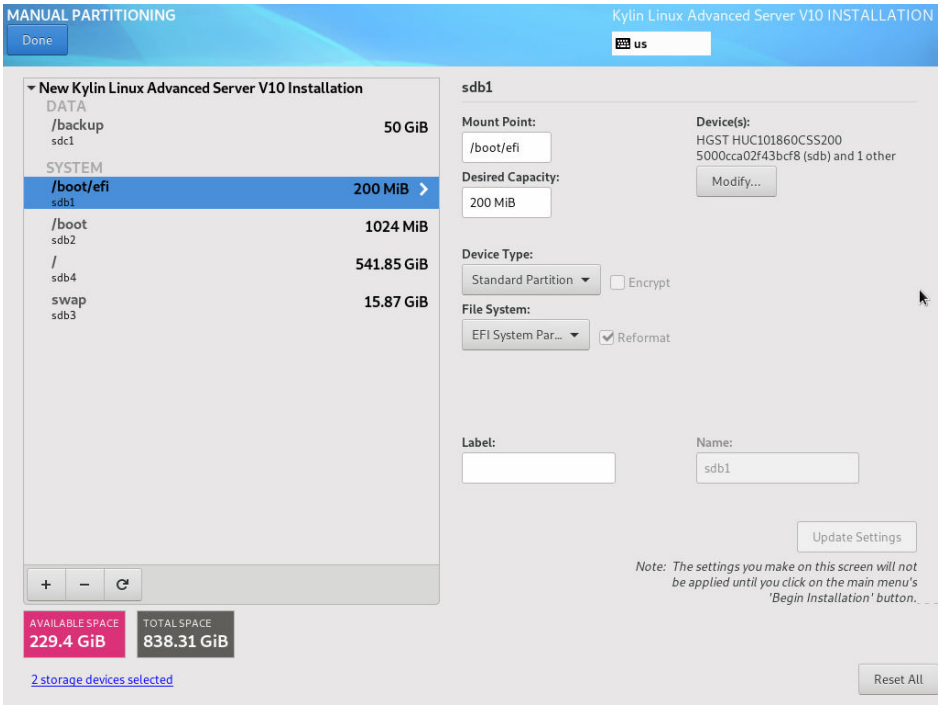
Step 18 Create partitions.

- If automatic partitioning is selected, click **Click here to create them automatically** and then **Done** in the **Figure 4-522**.

  See **Figure 4-523**.

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Figure 4-523 Automatic partitioning



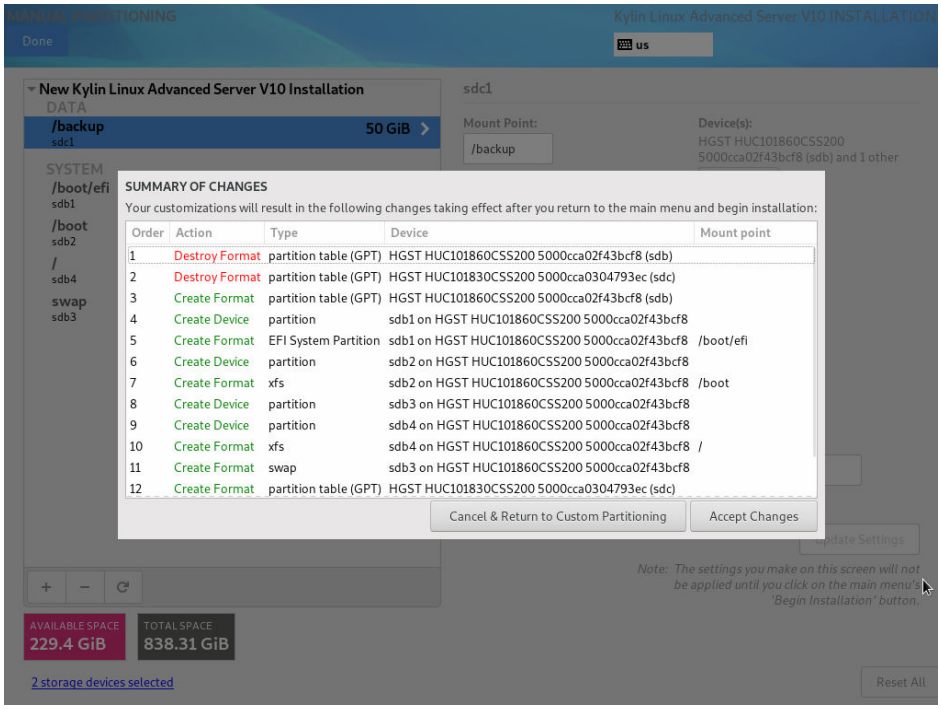
- If you select manual partitioning, click **+** to create a partition.
  - Create at least the **/boot/efi** (size 200 MB), **/boot**, **swap**, and **/** partitions. You can create other partitions based on the actual requirements.
  - Except the **/boot/efi** and **swap** partitions, set the file system type of other partitions to **xfs** (default).

Step 19 After the partitions are created, click **Done**.

The **SUMMARY OF CHANGES** dialog box is displayed, as shown in **Figure 4-524**.

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Figure 4-524 SUMMARY OF CHANGES screen



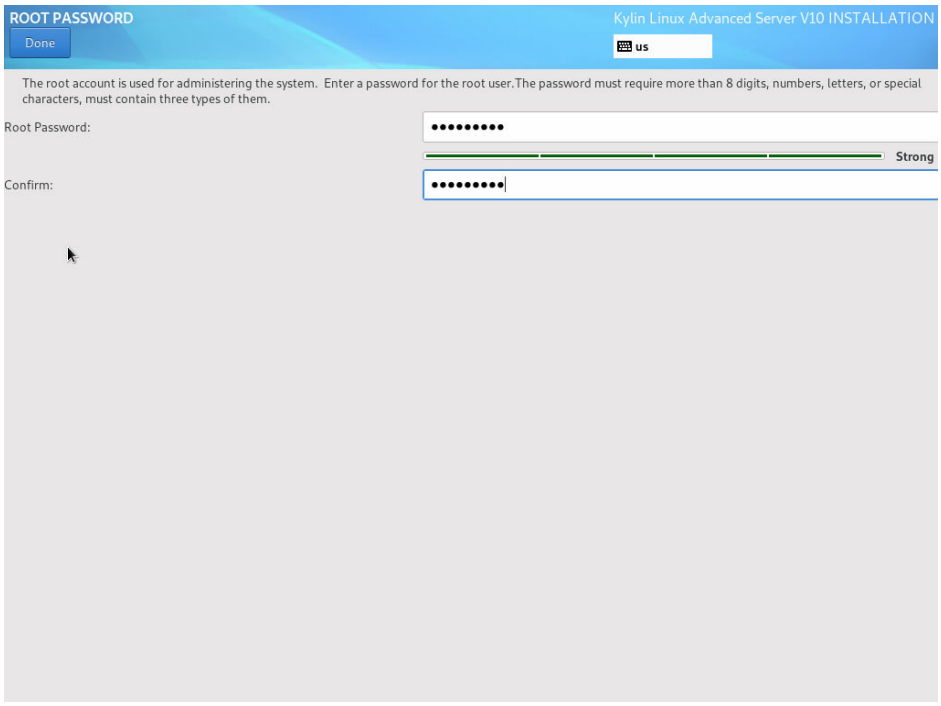
Step 20 Click **Accept Changes**.

Step 21 On the OS configuration screen, click **Begin Installation.**

Step 22 In the user setting area, click **Root Password**.

Step 23 Enter the root password twice and click **Done**, as shown in **Figure 4-525**.

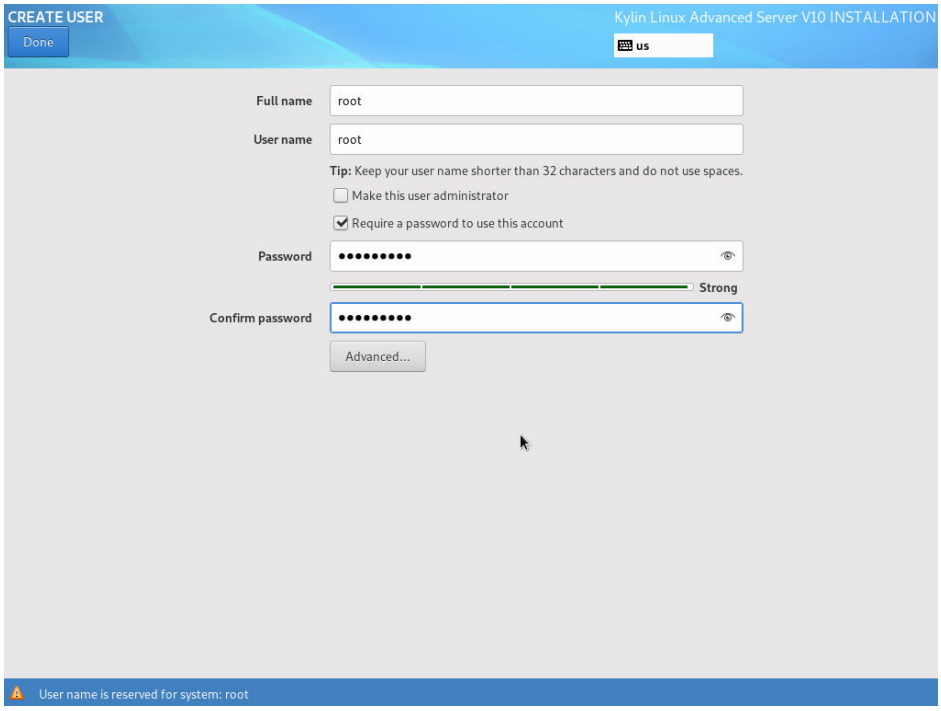
Figure 4-525 ROOT PASSWORD screen



Step 24 In the user setting area, click **User Creation**.

Step 25 Enter the user name and password and click **Done**, as shown in **Figure 4-526**.

Figure 4-526 CREATE USER screen



After the OS has been installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.13 Installing FusionOS OS

4.4.1.13.1 Installing FusionOS OS in Default Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-527**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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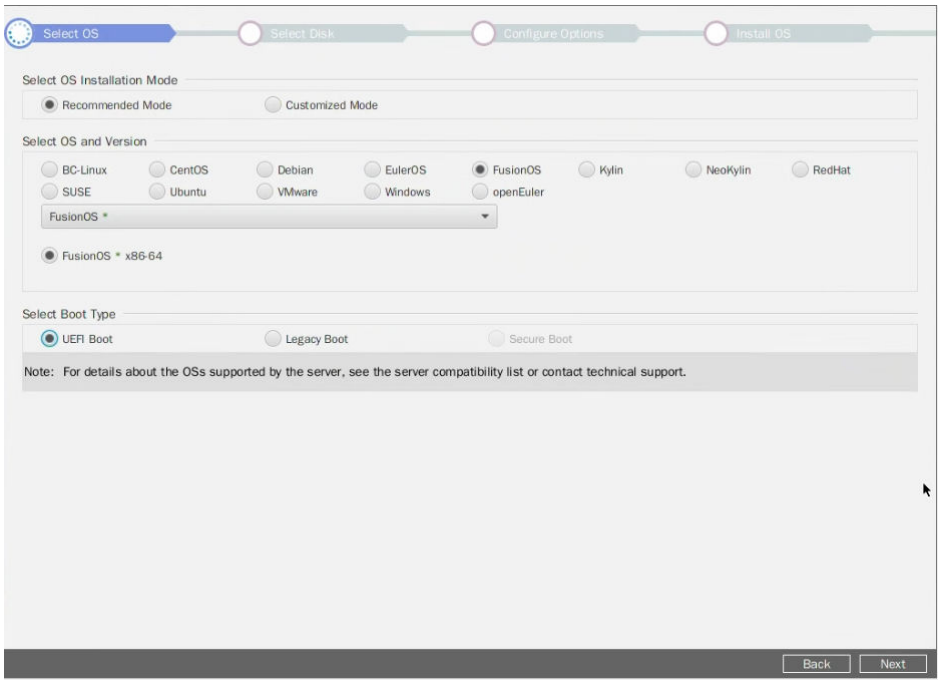
Figure 4-527 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-528**.

Figure 4-528 OS deployment main window



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NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

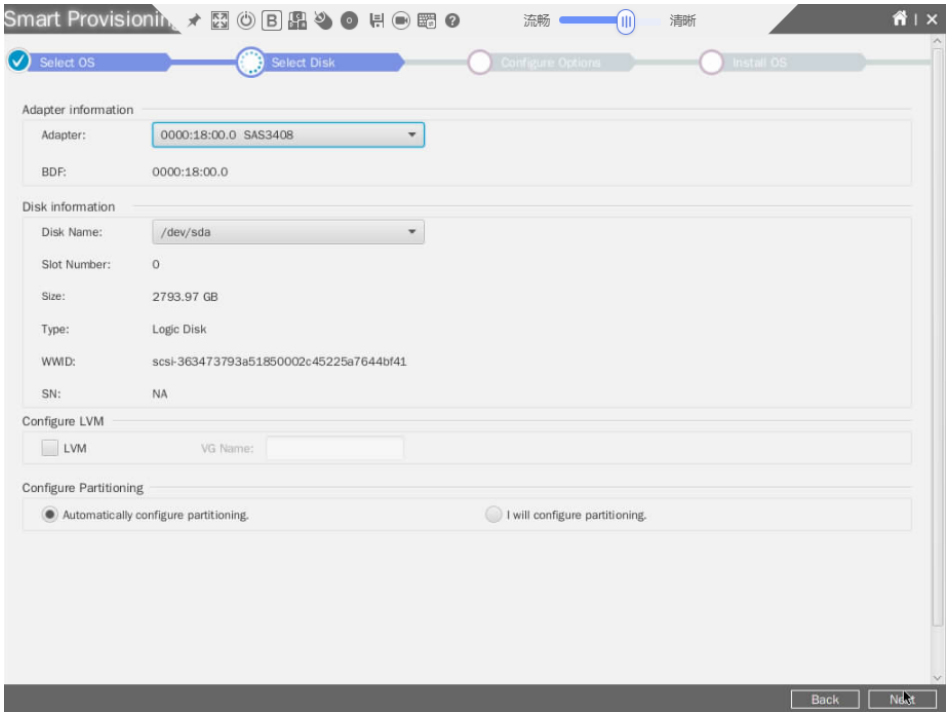
Step 3 Select **Recommended Mode** and the OS version to be installed, and click **Next**.

NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is FusionOS, the version of the inserted installation DVD or mounted image file in **Step 11** must be FusionOS.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
  - * indicates all OSs of the series. For example, FusionOS * indicates all OSs of FusionOS.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-529**.

Figure 4-529 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 Select **Configure LVM** to set the **VG Name**. (Optional)

NOTE

The **VG Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 55 characters in length.

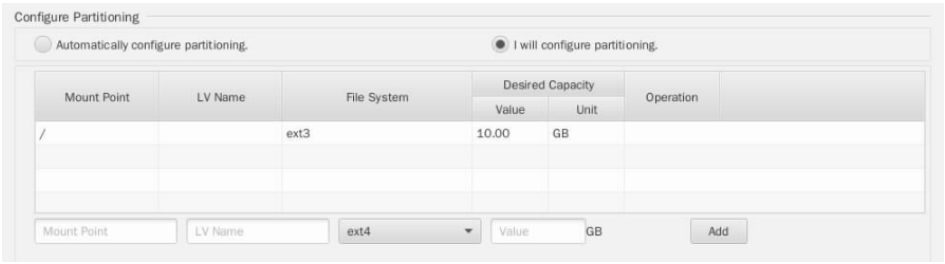
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Step 6 In the **Disk information** area, select the hard drive where the OS is to be installed.

NOTE

- During installation, Smart Provisioning sets the selected hard drive as the boot drive.
- In this window, you can select the automatic partitioning mode (by selecting **Automatically configure partitioning**) or manual partitioning mode (by selecting **I will configure partitioning**). If the automatic partitioning mode is selected, the system automatically creates partitions. If the manual partitioning mode is selected, the window shown in **Figure 4-530** is displayed. You can change the sizes of the **/** or create other partitions. Then press **Enter**. The partition value must be greater than **0** and contain only two decimal places. In UEFI mode, the default size of the **/boot/efi** partition is 100 MB. The **/boot** and **/boot/efi** partitions can be customized.
- All hard drive partitions must be on the same hard drive or RAID array managed by the same RAID controller.
- If **LVM** is selected, the **LV Name** is displayed in the customized partition list.
- The **LV Name** can only include numbers, letters, underscores, and dashes, and cannot exceed 40 characters in length. (Optional)

Figure 4-530 Manual partitioning

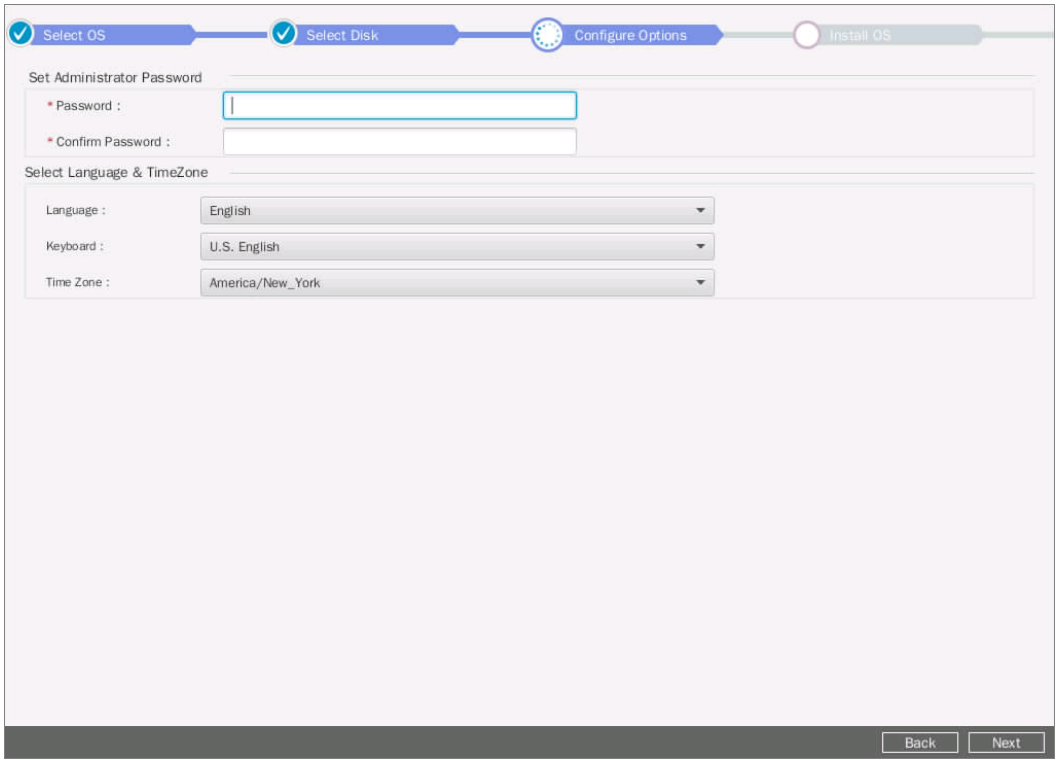


Step 7 Click **Next**.

The window for setting the password of the **root** user, language, keyboard, and time zone is displayed, as shown in **Figure 4-531**.

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Figure 4-531 Setting the password of the root user, language, keyboard, and time zone



NOTE

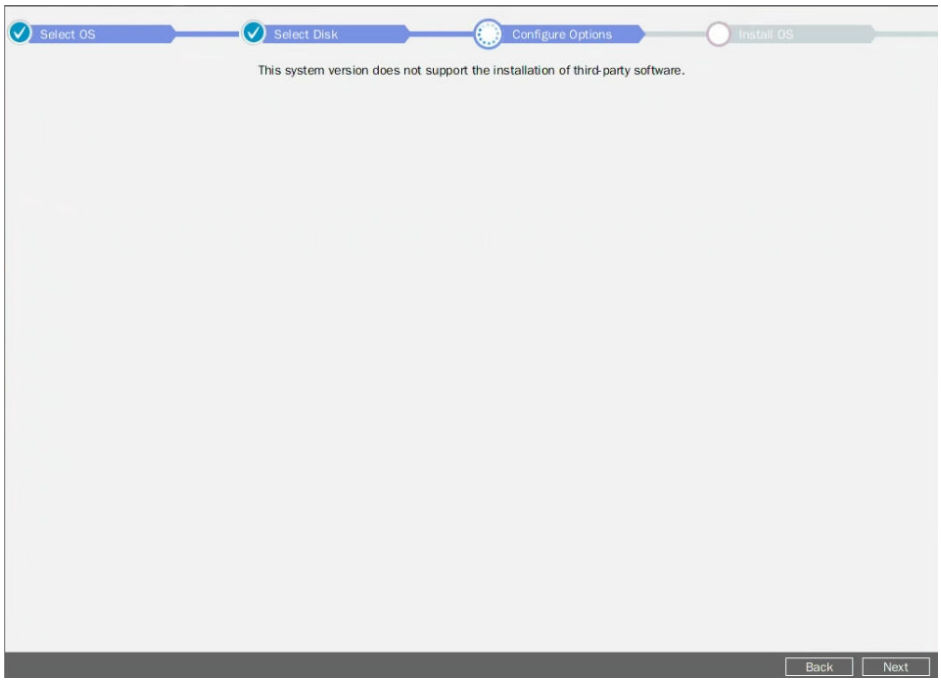
- Parameters marked with * are mandatory.
- The password must contain at least six characters.
- To change the administrator password after the system is deployed successfully, log in by entering the user name and password, and run the **passwd** command, press **Enter**, enter the new password, press **Enter**, enter the new password again, and then press **Enter**.

Step 8 Set the password of the **root** user, language, keyboard, and time zone, and click **Next**.

The window shown in **Figure 4-532** is displayed, asking you whether to install the iBMA.

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Figure 4-532 Dialog box



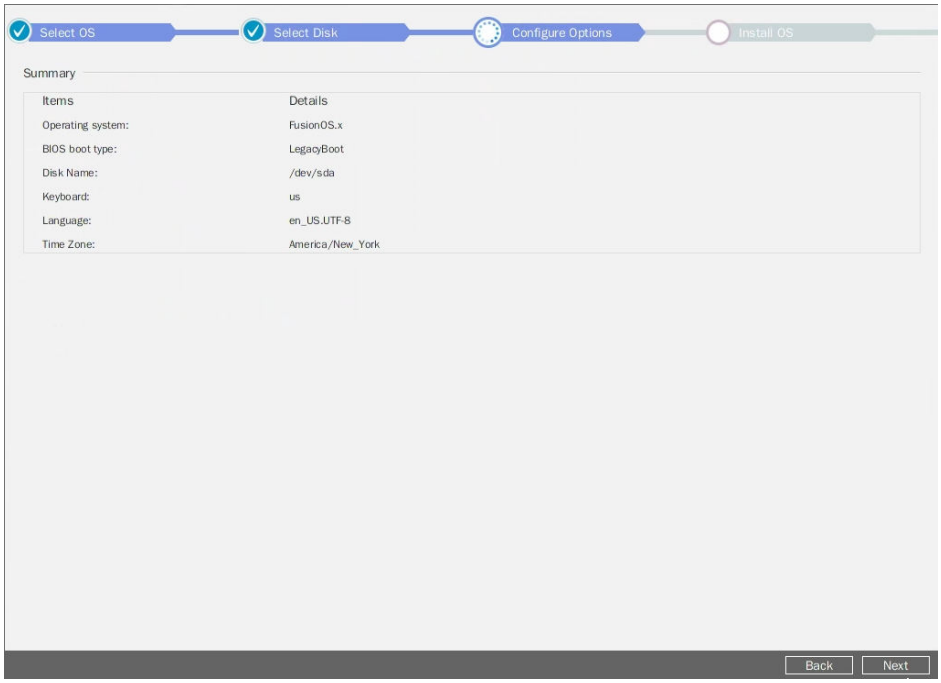
NOTE

For details about the compatibility of the iBMA, see the ***iBMA User Guide***.

Step 9 To install the iBMA, select the check box on the right and click **Next**.

The configuration summary window is displayed, as shown in **Figure 4-533**.

Figure 4-533 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-534**.For details about configuration,see **Table 4-39**.

Figure 4-534 Viewing the configuration summary(2)

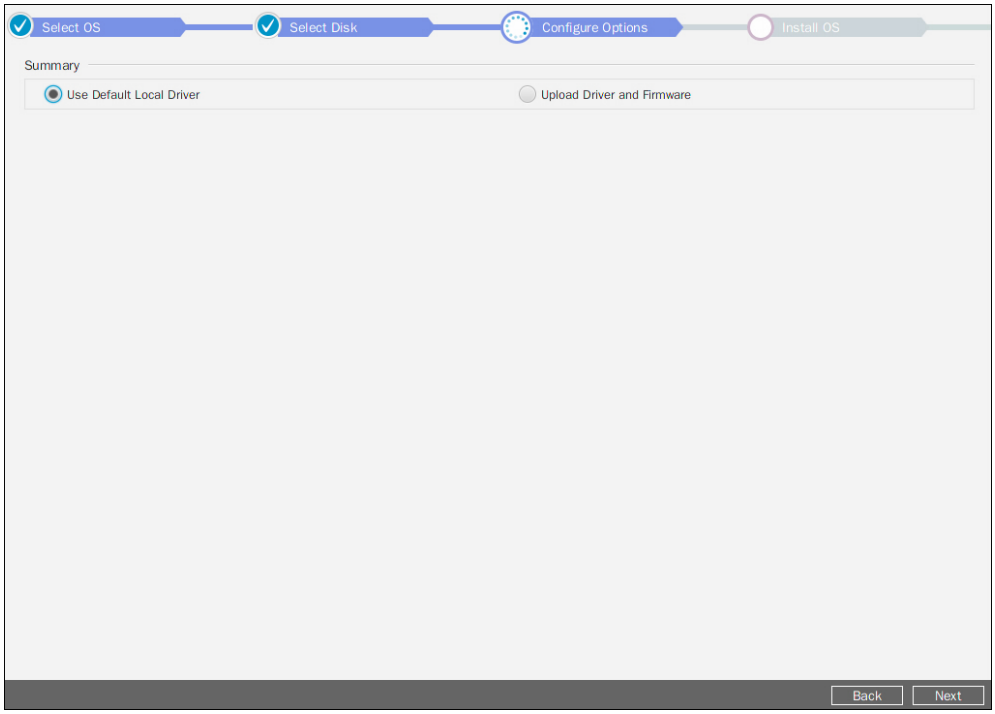


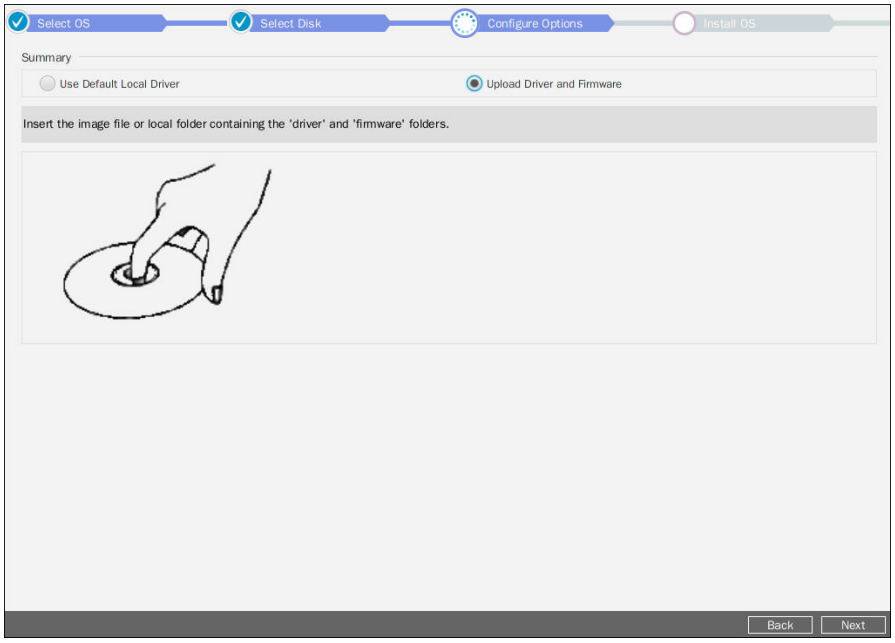
Table 4-39 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-535**.

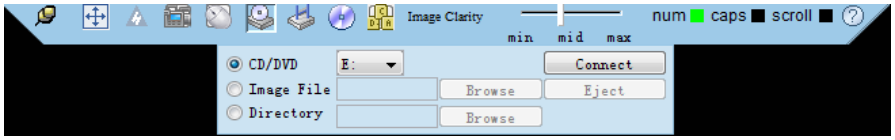
Figure 4-535 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-536**.

Figure 4-536 Virtual DVD-ROM drive



c. Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

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NOTE

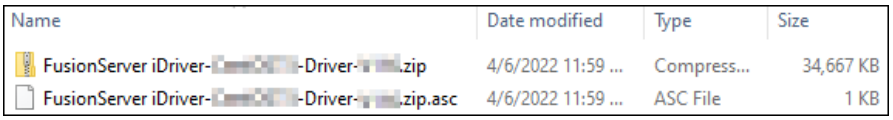
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-537**.

  Figure 4-537 Folder

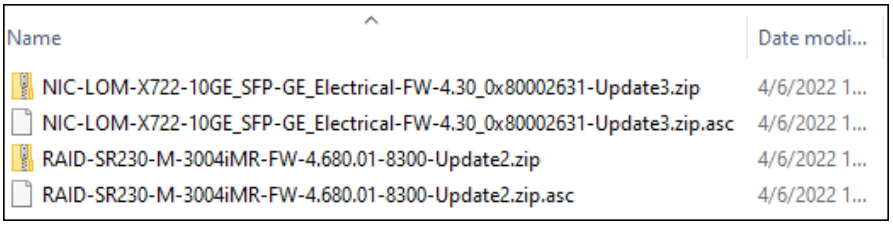
  The **driver** folder is shown in **Figure 4-538**.

  Figure 4-538 The **driver** folder

  The **firmware** folder is shown in **Figure 4-539**.

  Figure 4-539 The **firmware** folder

- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

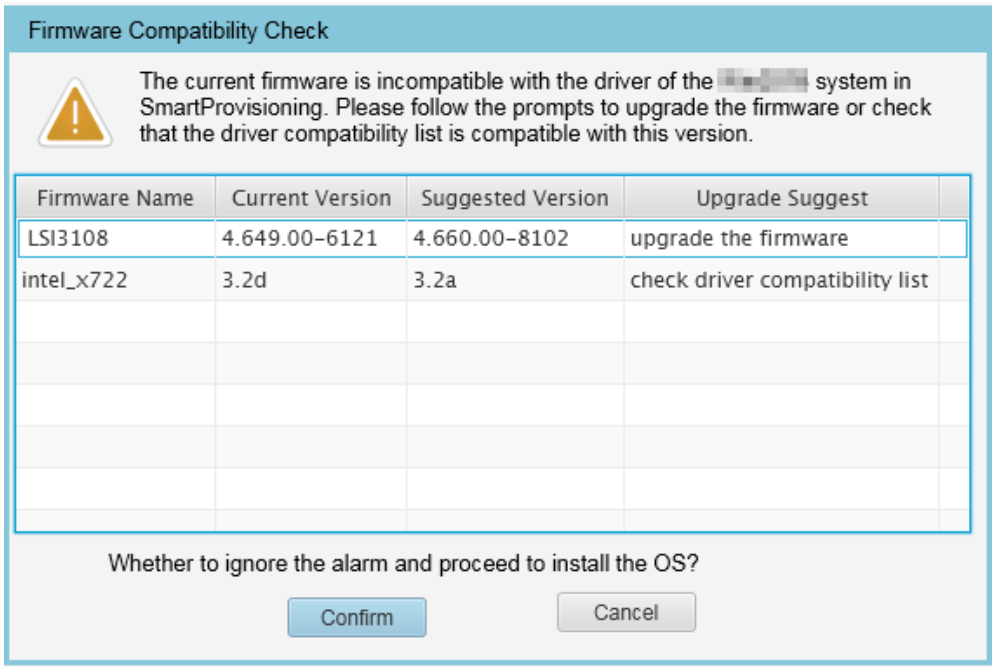
e. Click **Connect**.

Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-542** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-540** is displayed.

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Figure 4-540 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

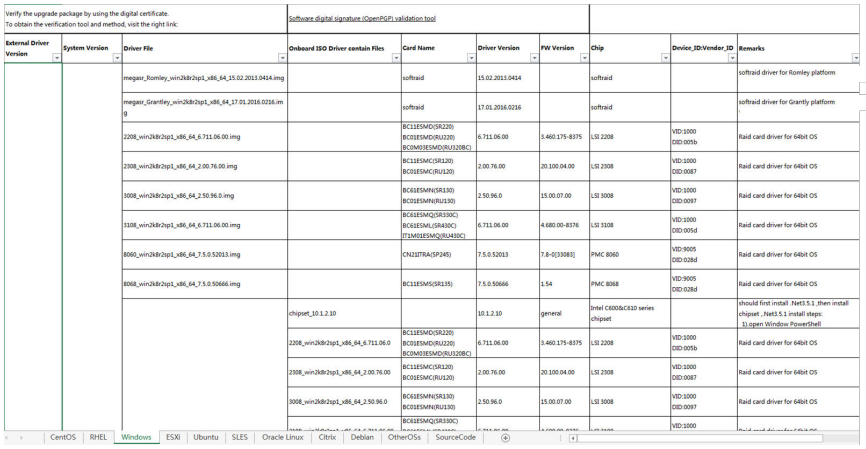
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **Step 9.b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-541**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-541 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.im g		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:026d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:026d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 10 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-542**.

Figure 4-542 Window prompting you to insert the OS medium

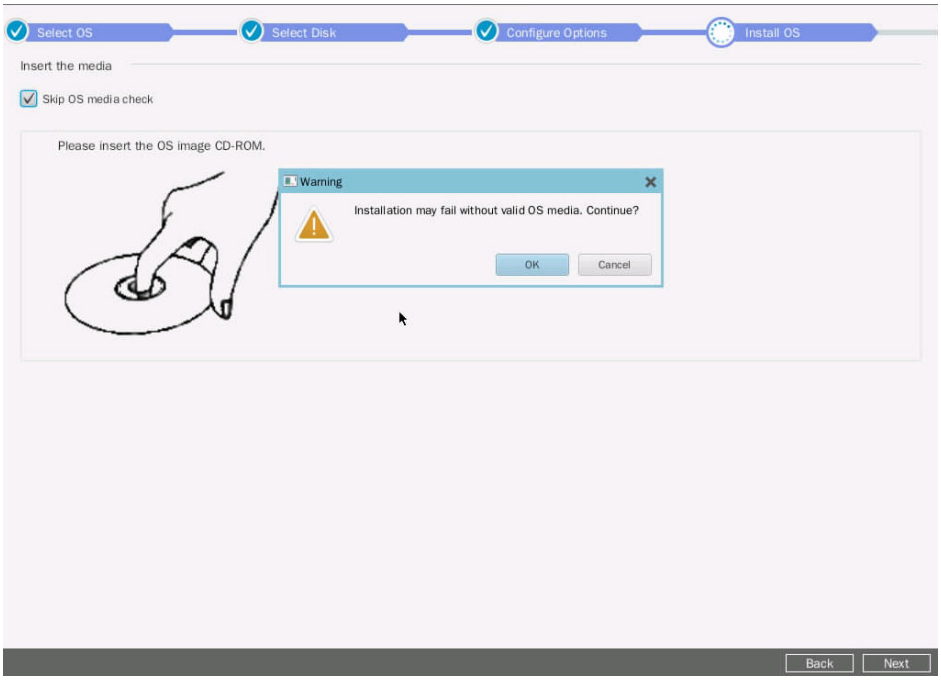


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-543**. Click **OK** or **Cancel** as required. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-543 Dialog box

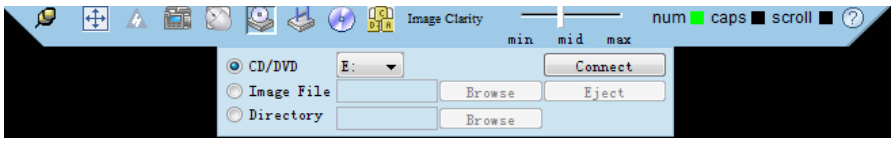


Step 11 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 11.2** to **Step 11.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-544**.

Figure 4-544 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 12 Click **Next**.

The OS installation starts, as shown in **Figure 4-545**.

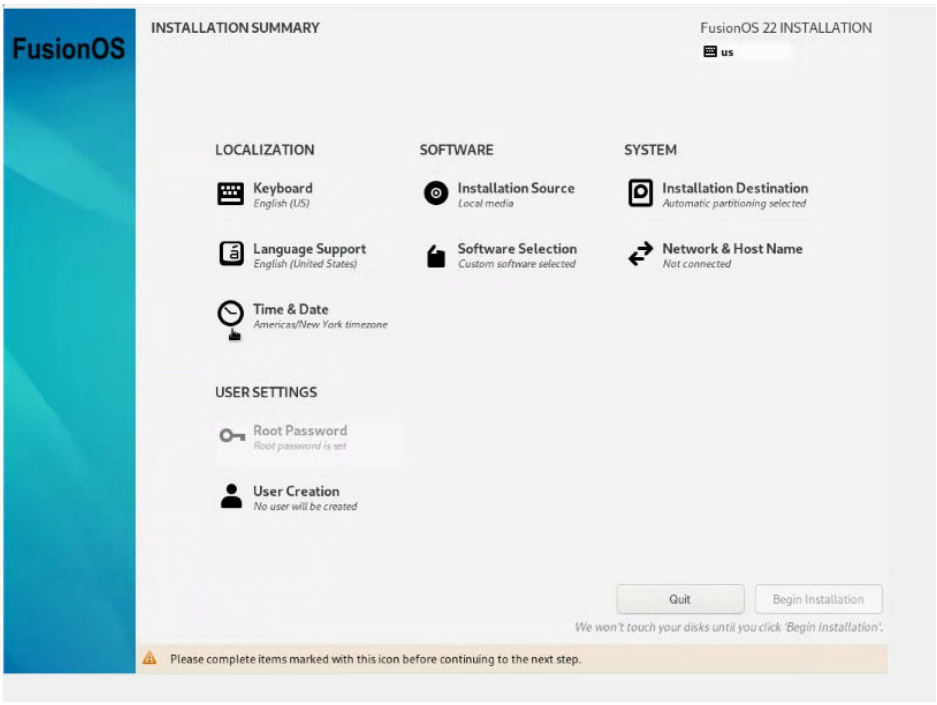
Figure 4-545 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **Figure 4-546** is displayed.

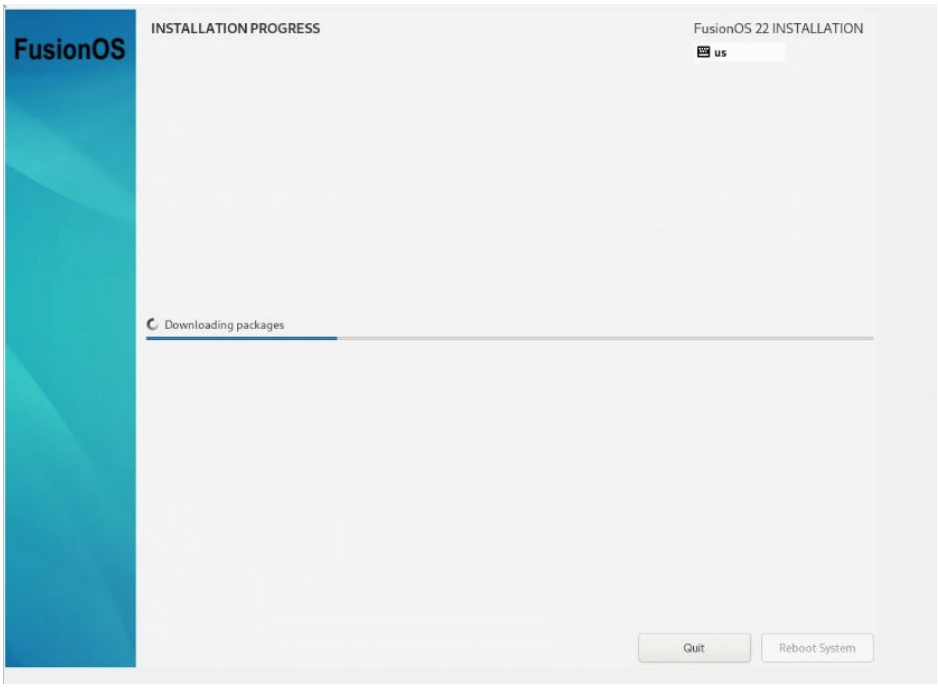
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Figure 4-546 INSTALLATION SUMMARY



After about 2 minutes, the OS installation is performed automatically, as shown in Figure 4-547.

Figure 4-547 Installing the OS



NOTE

During FusionOS installation, if an OS of the same type has been installed, a prompt will be displayed. You need to confirm the prompt information manually.

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After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

4.4.1.13.2 Installing an FusionOS OS in Customized Mode

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-548**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-548 Smart Provisioning main window

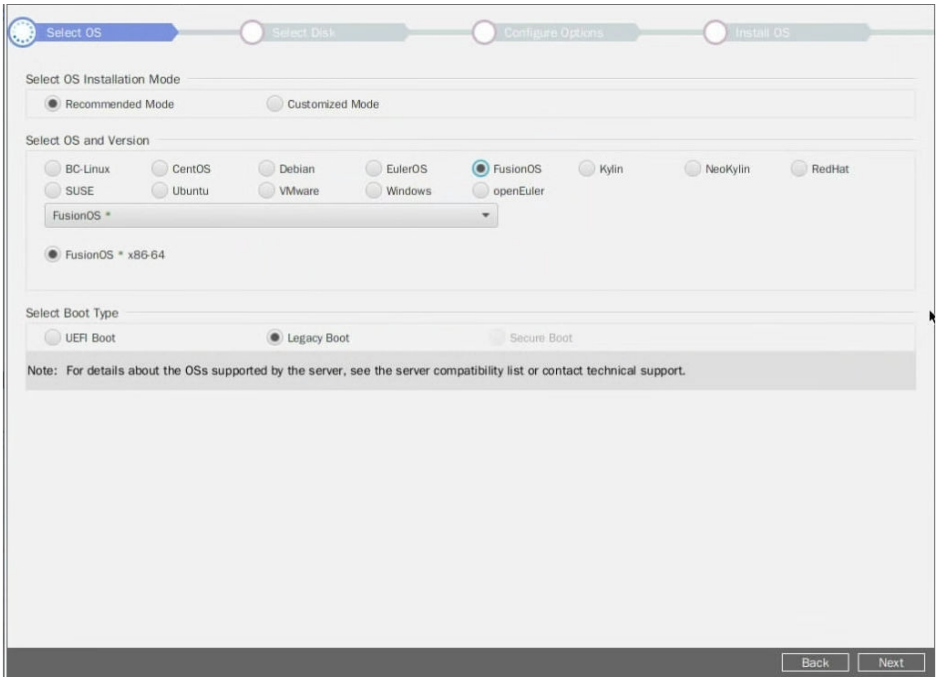


Step 2 In the Smart Provisioning main window, click **Deploy OS**.

The OS deployment main window is displayed, as shown in **Figure 4-549**.

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Figure 4-549 OS deployment main window



NOTE

In this window, you can set the BIOS boot mode to the UEFI mode, legacy mode, or secure mode. For the OSs that support the secure mode, see **Table 4-4**.

Step 3 Select **Customized Mode** and the OS version to be installed, and click **Next**.

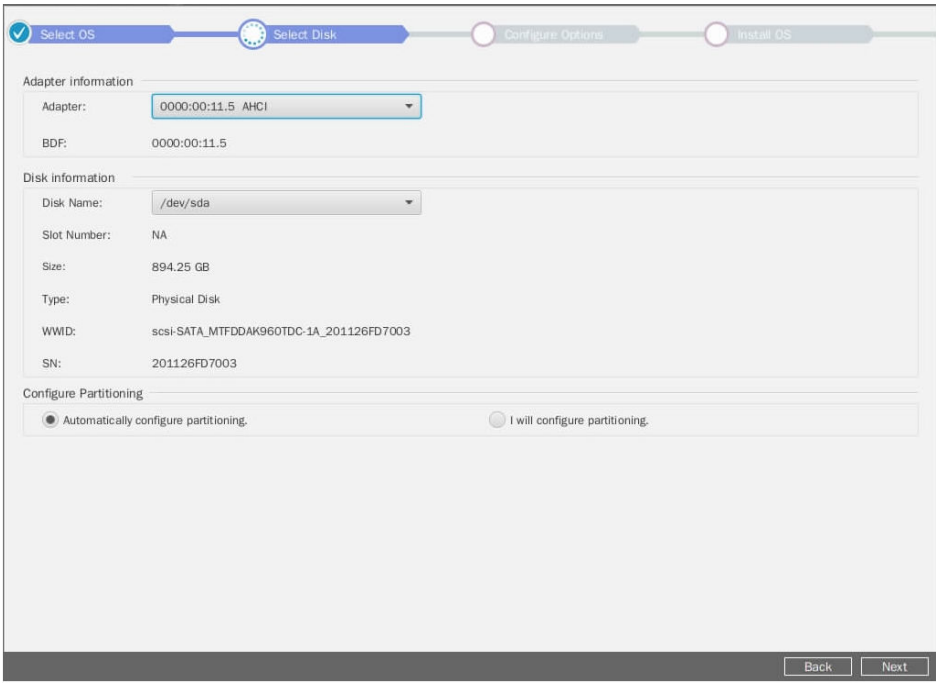
NOTE

- The selected OS version must be the same as that in the installation DVD or ISO image file. For example, if the OS version selected in **Step 2** is FusionOS, the version of the inserted installation DVD or mounted image file in **Step 8** must be FusionOS.
- If the versions are inconsistent, check whether the Smart Provisioning version supports the installation of the current OS. If not, upgrade Smart Provisioning to the version that supports the OS. For details about the OSs that can be installed using Smart Provisioning, see **Table 4-4**.
- * indicates all OSs of the series. For example, FusionOS * indicates all OSs of FusionOS.
- If you select an OS marked with *, you need to insert the OS media of the corresponding series. Smart Provisioning automatically installs the OS of the same version as the OS media. After the OS is installed, Smart Provisioning does not add the driver of the corresponding version.

The **Select Disk** window is displayed, as shown in **Figure 4-550**.

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Figure 4-550 Select Disk



Step 4 In the **Adapter information** area, select the RAID controller to which the hard drive for installing the OS belongs.

Step 5 In the **Disk information** area, select the hard drive where the OS is to be installed.

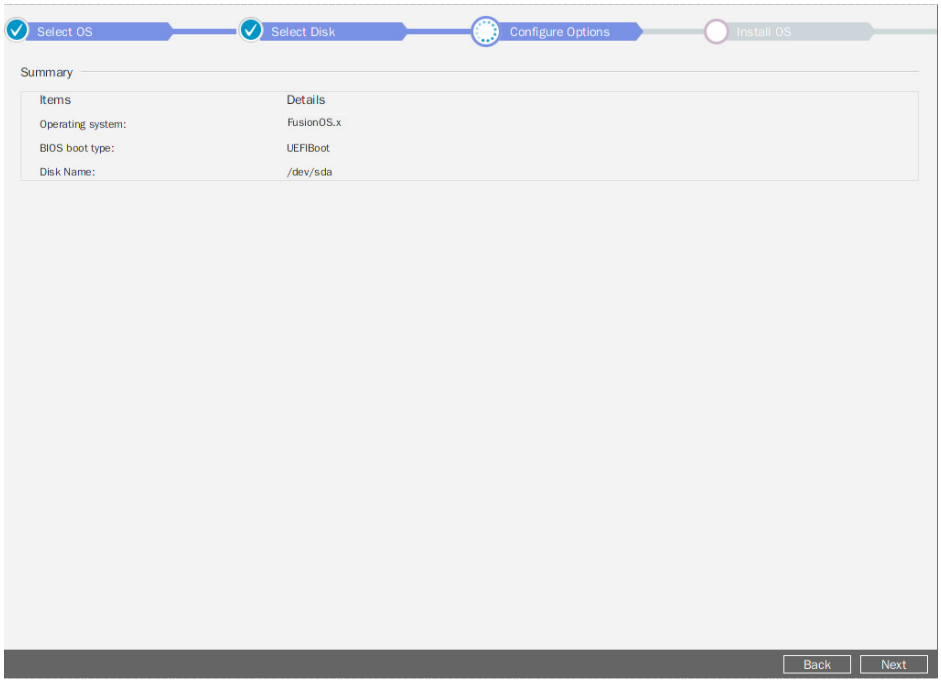
NOTE

- During the installation process, Smart Provisioning sets the selected hard drive as the boot drive.

Step 6 Click **Next**.

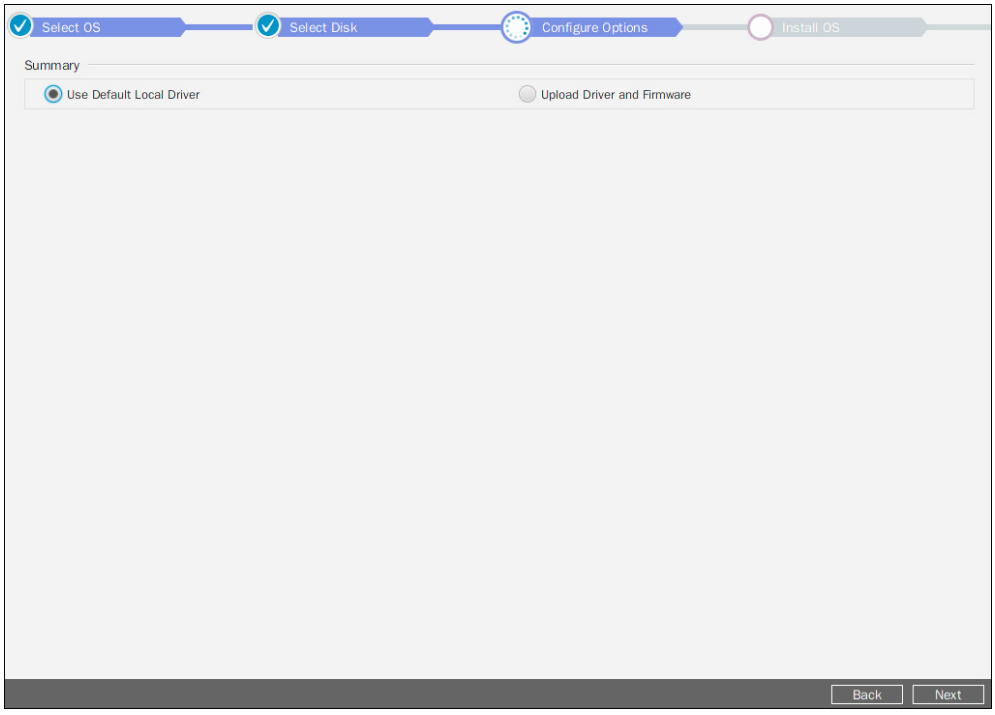
The configuration summary window is displayed, as shown in **Figure 4-551**.

Figure 4-551 Viewing the configuration summary(1)



Confirm that the information is correct and click **Next**,The configuration summary(2) window is displayed,as shown in **Figure 4-552**.For details about configuration,see **Table 4-40**.

Figure 4-552 Viewing the configuration summary(2)



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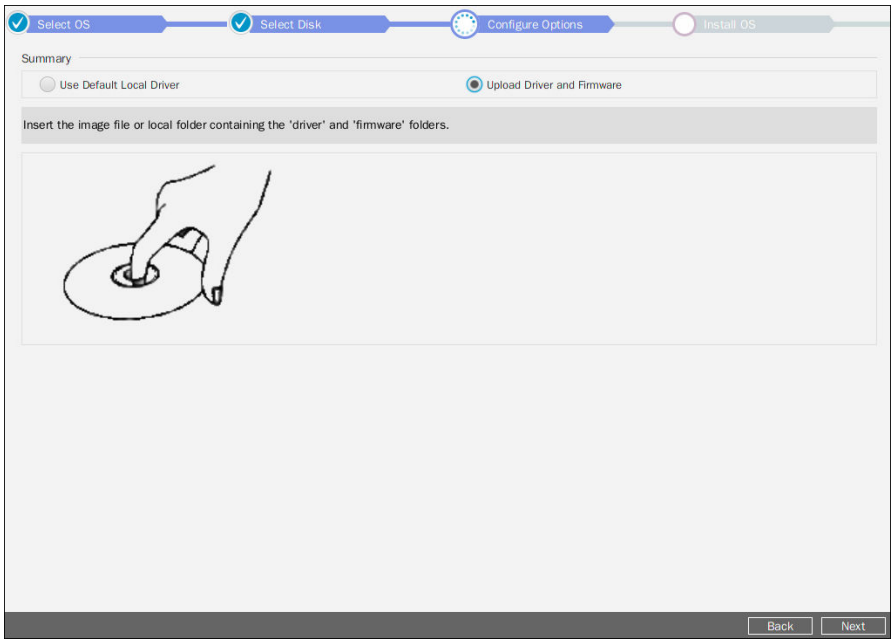
Table 4-40 Configuration Description

Configuration Name	Use Default Local Driver	Upload Driver and Firmware
Note	Use the Smart Provisioning system driver for installation.	Upload the custom driver and firmware for installation. The contents must contain the **firmware** and **driver** folders, and the driver folder cannot be empty.

Procedure:

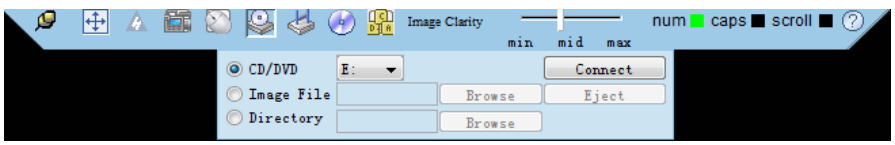
- Choose "Use Default Local Driver",and click **Next**.
- Choose "Upload Driver and Firmware".Steps are as follows:
  a. Choose "Upload Driver and Firmware", as shown in the **Figure 4-553**.

Figure 4-553 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-554**.

Figure 4-554 Virtual DVD-ROM drive



  c. Select **Directory** and click **Browse**.

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The **Open** dialog box is displayed.

If the user need to upload driver and firmware through an image file, for details, see **4.4.1.14.1 Prepare driver and firmware packages** and **4.4.1.14.2 Upload Driver and Firmware**.

d. Choose the folder where the driver and firmware are located. Click **Open**.

NOTE

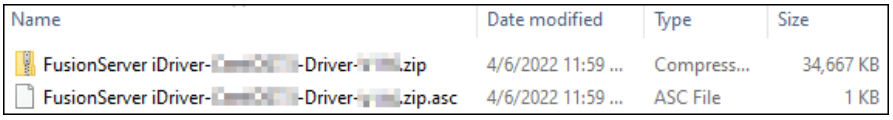
- The folder must contain the sub-directories of the **driver** and **firmware** so that it can be identified properly, as shown in**Figure 4-555**.

Figure 4-555 Folder



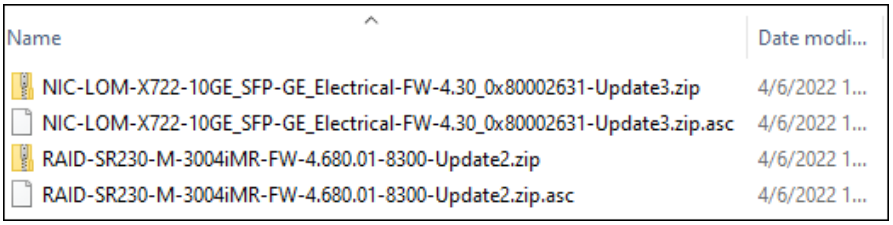
The **driver** folder is shown in **Figure 4-556**.

Figure 4-556 The **driver** folder



The **firmware** folder is shown in **Figure 4-557**.

Figure 4-557 The **firmware** folder



- The driver and firmware packages do not need to be decompressed.
- For Smart Provisioning 1.3.0 and later versions, **Upload Driver and Firmware** is supported.
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The **firmware** folder contains only the firmware package. If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the **firmware** folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified.
- The **firmware** folder can contain multiple firmware packages together with related signature files. If the user has no need to upgrade the firmware, the folder can be empty, but the empty folder needs to be retained.
- Smart Provisioning supports upgrading of multiple firmware at one time.

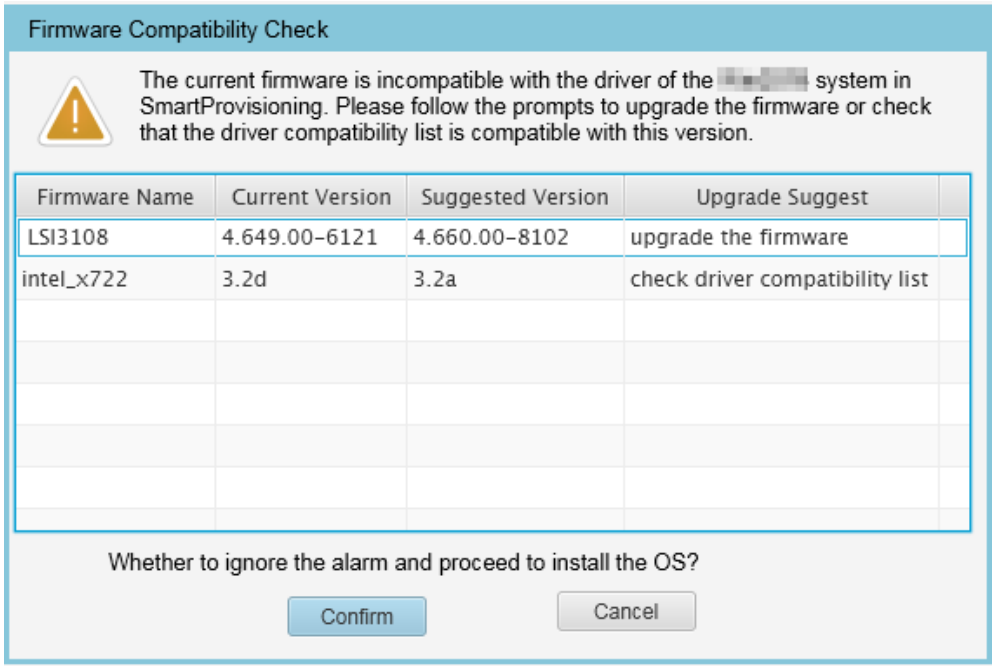
e. Click **Connect**.

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Confirm that the information is correct and click **Next**.

Smart Provisioning can checks the firmware version compatibility. If the firmware version is matched, the window shown in **Figure 4-560** is displayed. If the firmware version is not matched, the dialog box shown in **Figure 4-558** is displayed.

Figure 4-558 Dialog box



- If the current firmware version is earlier than the target version, you are advised to upgrade the firmware to the target version.
- If the current firmware version is later than the target version, perform the following steps:

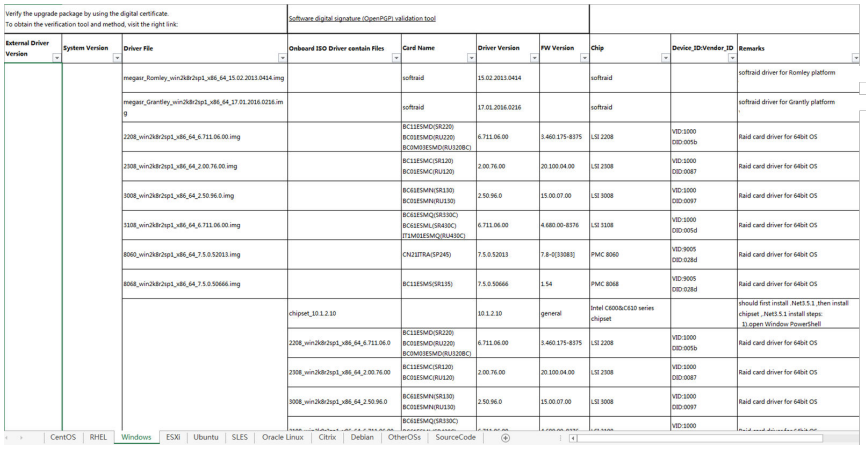
  a. Upgrade Smart Provisioning to the latest version by referring to **4.4.3.4 Batch Upgrading the Smart Provisioning for Server**. If the problem persists after the upgrade, go to **b**.

  b. Find the driver mapping table corresponding to the driver package of the latest version of the OS to be installed at **xFusion website**. See **Figure 4-559**. Find the tab of the current OS in the driver mapping table, and find the firmware displayed in the **Chip** column. The firmware version displayed in the **FW Version** column is the firmware version that matches the driver of the latest version of the current OS.

     - If the firmware version displayed in the **FW Version** column is earlier than the current firmware version, downgrade the firmware to the target version shown in the dialog box.
     - If the firmware version displayed in the **FW Version** column is later than or equal to the current firmware version, you are advised to upgrade the driver to the latest version after installing the OS.

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Figure 4-559 Driver mapping table



Verify the upgrade package by using the digital certificate. To obtain the verification tool and method, visit the right link:			Software digital signature (OpenPGP) validation tool						
External Driver Version	System Version	Driver File	Onboard ISO Driver contain Files	Card Name	Driver Version	FW Version	Chip	Device_ID:Vendor_ID	Remarks
		megasr_Romley_win2k8r2sp1_x86_64_15.02.2013.0414.img		softraid	15.02.2013.0414		softraid		softraid driver for Romley platform
		megasr_Grantley_win2k8r2sp1_x86_64_17.01.2016.0216.img		softraid	17.01.2016.0216		softraid		softraid driver for Grantly platform
		2208_win2k8r2sp1_x86_64_6.711.06.00.img		BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
		2308_win2k8r2sp1_x86_64_2.00.76.00.img		BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
		3008_win2k8r2sp1_x86_64_2.50.96.0.img		BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
		3108_win2k8r2sp1_x86_64_6.711.06.00.img		BC61ESMQ(SR330C) BC61ESML(SR430C) IT1M01ESMQ(RU430C)	6.711.06.00	4.680.00-8376	LSI 3108	VID:1000 DID:005d	Raid card driver for 64bit OS
		8060_win2k8r2sp1_x86_64_7.5.0.52013.img		CN21ITRA(SP245)	7.5.0.52013	7.8-0(33083)	PMC 8060	VID:9005 DID:028d	Raid card driver for 64bit OS
		8068_win2k8r2sp1_x86_64_7.5.0.50666.img		BC11ESMS(SR135)	7.5.0.50666	1.54	PMC 8068	VID:9005 DID:028d	Raid card driver for 64bit OS
			chipset_10.1.2.10		10.1.2.10	general	Intel C600&C610 series chipset		should first install .Net3.5.1 ,then install chipset , Net3.5.1 install steps: 1).open Window PowerShell
			2208_win2k8r2sp1_x86_64_6.711.06.0	BC11ESMD(SR220) BC01ESMD(RU220) BC0M01ESMD(RU320BC)	6.711.06.00	3.460.175-8375	LSI 2208	VID:1000 DID:005b	Raid card driver for 64bit OS
			2308_win2k8r2sp1_x86_64_2.00.76.00	BC11ESMC(SR120) BC01ESMC(RU120)	2.00.76.00	20.100.04.00	LSI 2308	VID:1000 DID:0087	Raid card driver for 64bit OS
			3008_win2k8r2sp1_x86_64_2.50.96.0	BC61ESMN(SR130) BC01ESMN(RU130)	2.50.96.0	15.00.07.00	LSI 3008	VID:1000 DID:0097	Raid card driver for 64bit OS
				BC61ESMQ(SR330C)				VID:1000	

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Step 7 The window prompting you to insert the OS medium is displayed, as shown in **Figure 4-560**.

Figure 4-560 Window prompting you to insert the OS medium

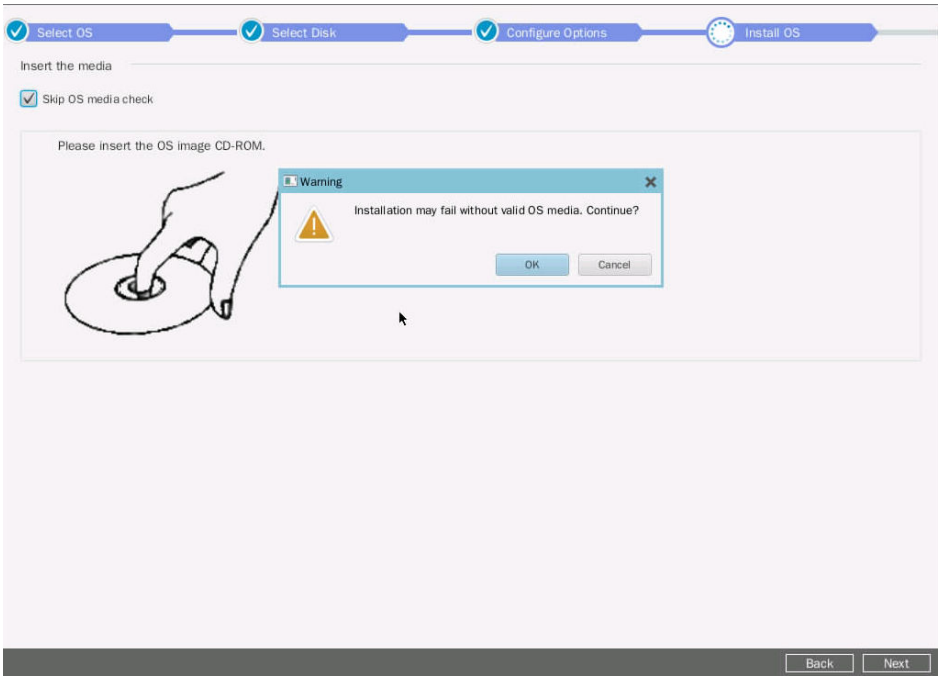


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NOTE

If you select **Skip OS media check**, Smart Provisioning does not check whether the CD matches the selected system. After you select **Skip OS media check**, a dialog box is displayed, indicating that the installation may fail because the system image is not verified, as shown in **Figure 4-561**. Click **OK** or **Cancel** according to the actual situation. If **Skip OS media check** is not selected, the time required for verifying the CD depends on the content of the CD. Wait patiently.

Figure 4-561 Dialog box

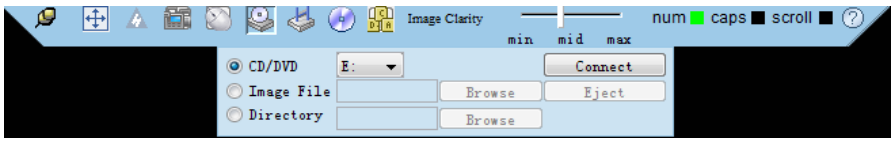


Step 8 Insert the OS medium.

1. Select the medium of the OS to be installed.
   - If you use the OS DVD, insert the DVD of the OS to be installed into the DVD drive.
   - If you use the OS image file, perform **Step 8.2** to **Step 8.6**.
2. Click  on the toolbar of the Remote Virtual Console.

   The virtual DVD drive dialog box is displayed, as shown in **Figure 4-562**.

Figure 4-562 Virtual DVD drive



3. Select **Image File**.
4. Click **Browse**.

   The **Open** dialog box is displayed.
5. Select the ISO image file of the OS to be installed, and click **Open**.

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6. In the virtual DVD drive dialog box, click **Connect**.

   When **Connect** changes to **Disconnect**, the ISO image file of the OS is successfully loaded.

Step 9 Click **Next**.

The OS installation starts, as shown in **Figure 4-563**.

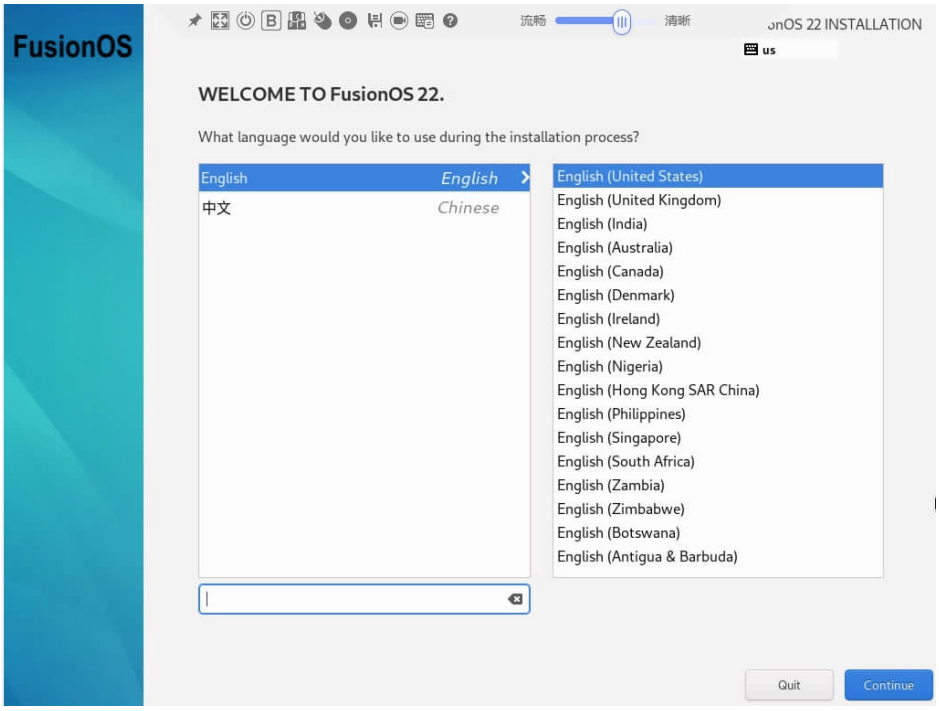
Figure 4-563 Starting the installation



After the OS installation starts, the server restarts automatically. After the server restart is complete, the window shown in **Figure 4-564** is displayed.

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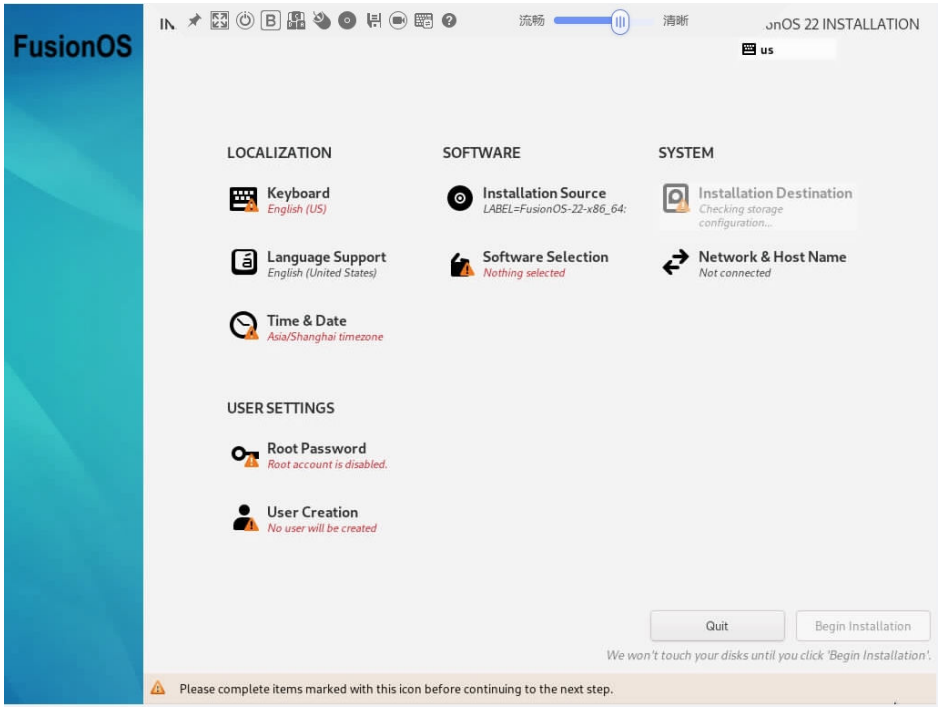
Figure 4-564 Selecting an installation language



Step 10 Select an installation language and click **Continue**.

The **INSTALLATION SUMMARY** window is displayed, as shown in **Figure 4-565**.

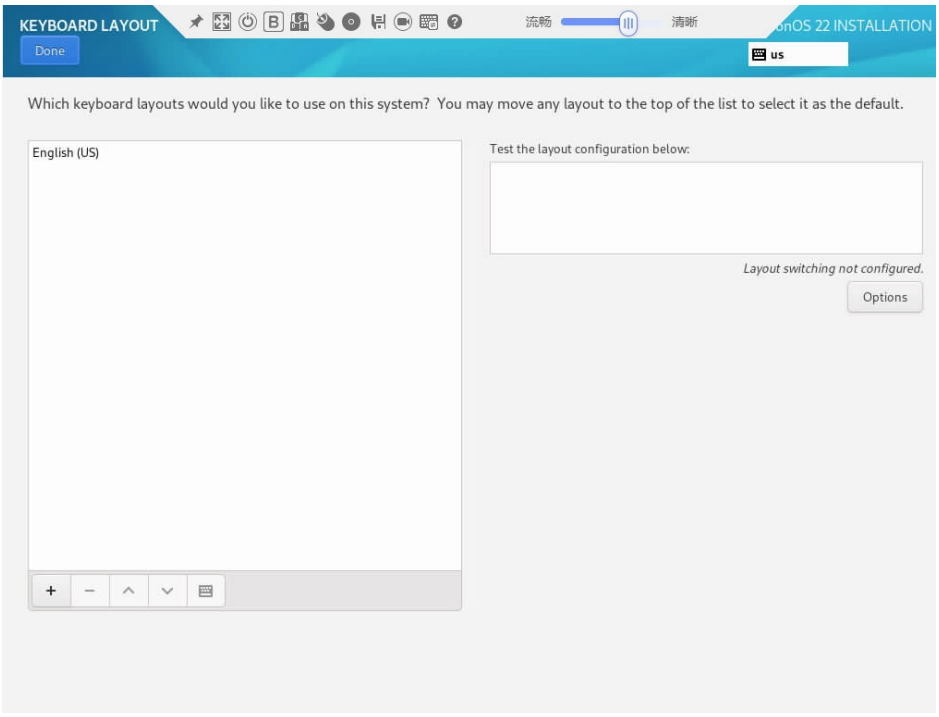
Figure 4-565 INSTALLATION SUMMARY



Step 11 Click **KEYBOARD**.

The window for setting the keyboard is displayed, as shown in **Figure 4-566**.

Figure 4-566 Setting the keyboard



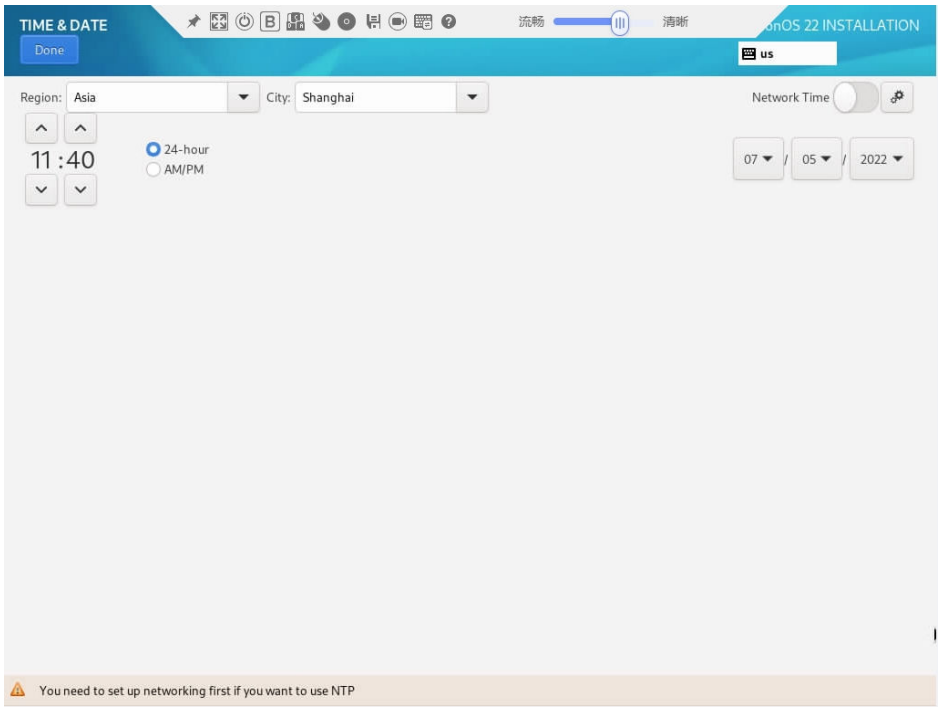
Step 12 Set the keyboard, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 13 Click **TIME & DATE**.

The window for setting the time and date zone is displayed, as shown in **Figure 4-567**.

Figure 4-567 Setting the date and time zone



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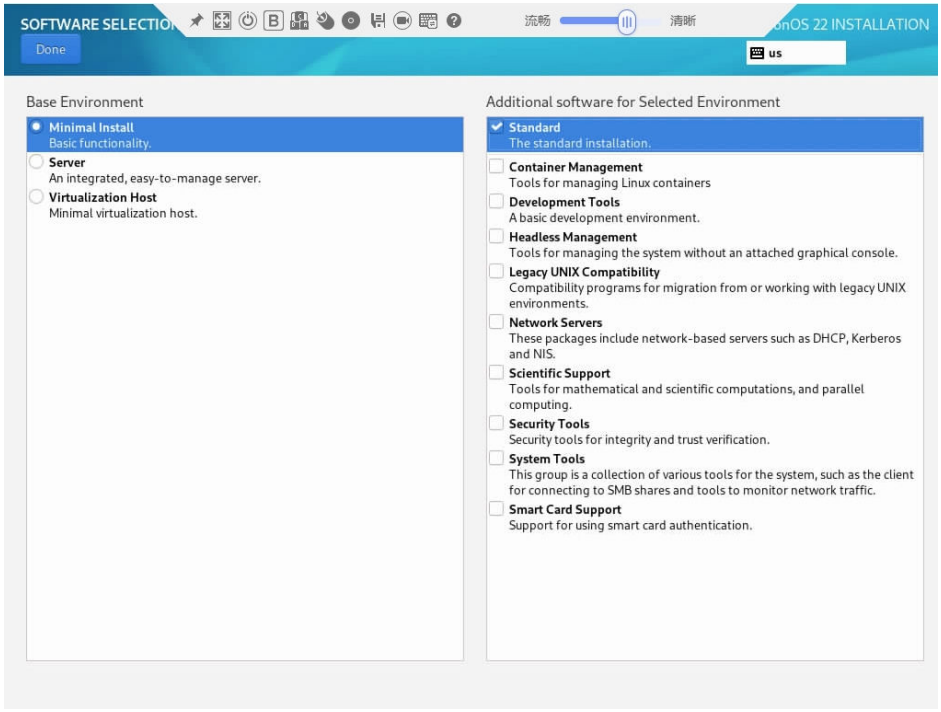
Step 14 Set the time and date zone, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed.

Step 15 Click **Software Selection**.

The window for setting the software selection is displayed, as shown in **Figure 4-568**.

Figure 4-568 Setting the Software Selection



Step 16 Set the Base Environment and Additional software for Selected Environment, and click **Done**.

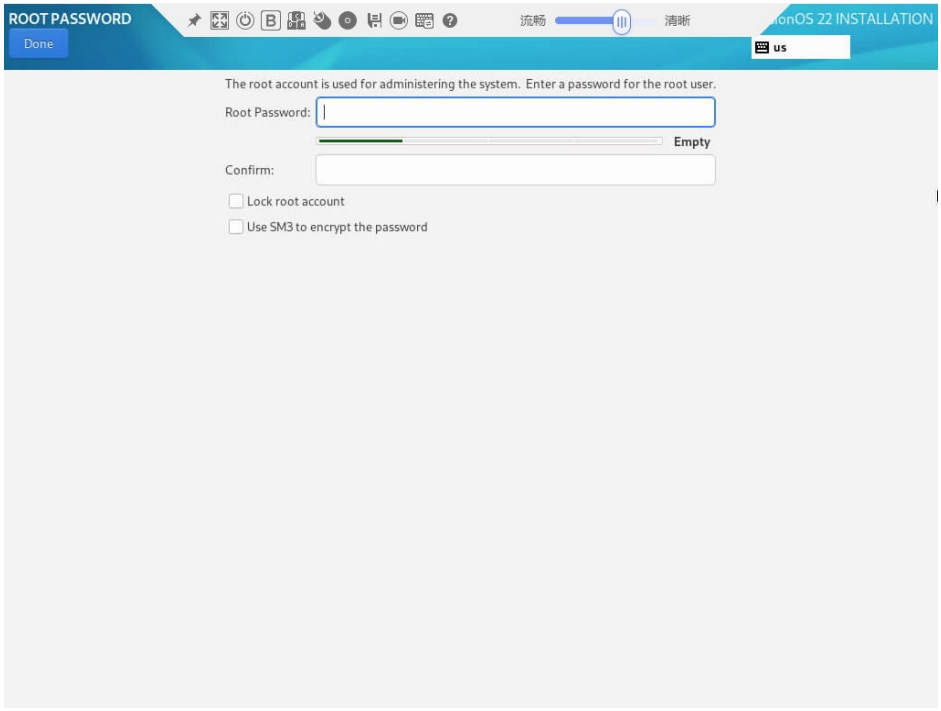
The **INSTALLATION SUMMARY** window is displayed.

Step 17 Click **Root Password**.

The window for setting the password of user **root** is displayed, as shown in **Figure 4-569**.

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Figure 4-569 Setting the password of the root user



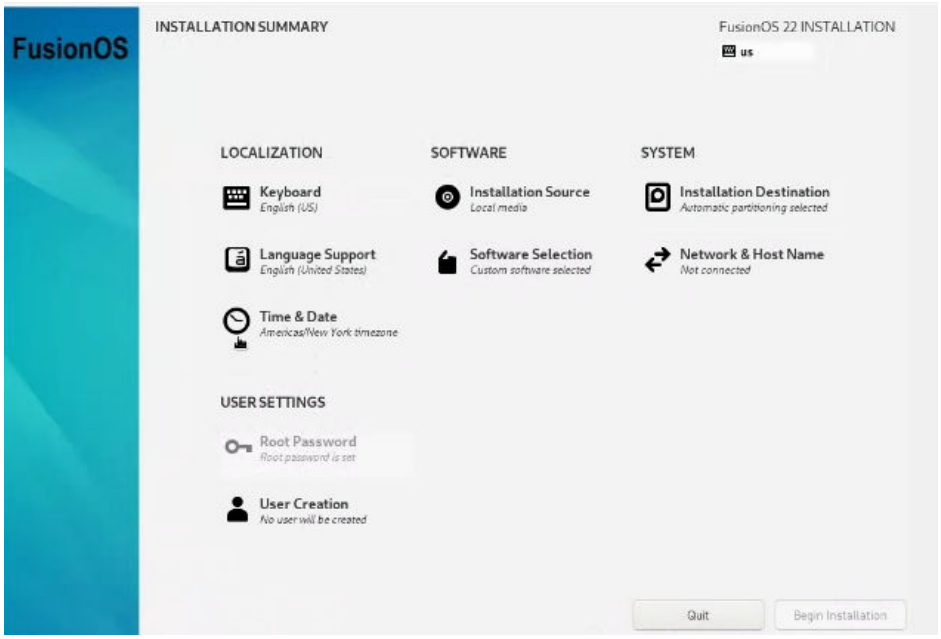
NOTE

- The password must contain at least six characters.
- The password cannot contain spaces and #$.

Step 18 Set the password of the **root** user, and click **Done**.

The **INSTALLATION SUMMARY** window is displayed, as shown in **Figure 4-570**.

Figure 4-570 INSTALLATION SUMMARY

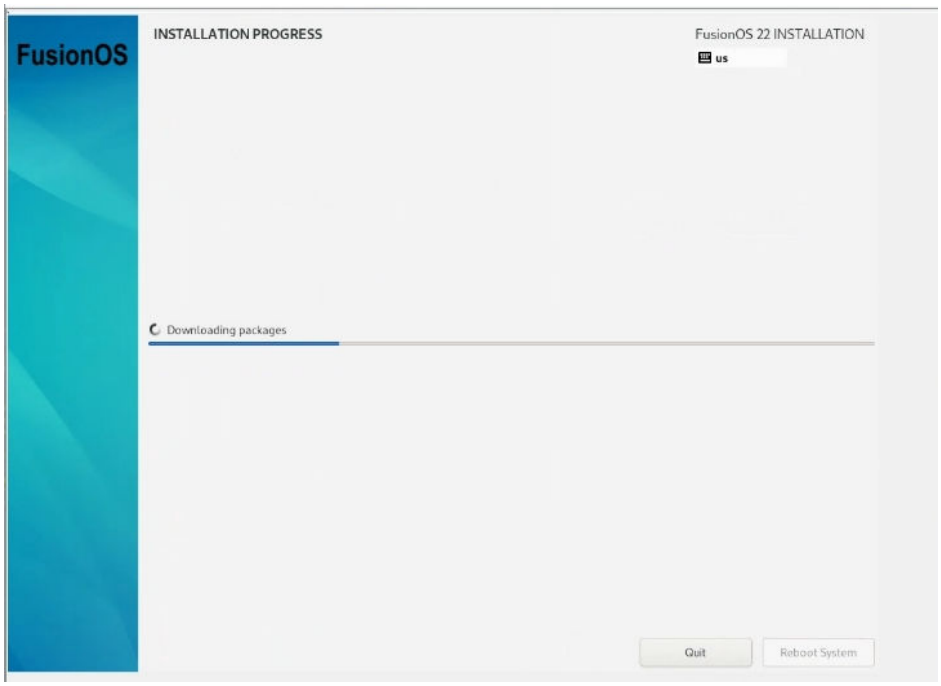


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Step 19 After the above information is set, click **Begin Installation**.

The OS installation starts, as shown in **Figure 4-571**.

Figure 4-571 Starting the OS installation



After the OS is installed, the server automatically restarts. After the restart is complete, the server automatically enters the OS.

To check whether the driver is successfully installed, run the **cat /var/log/iDriver_install.log** command to view the installation logs.

----End

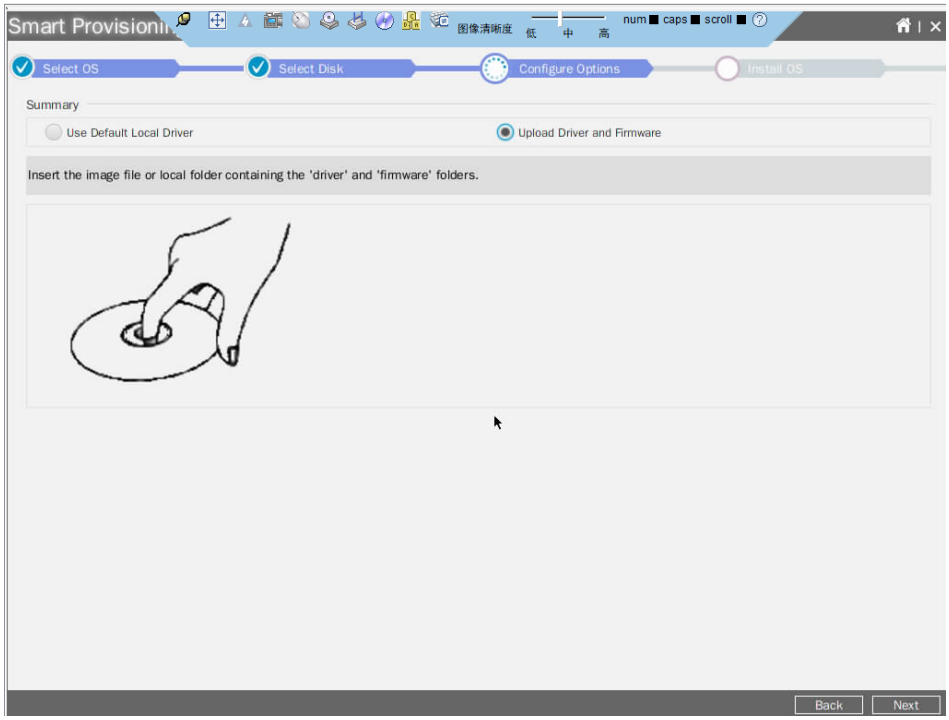
4.4.1.14 Common Operations

4.4.1.14.1 Prepare driver and firmware packages

Scenarios

Use **Upload Driver and Firmware** to install the operating system.

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Procedure

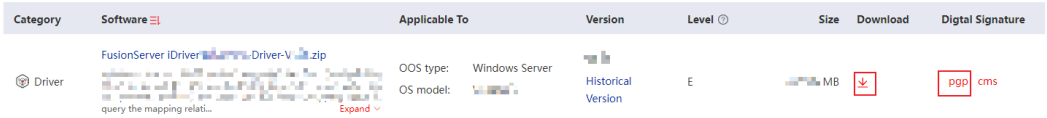
Step 1 Create a folder on the client to store the required drivers. The folder name can be customized. The folder must contain the sub-directories of the **driver** and **firmware** (the names of the **driver** and **firmware** folders cannot be customized).

Figure 4-572 the folder of **driver** and **firmware**



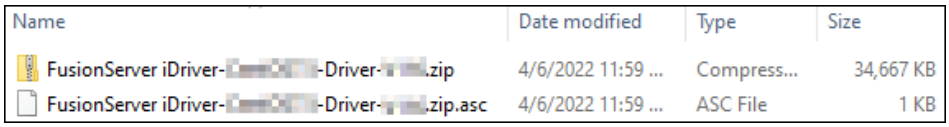
Step 2 Visit **Technical Support > Drivers > FusionServer iDriver** to download the required driver or firmware and related signature file in format of **pgp**.

Figure 4-573 The driver and signature file



Step 3 Download the driver and related signature file to the driver folder. Download the firmware and related signature file to the firmware folder. The driver and firmware packages do not need to be decompressed.

Figure 4-574 The **driver** folder



NOTE

- Only one driver package can be stored in the **driver** folder.
- The **firmware** folder can store multiple firmware packages at the same time, and Smart Provisioning will upgrade them in the order in which the firmware packages are stored.
- If multiple versions of the firmware packages of the same component are stored in the **firmware** folder, Smart Provisioning will also upgrade them in the order in which the firmware packages are stored. It is recommended that only the target version of the firmware package be stored in the folder for the same component.
- For the version matching relationship between the firmware package and OS can be found, please visit **Technical Support Website > iDriver** and see the Driver Version Mapping corresponding to the driver package.

Figure 4-575 Driver Version Mappin



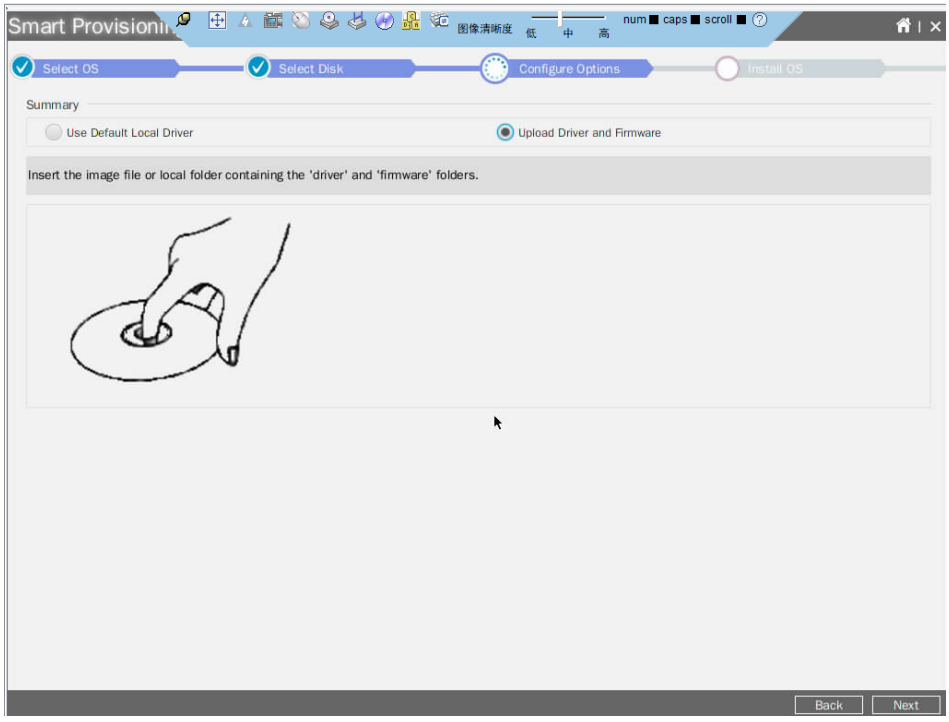
Step 4 (Optional) If it is needed to prepare an image file, it is advised to use the iso image tool to package the folder, which contains the sub-directories of the **driver** and **firmware** into an iso image.

----End

4.4.1.14.2 Upload Driver and Firmware

Scenarios

Use **Upload Driver and Firmware** to install the operating system.



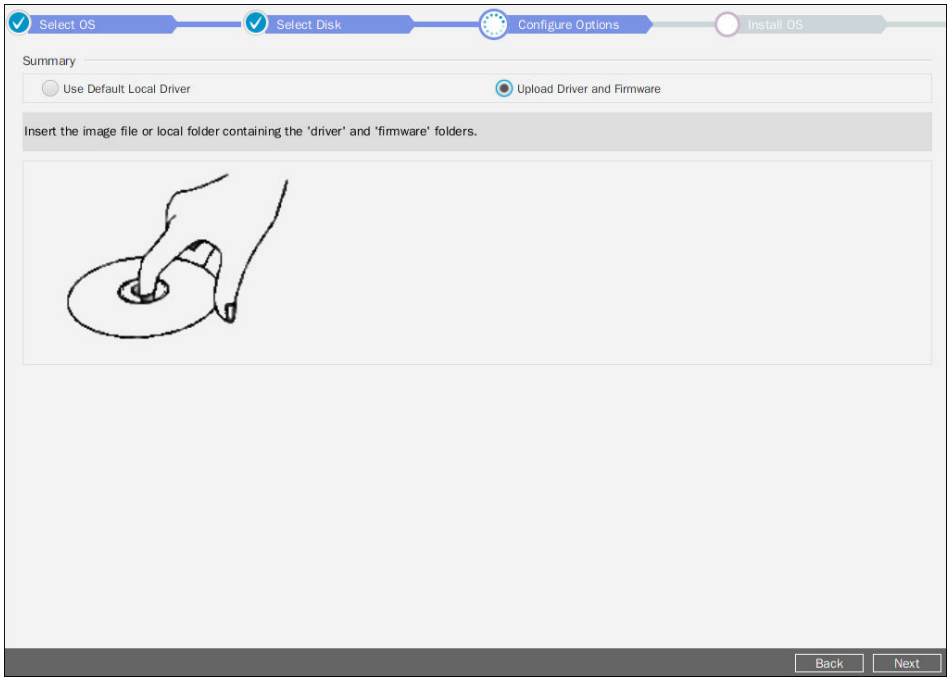
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Procedure

Smart Provisioning supports two methods for uploading driver and firmware: local folder and image file.

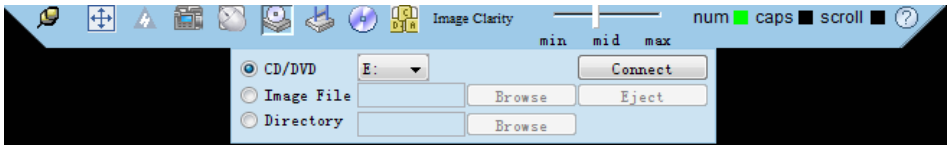
- Upload driver and firmware through the local folder:
  a. Choose "Upload Driver and Firmware".

  Figure 4-576 Upload Driver and Firmware



  b. Click  on the toolbar.
  The virtual DVD-ROM drive dialog box is displayed.

  Figure 4-577 Virtual DVD-ROM drive

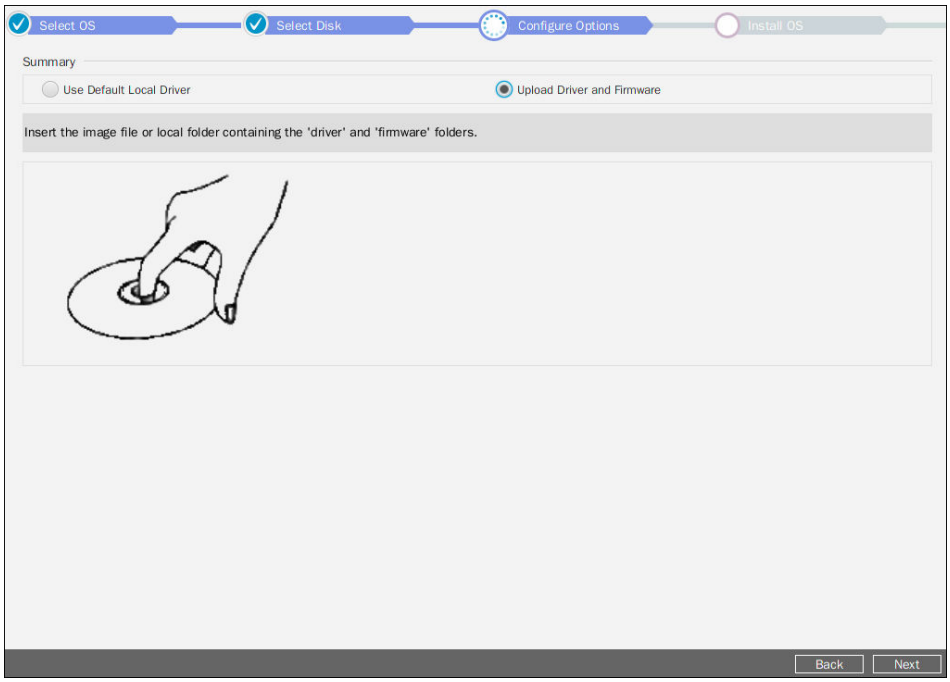


  c. Select **Directory** and click **Browse**.
  The **Open** dialog box is displayed.
  d. Choose the folder where the driver and firmware are located. Click **Open**.
  e. Click **Connect**.

- Upload driver and firmware through the image file:
  a. Choose "Upload Driver and Firmware".

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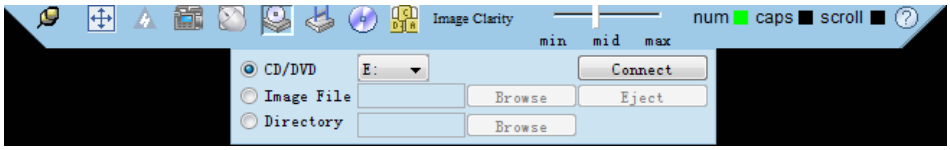
Figure 4-578 Upload Driver and Firmware



b. Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed.

Figure 4-579 Virtual DVD-ROM drive



c. Select **Image File** and click **Browse**.

The **Open** dialog box is displayed.

d. Choose the image file where the driver and firmware are packed. Click **Open**.

e. Click **Connect**.

4.4.2 Configuring a RAID

NOTICE

Back up data before RAID configuration because the data on hard disks will be lost after RAID configuration.

4.4.2.1 Creating a RAID Array

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-580**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-580 Smart Provisioning main window

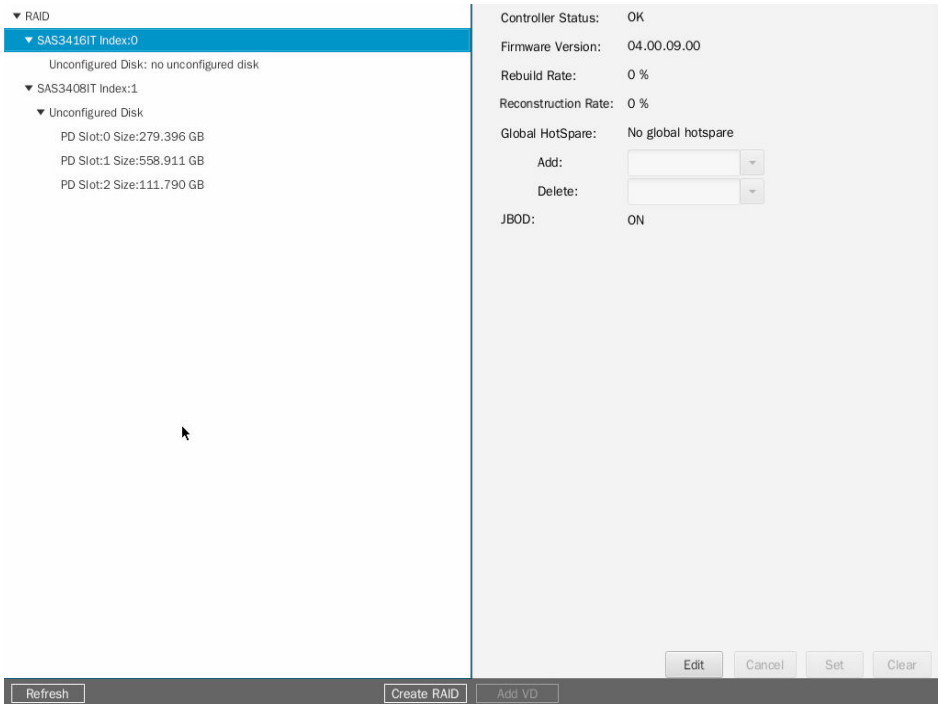


Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-581**.

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Figure 4-581 RAID configuration main window



Step 3 Click **Create Raid**.

The window for setting a RAID is displayed, as shown in **Figure 4-582**.

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Figure 4-582 Setting a RAID



You can click **Advanced** to view more parameters. **Table 4-41** describes the parameters.

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Table 4-41 Parameter description

Parameter	Description	Value				
Controller	Specifies the RAID controller chip type.	Avago SAS3108/ Avago SAS3508/ Avago SAS3516/ Avago 9361-8i/ Avago 9460-16i/ Avago 9460-8i	MegaRAID 9560-8i/ MegaRAID 9560-16i/ MegaRAID 9580-8i8e/ BROADCOM SAS3908/ BROADCOM SAS3916	Avago SAS3408/ Avago SAS3416iMR/ Avago 9440-8i/ MegaRAID 9540-8i/ MegaRAID 9540-16i/ BROADCOM SAS3808iMR/ BROADCOM SAS3816iMR/ BROADCOM SAS3808-BootCard (XP270-M) /BROADCOM SAS3808-BootCard (XP270-M2)	Avago SAS3004	Avago SAS3008
Disks	Specifies the hard disk.	0-255				
RAID Level	Specifies the RAID level.	0, 1, 5, 6, 10, 50, 60	0, 1, 5, 6, 10, 50, 60	0, 1, 10 **NOTE** BROADCOM SAS3808-BootCard(XP270-M) and BROADCOM SAS3808-BootCard (XP270-M2) supports RAID 0 and 1.	0, 1	0, 1, 1E, 10
Read Policy	Specifies the read policy.	• Read Ahead Always • No Read Ahead The default value is **Read Ahead Always**.	• Read Ahead Always • No Read Ahead The default value is **Read Ahead Always**.	The value can only be **No Read Ahead**.		Not supported

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Parameter	Description	Value			
Write Policy	Specifies the write policy.	• WriteBack • WriteThrough • Always WriteBack The default value is **WriteBack**.	• WriteBack • WriteThrough • Always WriteBack The default value is **WriteBack**. After the working mode is set to JBOD, the default write policy is not supported.	The value can only be **WriteThrough**.	
Disk Cache Policy	Specifies the cache policy.	• Direct IO • Cached IO The default value is **Direct IO**. **NOTE** For the Avago SAS3508 and Avago 9460-16i, this parameter can only be set to **Direct IO**.	The value can only be **Direct IO**.	The value can only be **Direct IO**.	
Strip Size	Specifies the fragment/ stripe size.	8-1024 The default value is **256**. **NOTE** The value range for Avago 9460-16i is 64-1024.	8-1024 The default value is **256**.	The value can only be **64**.	

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Parameter	Description	Value				
Dedicate Hot Spare	Specifies the dedicated hot spare disk.	Supported	Supported	Supported **NOTE** BROADCOM SAS3808-BootCard (XP270-M) and BROADCOM SAS3808-BootCard (XP270-M2) does not support configuring dedicated hot spare drives.	Not supported	
Span	Number of disks per span	When configuring RAID 10, 50, or 60, this defines the number of disks included in each span. **NOTE** Some RAID controller cards enforce a maximum span limit. Always refer to configuration guide of the specific RAID controller cards to select an appropriate value and prevent exceeding the total span limit.				
Virtual Disk	Specifies the virtual disk.					
VD Size	Specifies the virtual disk size.	You can enter the actual value or **max**. The unit can be TB, GB, or MB.				You can enter the actual value or **max**. The unit can only be MB.
VD Name	Specifies the virtual disk ID.	The value consists of digits (0-9), lowercase letters (a-z), uppercase letters (A-Z), and underscores (_). The value contains a maximum of 15 characters.				

Step 4 Set a RAID, and click **OK**.

A dialog box indicating that RAID configuration will delete all hard disk data is displayed, as shown in **Figure 4-583**.

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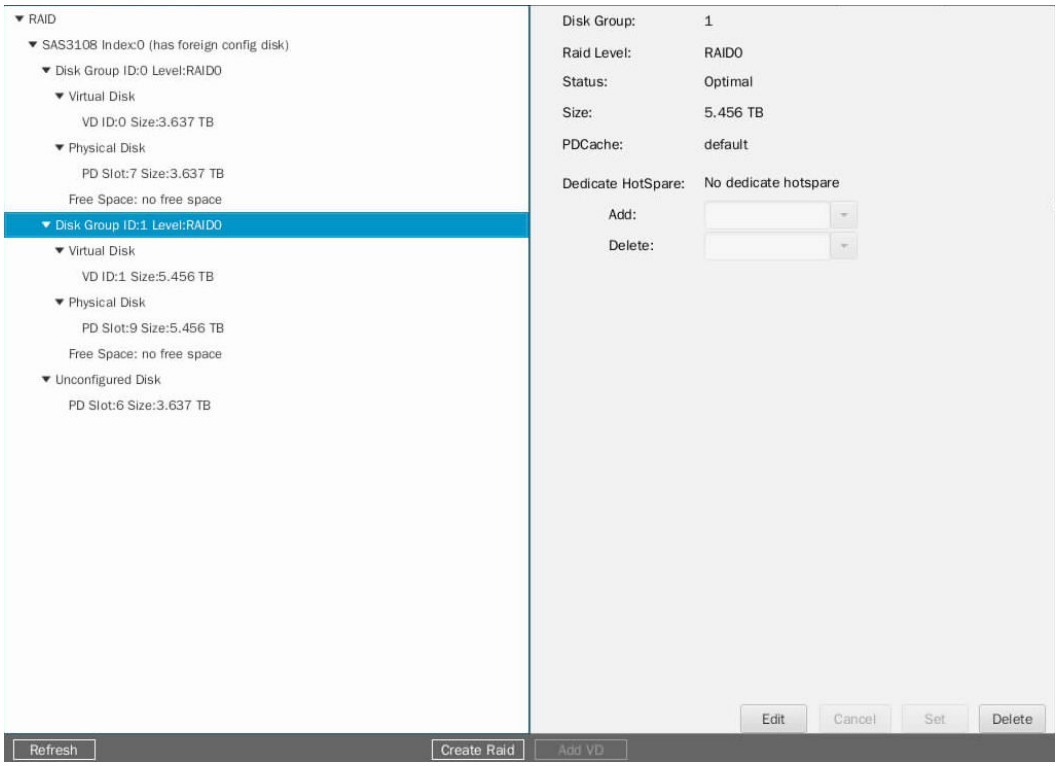
Figure 4-583 Dialog box



Step 5 Confirm that hard disk data is backed up and click **OK**.

The RAID creation starts. After the creation is complete (as shown in **Figure 4-584**), a RAID array is added to the RAID controller card (for example, **Disk Group ID:1 Level:RAID0**).

Figure 4-584 Creation completed



----End

4.4.2.2 Viewing a RAID Array

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-585**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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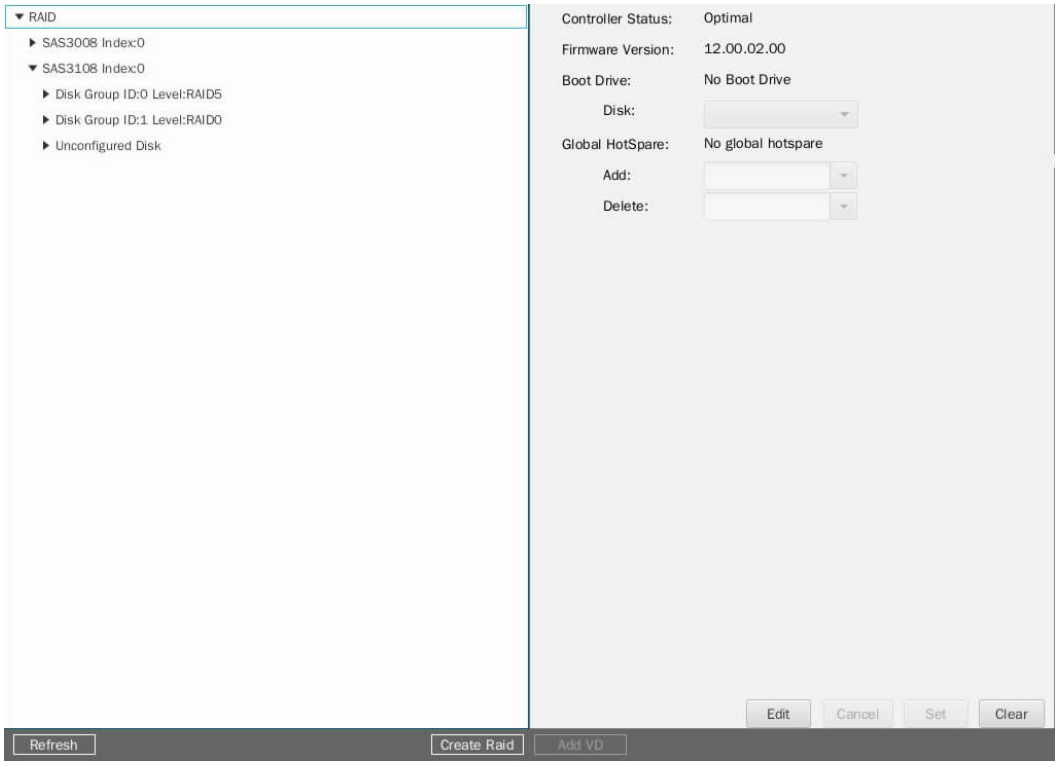
Figure 4-585 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-586**.

Figure 4-586 RAID configuration main window

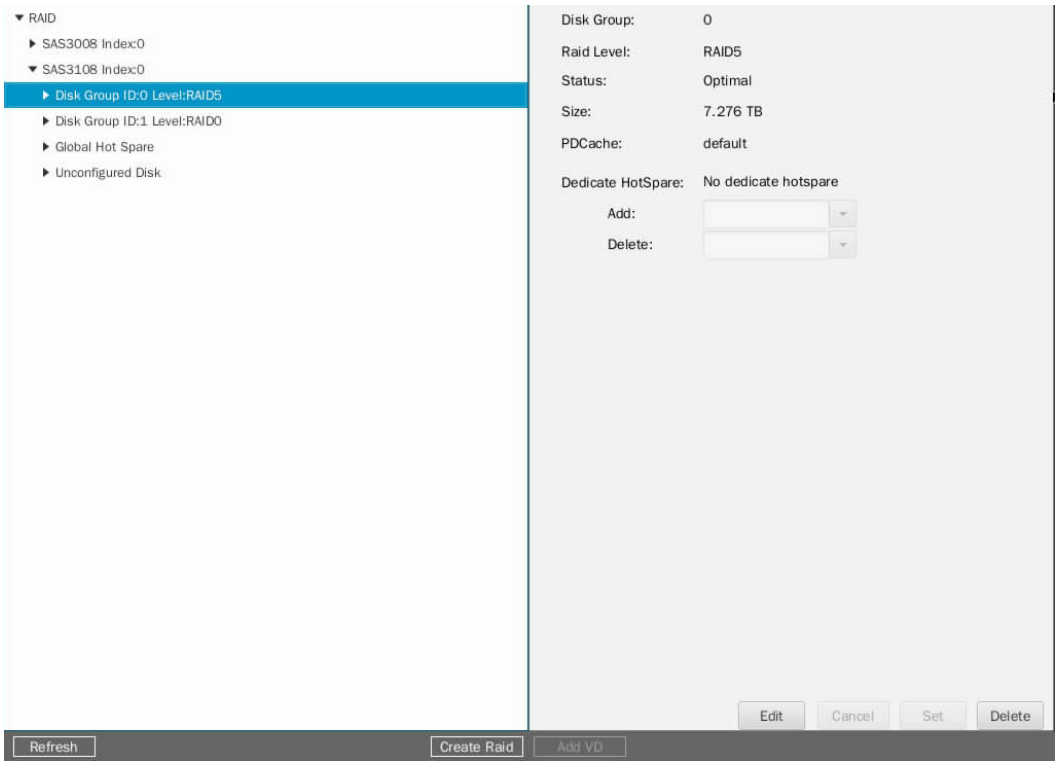


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Step 3 Click a RAID array under a RAID controller card node on the left pane (for example, **Disk Group ID:0 Level:RAID5** under **SAS3108 Index:0**).

The RAID array information window is displayed, as shown in **Figure 4-587**.

Figure 4-587 RAID array information



You can view information about the RAID array in this window.

----End

4.4.2.3 Configuring a RAID Array

NOTE

The Avago SAS3008 does not support the configuration of RAID arrays.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-588**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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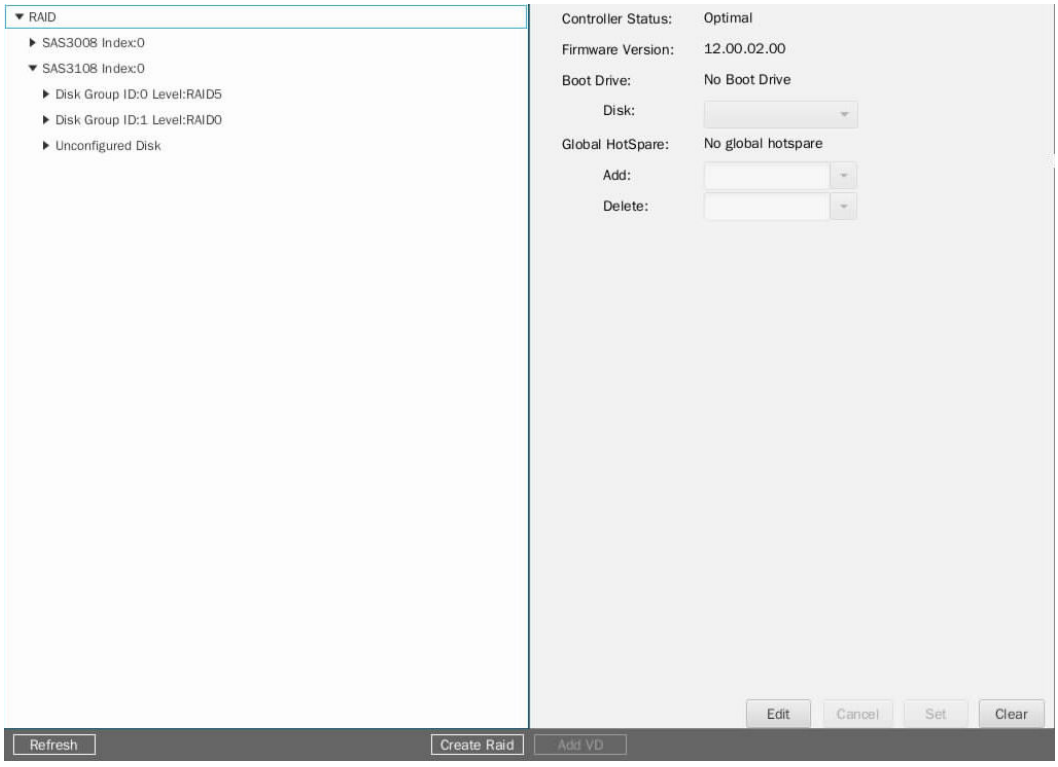
Figure 4-588 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-589**.

Figure 4-589 RAID configuration main window

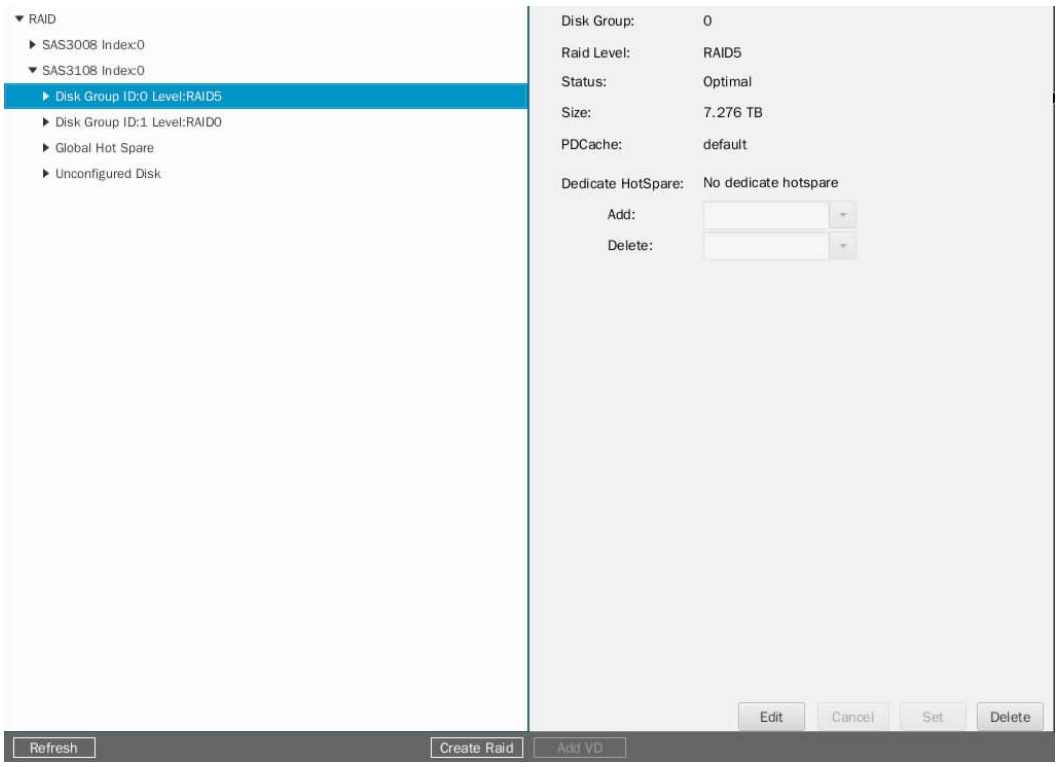


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Step 3 Click a RAID array under a RAID controller card node on the left pane (for example, **Disk Group ID:0 Level:RAID5** under **SAS3108 Index:0**).

The RAID array information window is displayed, as shown in **Figure 4-590**.

Figure 4-590 RAID array information



Step 4 Click **Edit**.

The system enters the editing mode.

Step 5 Set the cache policy (**PDCache**) for the physical drives in the RAID array.

- **enable:** Data is written to the cache before being written to a hard drive, which improves the write performance. However, data will be lost if there is no protection mechanism when power failures occur.
- **disable:** Data is not written to the cache before being written to a hard drive. Data is not lost if power failures occur.
- **default:** The current drive cache policy remains unchanged.

Step 6 Set a dedicated hot spare drive (**Dedicate HotSpare**).

- **Add:** Add a dedicated hot spare drive.
- **Delete:** Delete a dedicated hot spare drive.

Step 7 Click **Set**.

The settings are saved.

----End

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4.4.2.4 Deleting a RAID Array

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-591**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-591 Smart Provisioning main window

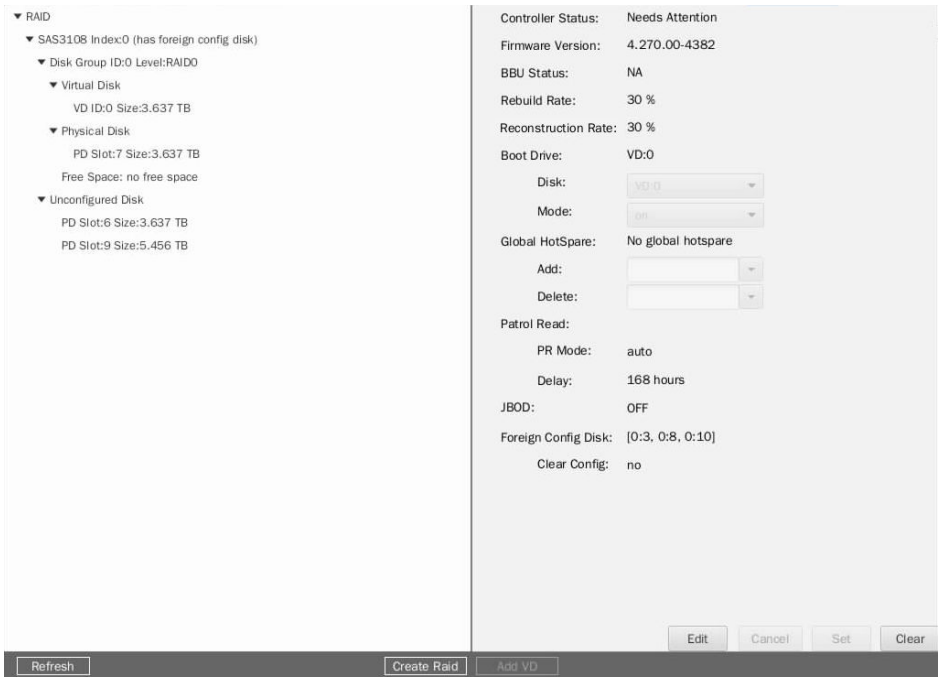


Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-592**.

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Figure 4-592 RAID configuration main window



Step 3 Select a RAID array under a RAID controller card node on the left pane, and click **Delete** in the lower right corner.

A confirmation dialog box is displayed, as shown in **Figure 4-593**.

Figure 4-593 Dialog box



Step 4 Click **OK**.

The RAID array is deleted successfully.

NOTE

To delete all RAID arrays under a RAID controller card, select the RAID controller card and click **Clear**.

----End

4.4.2.5 Configuring a RAID

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-594**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-594 Smart Provisioning main window

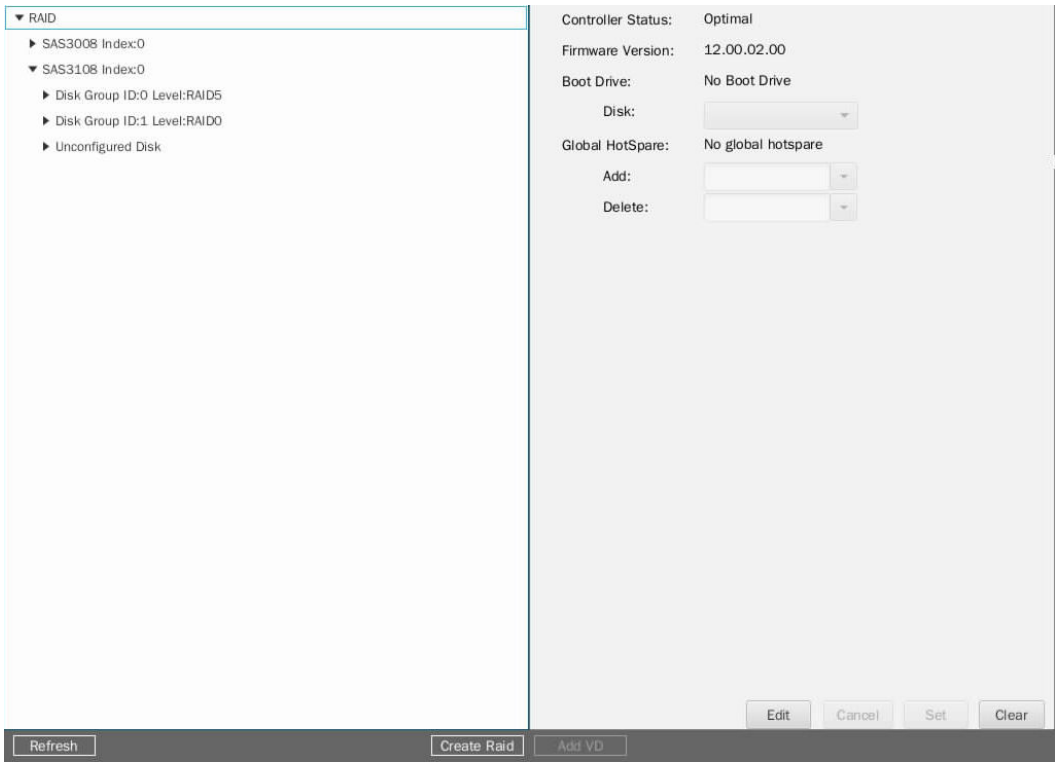


Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-595**.

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Figure 4-595 RAID configuration main window



Step 3 Click a RAID controller card node on the left pane (for example, **9560-16i Index:0**).

The RAID controller card information window is displayed, as shown in **Figure 4-596**.

Figure 4-596 RAID controller card information

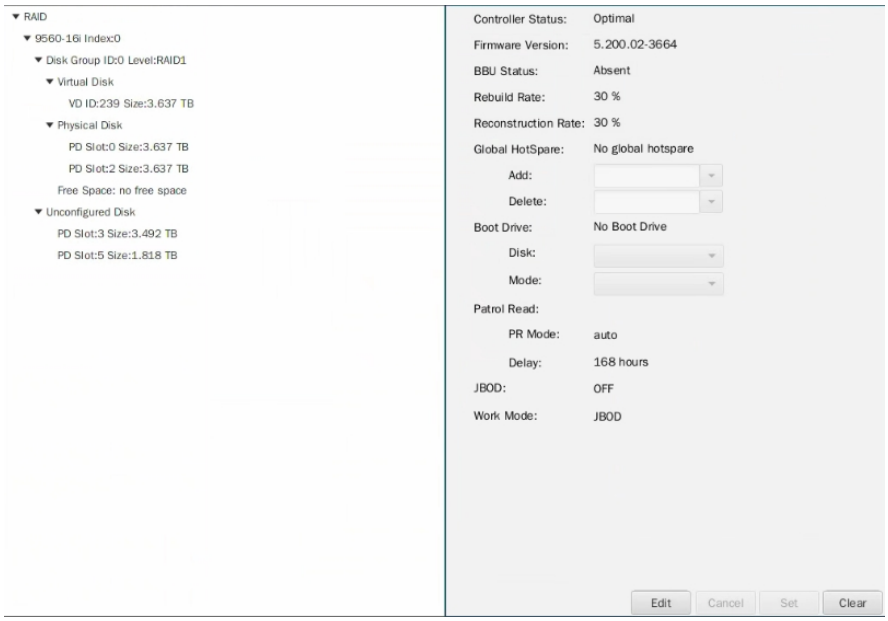


Table 4-42 describes the parameters. **Table 4-43** lists the configuration items supported by the RAID controller card.

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Table 4-42 Parameter description

Parameter	Description	Value
Controller Status	Specifies the current working status of the RAID controller card. The value cannot be changed.	Generally, the value can be **optimal** or **Need Attention**.
Firmware Version	Specifies the firmware version of the RAID controller card. The value cannot be changed.	-
BBU Status	Specifies the working status of the RAID controller card capacitor. The value cannot be changed.	Absent and Present
Rebuild Rate	Specifies the percentage of I/O resources occupied during RAID rebuilding. The default value is **30%**. The value can be changed.	0-100%
Reconstruction Rate	Specifies the percentage of I/O resources occupied during migration between different RAID levels. The default value is **30%**. The value can be changed.	0-100%
Boot Drive	Specifies the boot disk. The value can be changed. ● **Disk:** Select a virtual or physical disk. ● **Mode:** Specifies whether the disk is set to the boot disk.	● **Disk:** Select an existing virtual or physical disk. ● Mode – **on:** The disk is set to the boot disk. – **off:** The disk is not set to the boot disk.
Global HotSpare	Specifies the global hot spare disk. The value can be changed. ● **Add:** Add a global hot spare disk. ● **Delete:** Delete a global hot spare disk.	Add or delete a global hot spare disk.
Patrol Read	Specifies the system inspection function. The value can be changed. ● **PR Mode:** Specifies whether to enable the system inspection function. ● **Delay:** Specifies the system inspection period. The unit is hour.	● PR Mode – **auto:** enabled – **disable:** disabled ● **Delay:** 0-65535

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Parameter	Description	Value
JBOD	Specifies whether to enable the hard disk pass-through function. The value can be changed.	• **ON:** enabled • **OFF:** disabled
Work Mode	Working mode of the RAID controller card, which can be modified.	• RAID: RAID working mode. • JBOD: JBOD working mode.

Table 4-43 Configuration items supported by the RAID controller card

Parameter	Rebuild Rate	Reconstruction Rate	Boot Drive	Global HotSpare	Patrol Read	JBOD	Work Mode
Avago SAS3108	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Avago SAS3408	Yes	Yes	Yes	Yes	Yes	Yes	No
Avago SAS3508	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Avago SAS3416iMR	Yes	Yes	Yes	Yes	Yes	Yes	No
Avago SAS3516	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Avago SAS3004	Yes	Yes	Yes	No	Yes	Yes	No
Avago SAS3008	No	No	Yes	Yes	No	No	No
Avago 9361-8i	Yes	Yes	Yes	Yes	Yes	Yes	No
Avago 9440-8i	Yes	Yes	Yes	Yes	Yes	Yes	No
Avago 9460-8i	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Parameter	Rebuild Rate	Reconstruction Rate	Boot Drive	Global HotSpare	Patrol Read	JBOD	Work Mode
Avago 9460-16i	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MegaRAID 9560-8i	Yes	Yes	Yes	Yes	Yes	No	Yes
MegaRAID 9560-16i	Yes	Yes	Yes	Yes	Yes	No	Yes
HBA 9500-8i	No	No	Yes	No	No	No	No
HBA 9500-16i	No	No	Yes	No	No	No	No
HBA 9500-8e	No	No	Yes	No	No	No	No
HBA 9500-16e	No	No	Yes	No	No	No	No
MegaRAID 9540-8i	Yes	Yes	Yes	Yes	Yes	Yes	No
MegaRAID 9540-16i	Yes	Yes	Yes	Yes	Yes	Yes	No
MegaRAID 9580-8i8e	Yes	Yes	Yes	Yes	Yes	No	Yes
BROADCOM SAS3808iMR	Yes	Yes	Yes	Yes	Yes	Yes	No
BROADCOM SAS3816iMR	Yes	Yes	Yes	Yes	Yes	Yes	No

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Parameter	Rebuild Rate	Reconstruction Rate	Boot Drive	Global HotSpare	Patrol Read	JBOD	Work Mode
BROADCOM SAS3808-BootCard (XP270-M)	Yes	Yes	Yes	No	Yes	Yes	No
BROADCOM SAS3808-BootCard (XP270-M2)	Yes	Yes	Yes	No	Yes	Yes	No
BROADCOM SAS3908	Yes	Yes	Yes	Yes	Yes	No	Yes
BROADCOM SAS3916	Yes	Yes	Yes	Yes	Yes	No	Yes
BROADCOM XR370-M-8i	No	No	Yes	No	No	No	No
BROADCOM XR370-M-16i	No	No	Yes	No	No	No	No

Step 4 Click **Edit**.

The system enters the editing mode.

Step 5 Configure the RAID based on **Table 4-42**, and click **Set**.

The settings are saved.

----End

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4.4.2.6 Viewing a Physical Drive

Viewing Physical Drive Properties

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-597**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-597 Smart Provisioning main window

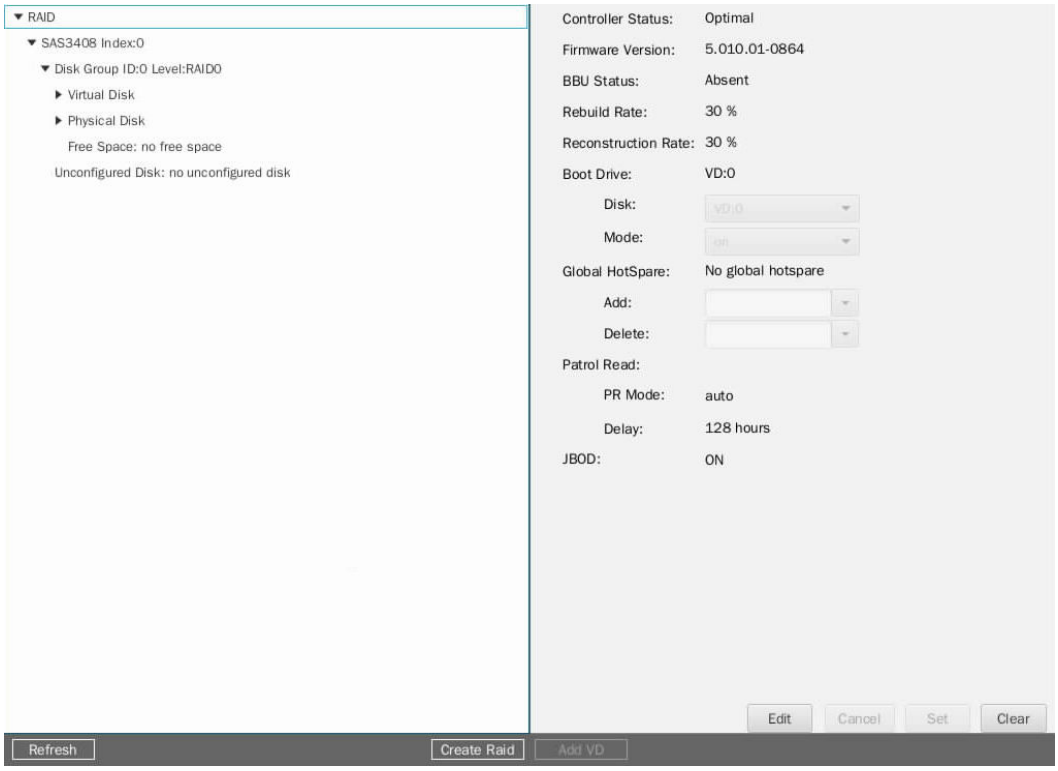


Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-598**.

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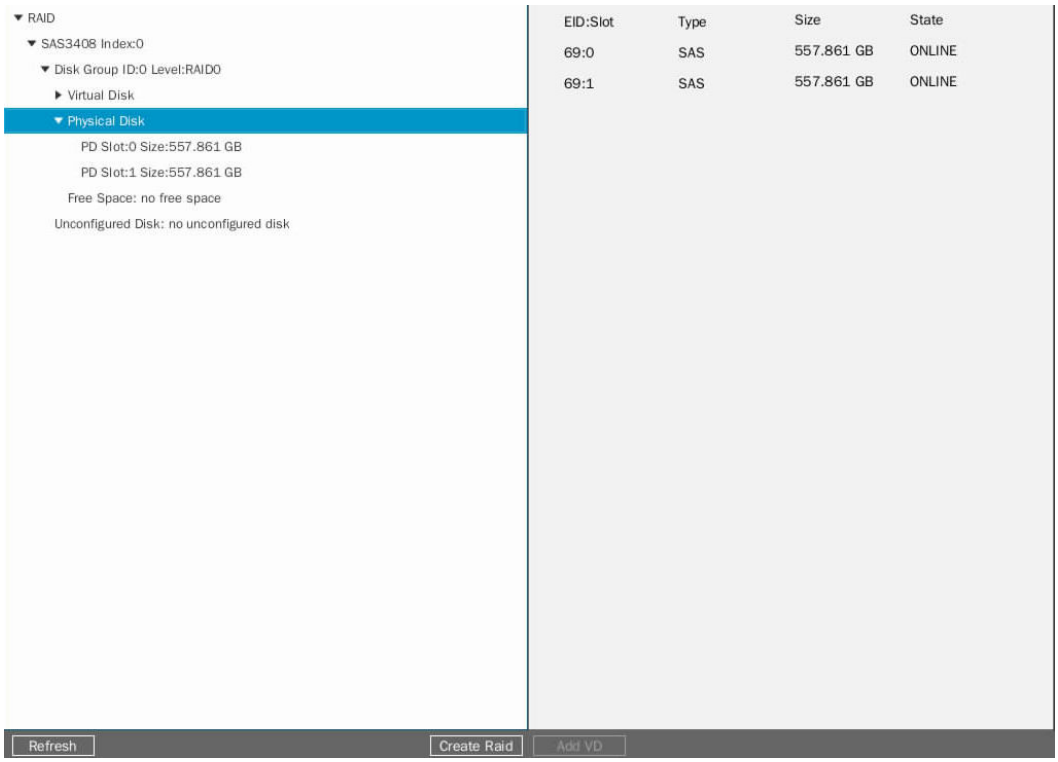
Figure 4-598 RAID configuration main window



Step 3 Click **Physical Disk** of a RAID array under a RAID controller card node on the left pane.

The physical drive window is displayed, as shown in **Figure 4-599**.

Figure 4-599 Physical drive window



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You can view physical drive information in this window.

----End

Changing the Hard Drive Status

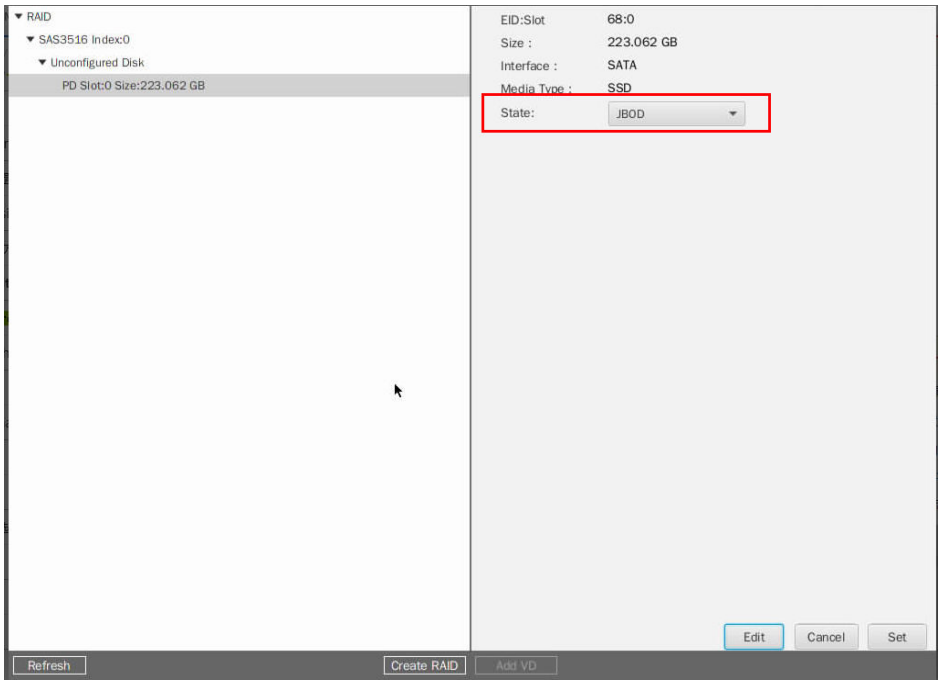
After the JBOD mode is enabled for a RAID controller card that supports the JBOD mode, the hard drive status can be set to **JBOD** or **UGOOD** on the physical drive property screen. The procedure is as follows:

Step 1 Select a physical drive whose status you want to set.

Step 2 Click **Edit** on the lower right of the screen.

The screen shown in **Figure 4-600** is displayed.

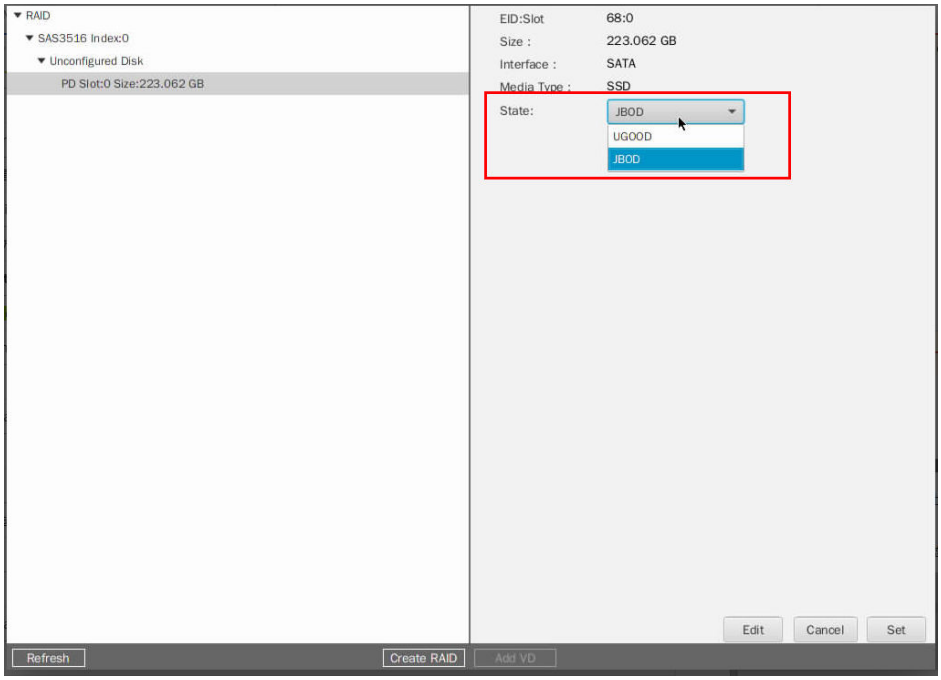
Figure 4-600 Setting the hard drive status (1)



Step 3 Select a hard drive status from the **State** drop-down list, as shown in **Figure 4-601**.

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Figure 4-601 Setting the hard drive status (2)



Step 4 Click **Set** to save the settings.

----End

4.4.2.7 Adding a Virtual Disk

NOTE

You can add a virtual disk only when the RAID group has at least 100 MB free space. If the value of **Free Space** is not **no free space**, the RAID group has free space.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-602**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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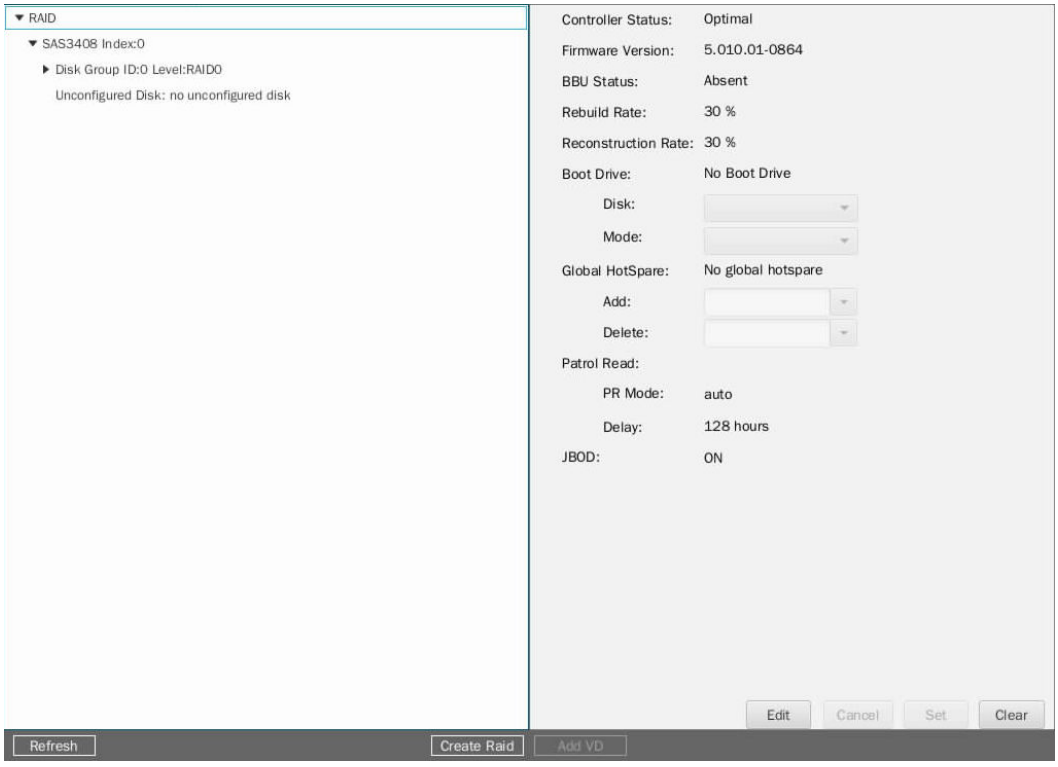
Figure 4-602 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-603**.

Figure 4-603 RAID configuration main window

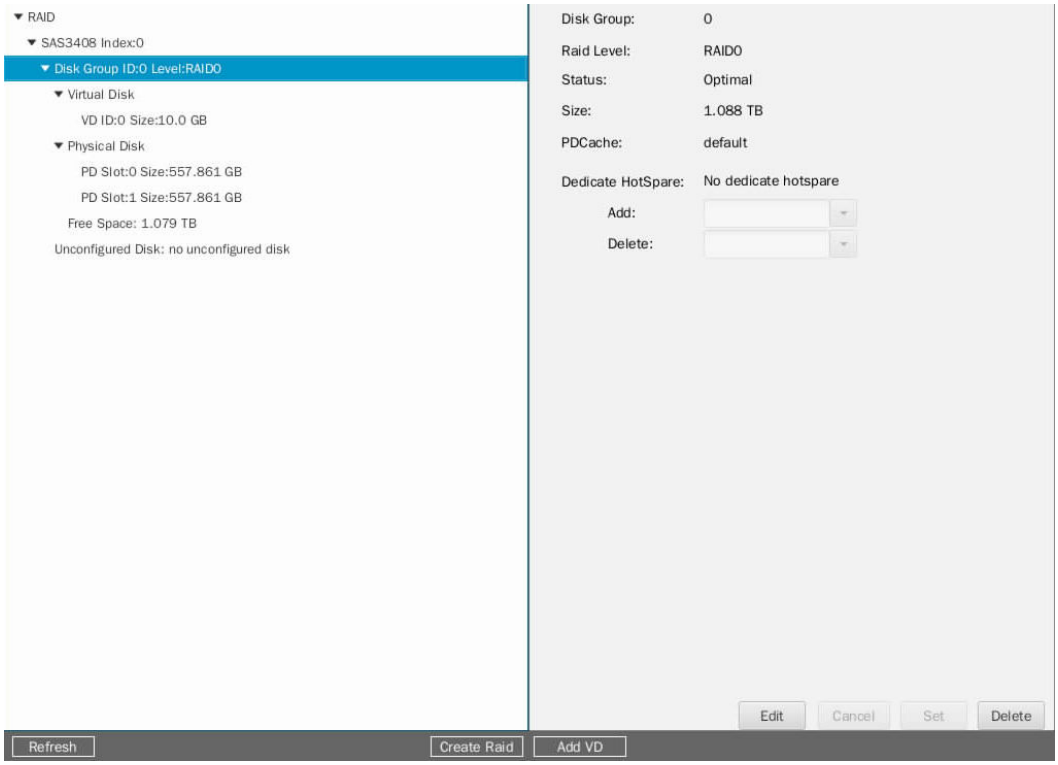


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Step 3 Click a RAID array under a RAID controller card node on the left pane.

The RAID array information window is displayed, as shown in **Figure 4-604**.

Figure 4-604 RAID array information

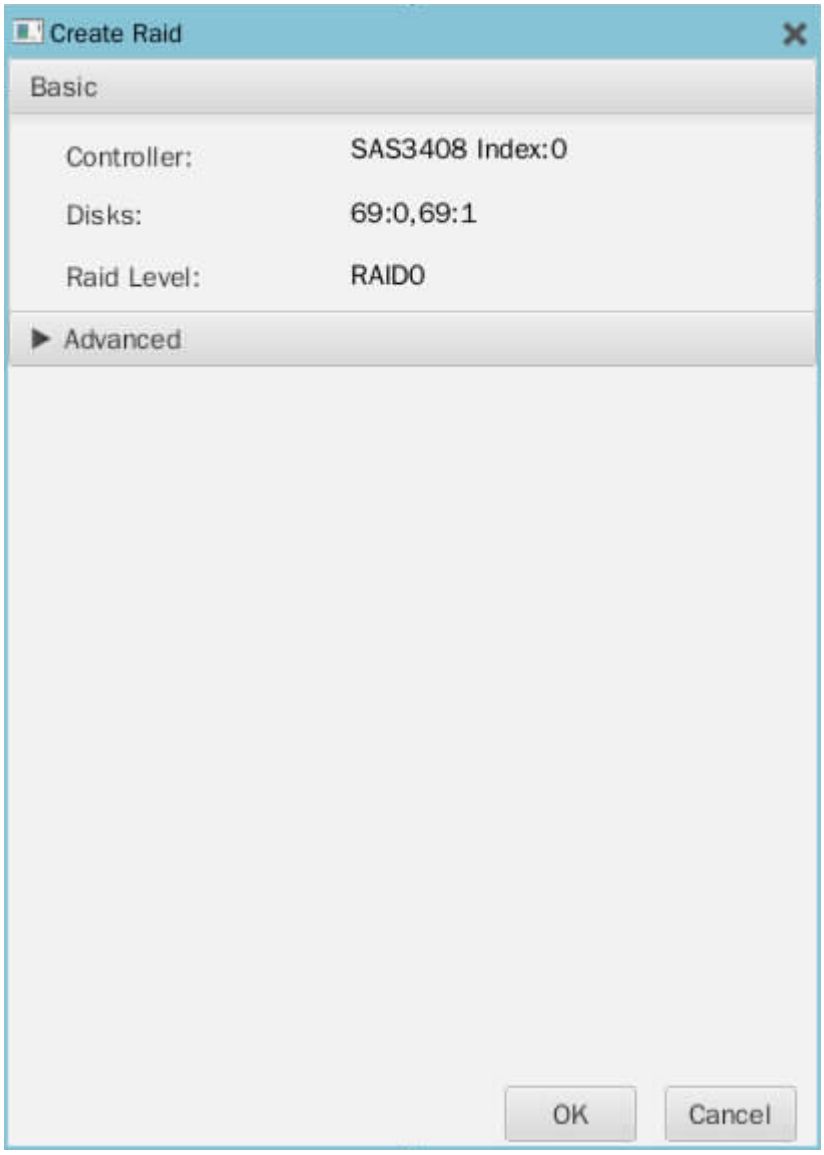


Step 4 Click **Add VD**.

The **Create Raid** window is displayed, as shown in **Figure 4-605**.

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Figure 4-605 Create Raid



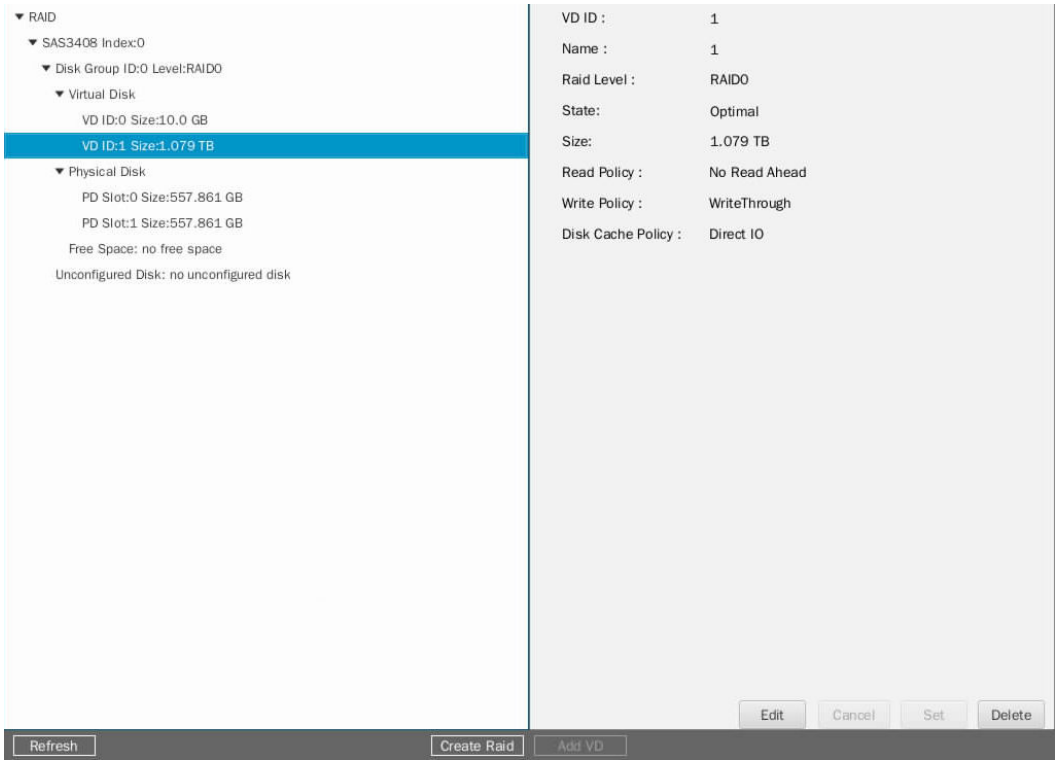
You can click **Advanced** to view more parameters. **Table Parameter description** describes the parameters.

Step 5 Set virtual disk information based on **Table Parameter description**, and click **OK**.

A virtual disk is added successfully. The virtual disk of which the ID is **1** is added, as shown in **Figure 4-606**.

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Figure 4-606 Virtual disk added successfully



----End

4.4.2.8 Configuring a Virtual Disk

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-607**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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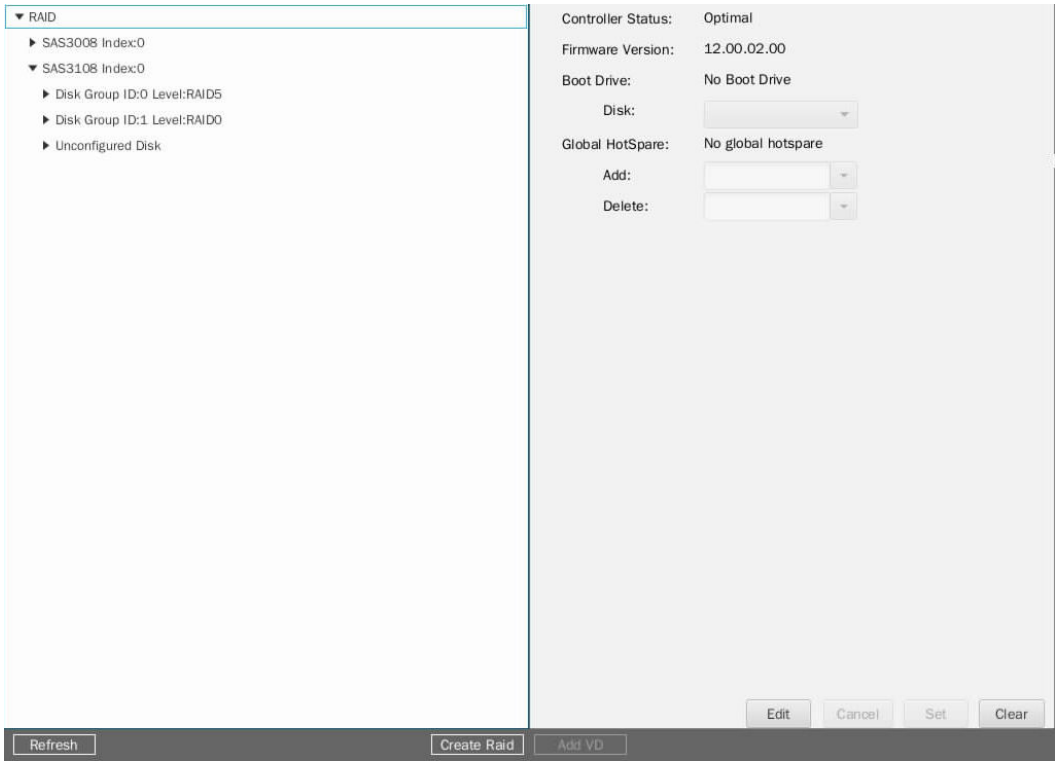
Figure 4-607 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-608**.

Figure 4-608 RAID configuration main window

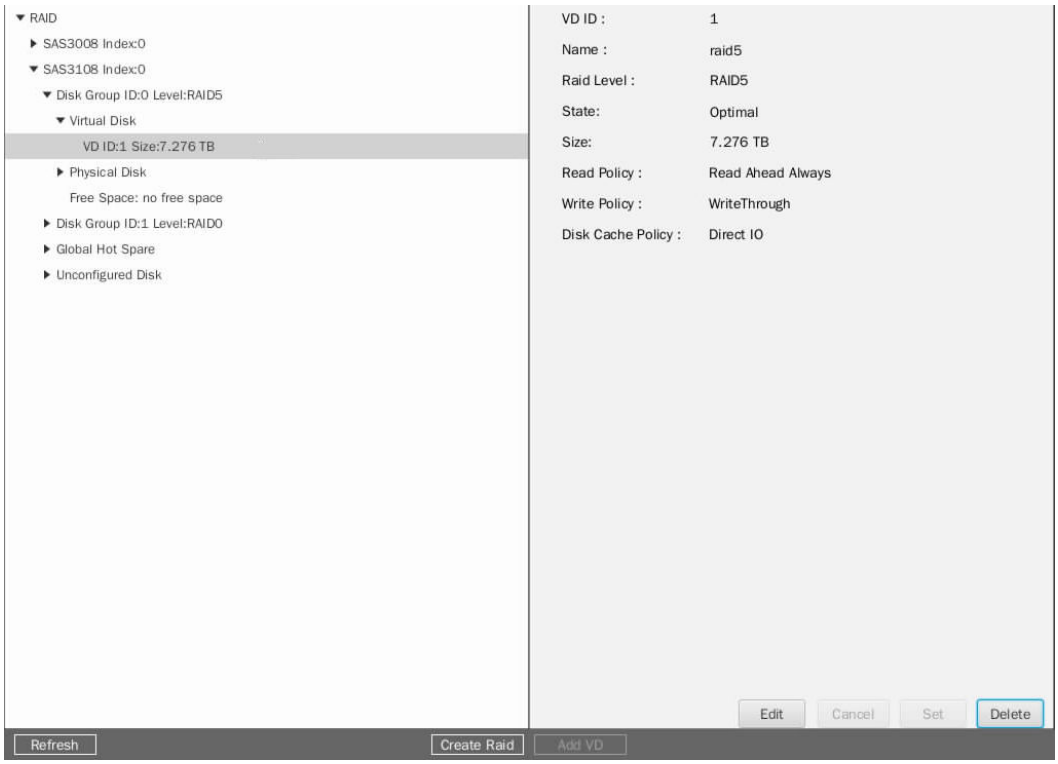


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Step 3 Click a virtual disk of a RAID array under a RAID controller card node on the left pane.

The virtual disk information window is displayed, as shown in **Figure 4-609**.

Figure 4-609 Virtual disk information



Step 4 Click **Edit**.

The system enters the editing mode.

NOTE

The following parameters can be modified:

- Name
- Read Policy
- Write Policy
- Disk Cache Policy

Step 5 Modify the virtual disk information and click **Set**.

The settings are saved.

----End

4.4.2.9 Deleting a Virtual Disk

NOTE

If the last virtual disk in a RAID array is deleted, the RAID array is also deleted. Exercise caution when performing this operation.

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Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-610**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

Figure 4-610 Smart Provisioning main window

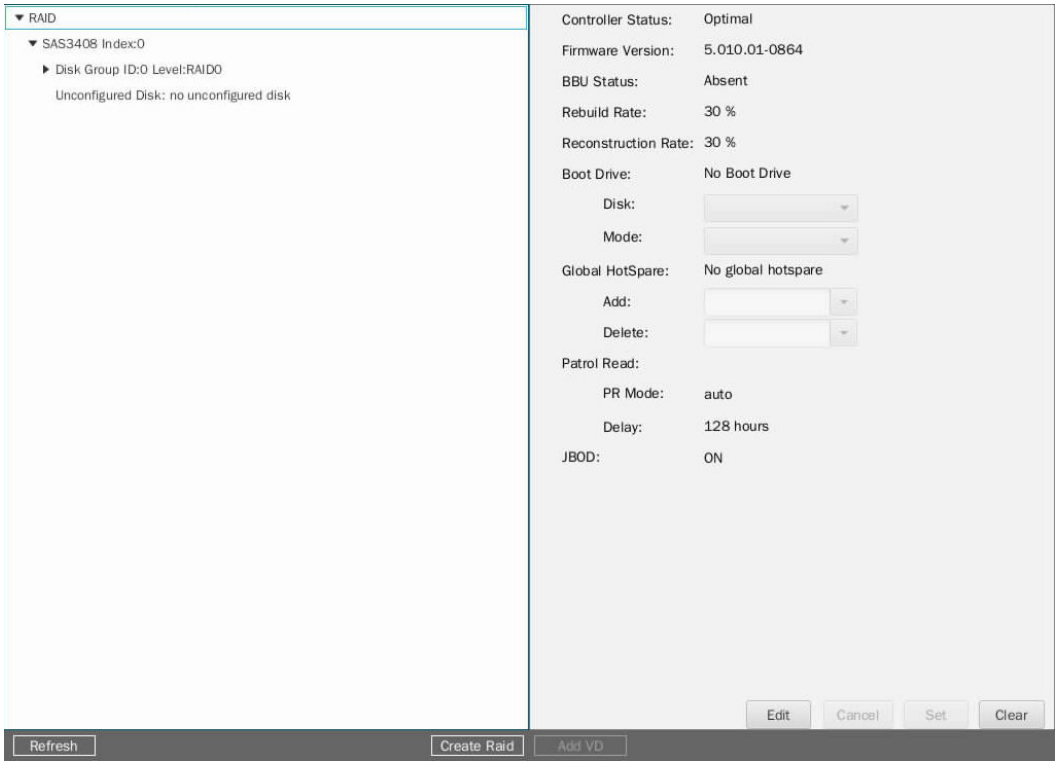


Step 2 In the Smart Provisioning main window, click **Raid Config**.

The RAID configuration main window is displayed, as shown in **Figure 4-611**.

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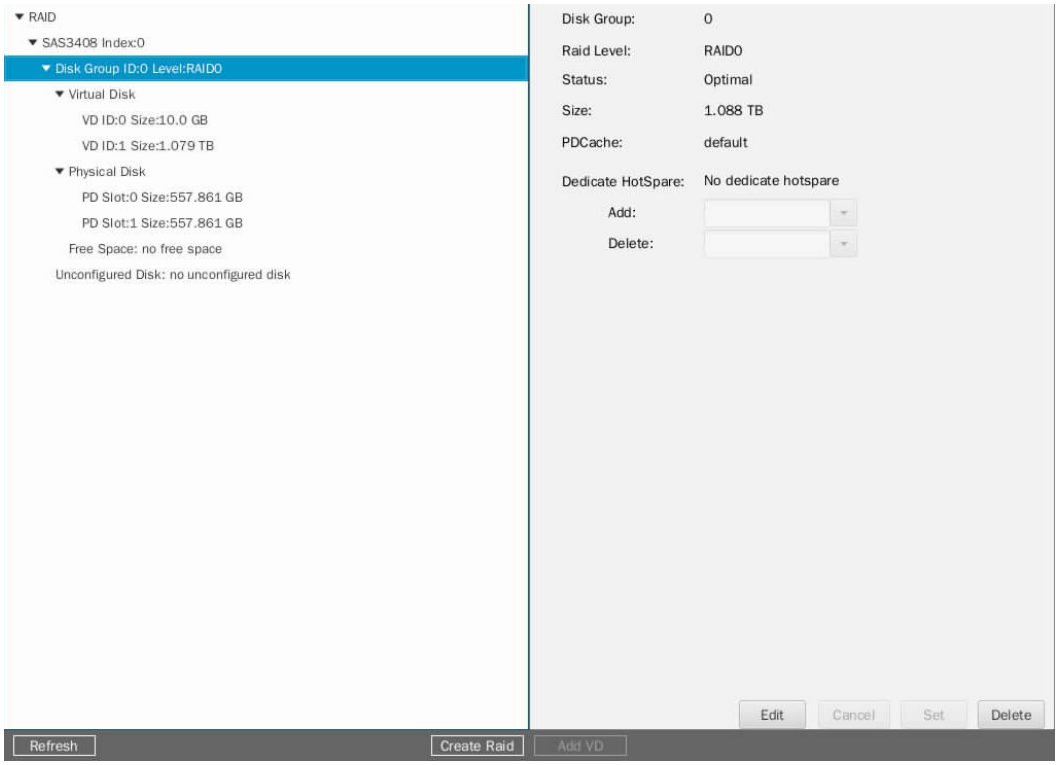
Figure 4-611 RAID configuration main window



Step 3 Click a RAID array under a RAID controller card node on the left pane.

The RAID array information window is displayed, as shown in **Figure 4-612**.

Figure 4-612 RAID array information

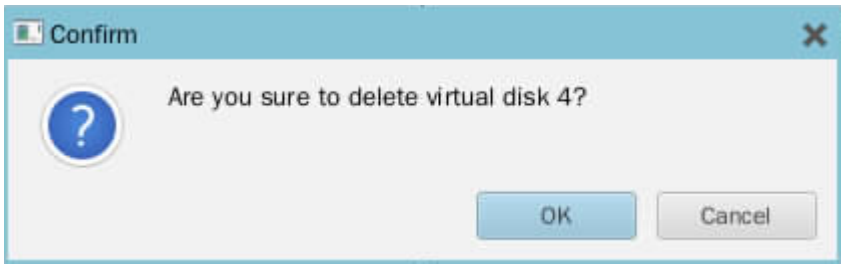


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Step 4 Select a virtual disk (for example, the virtual disk of which the ID is **1**) of the RAID array under the RAID controller card node on the left pane, and click **Delete**.

A confirmation dialog box is displayed, as shown in **Figure 4-613**.

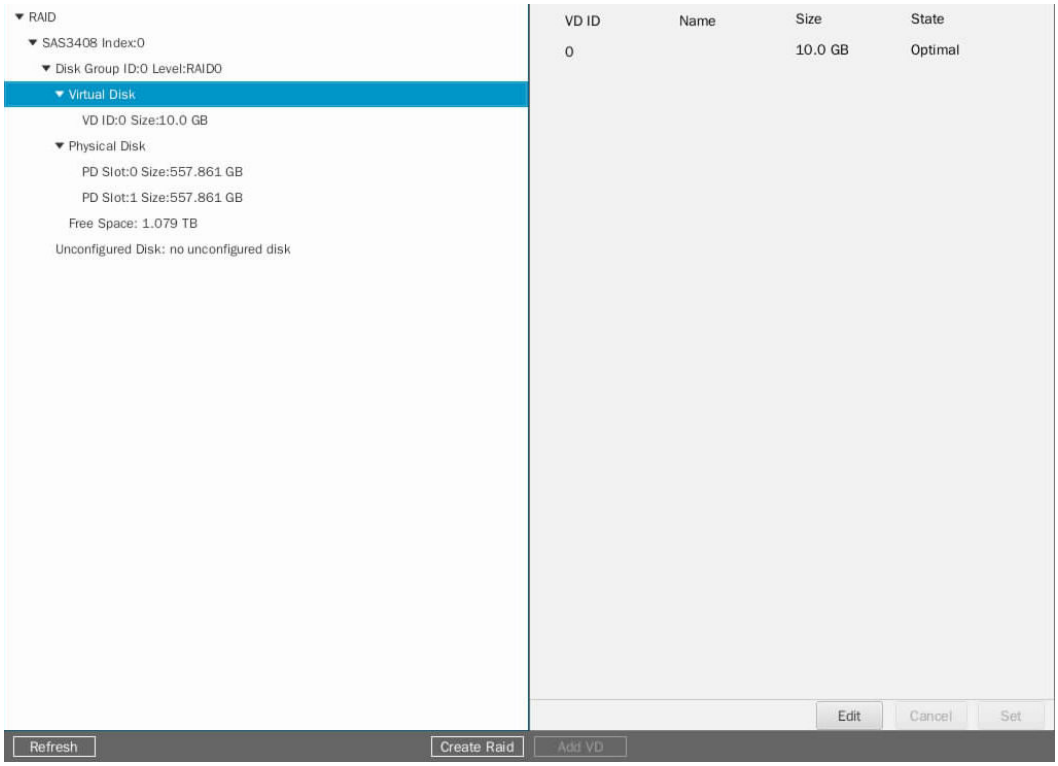
Figure 4-613 Dialog box



Step 5 Click **OK**.

The virtual disk is deleted successfully. The virtual disk of which the ID is **1** is deleted, as shown in **Figure 4-614**.

Figure 4-614 Virtual disk deleted successfully



----End

4.4.3 Performing Upgrades

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4.4.3.1 Upgrading RAID Controller Card, NIC, and Disk Firmware

Before You Start

Download the firmware upgrade packages and PGP digital signatures of RAID controller cards, NICs, and disks before upgrade.

NOTE

- Download NIC and RAID controller card firmware packages from **FusionServer iDriver**. Only firmware packages with the description "You can use SmartProvisioning-1.2.0.5 or a later version to upgrade the firmware" can be used for upgrading through Smart Provisioning.
- If you need to upgrade the firmware of the PCIe card (LPe16002B/LPe16000B/LPe12002/LPe12000/MZ220/X722/SP331/SP332/SP330/QLE2772/QLE2770/QLE2742/QLE2740/QLE2694L/QLE2692/QLE2690/E810CQDA2/E810XXVDA2/E810XXVDA4) using Smart Provisioning 1.5.3.5 or later, obtain the firmware package from **FusionServer iDriver** 3.0.100 or later.
- Download the driver firmware batch upgrade package with the file name containing "xxx_BatchUpgrade_xxx" from **xBayes**.
- Use the Java Integrated Remote Console or Independent Remote Console to upgrade firmware because the HTML5 Integrated Remote Console cannot be used to mount folders.
- During the upgrade of the NIC, RAID controller card, and hard drive firmware, each upgrade takes less than 10 minutes. After the upgrade is complete, you need to manually restart the server for the upgrade to take effect.
- During the upgrade of two or more components at the same time, some components may fail to upgrade due to interference between them. If this problem occurs, it is recommended to upgrade the failed components separately.

Upgrade

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-615**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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Figure 4-615 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Upgrade**.

The upgrade main window is displayed, as shown in **Figure 4-616**.

Figure 4-616 Upgrade main window

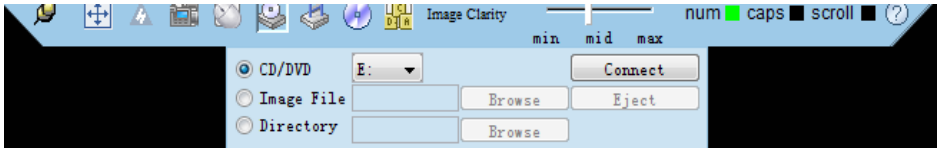


Step 3 Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-617**.

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Figure 4-617 Virtual DVD-ROM drive



Step 4 Select **Directory** and click **Browse**.

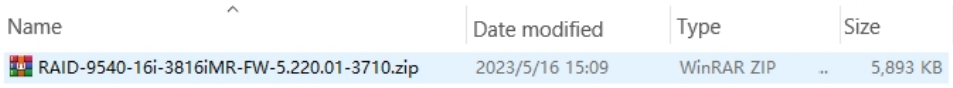
The **Open** dialog box is displayed.

Step 5 Select the folder where the firmware package is located, and click **Open**.

NOTE

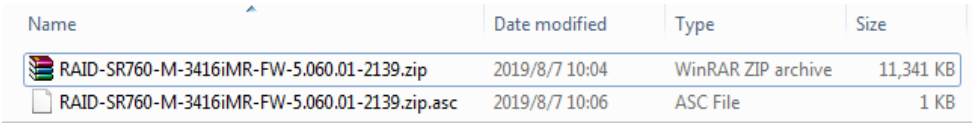
- The firmware package obtained from FusionServer iDriver 3.0.108 or later has a built-in digital signature. The folder contains only the firmware package, as shown in **Figure 4-618**. Alternatively, directly mount the firmware package file.

  Figure 4-618 Folder of a firmware package with a built-in digital signature

  If the firmware package is obtained from FusionServer iDriver earlier than 3.0.108, the folder must contain the firmware package and its digital signature to ensure that the upgraded device can be identified, as shown in **Figure 4-619**.

  Figure 4-619 Folder of a firmware package and its digital signature

- The folder can contain multiple firmware packages. Smart Provisioning supports the upgrades of multiple pieces of firmware at a time.

Step 6 Click **Connect**. See **Figure 4-617**.

When **Connect** changes to **Disconnect**, the local folder is successfully mounted.

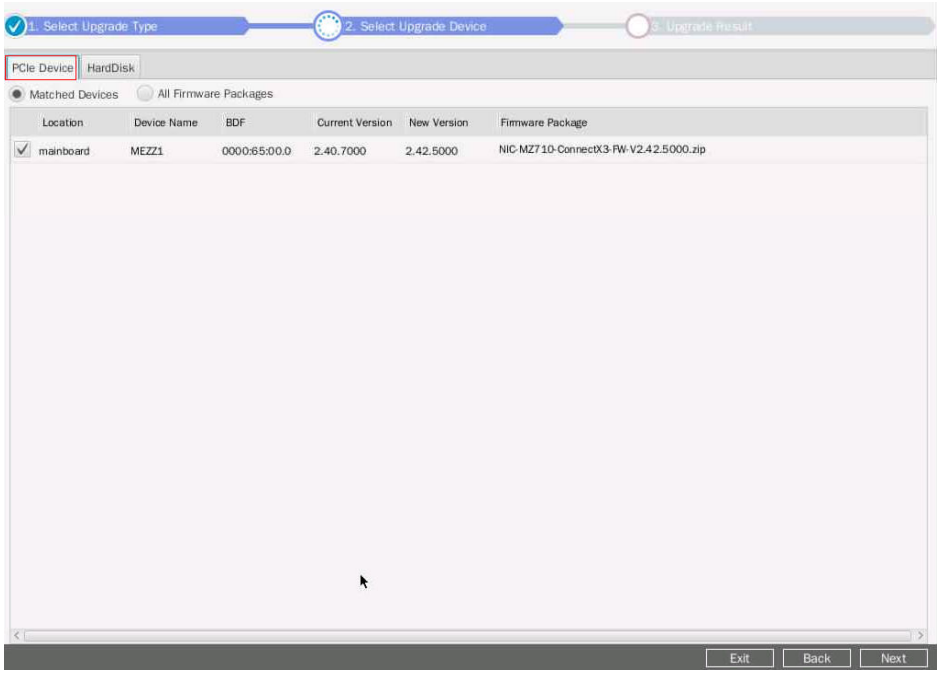
Step 7 On the upgrade main window, select **Firmware** and click **Next**.

The **Select Upgrade Device** window is displayed.

- The **PCIe Device** tab is displayed by default, as shown in **Figure 4-620**.

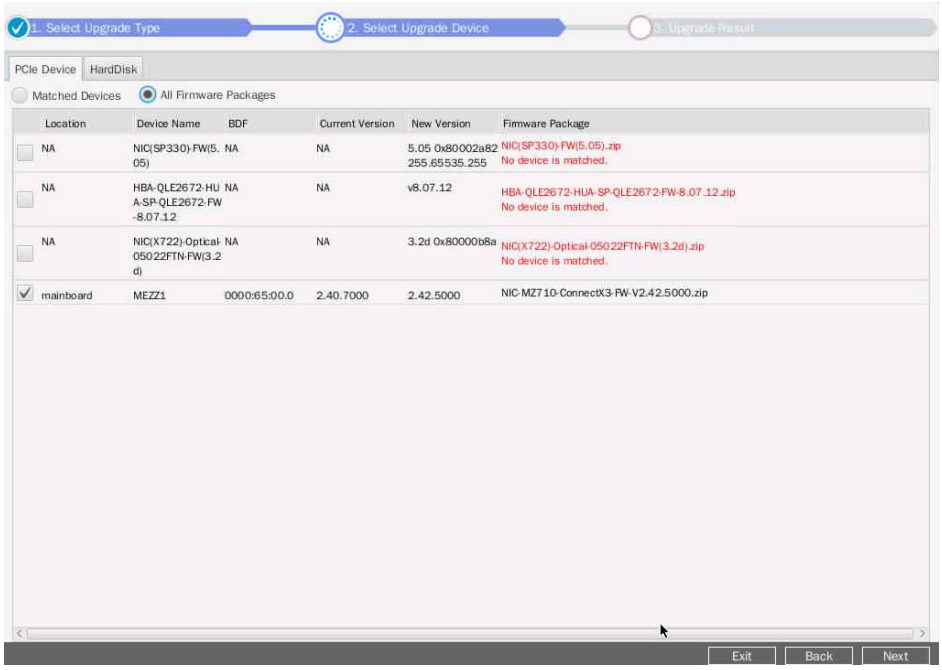
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Figure 4-620 Select Upgrade Device window



If you select **Matched Devices**, information about the firmware matched will be displayed. If you select **All Firmware Packages**, information about all the firmware packages in the specified folder will be displayed, as shown in **Figure 4-621**. Select the firmware package to be used.

Figure 4-621 All Firmware Packages



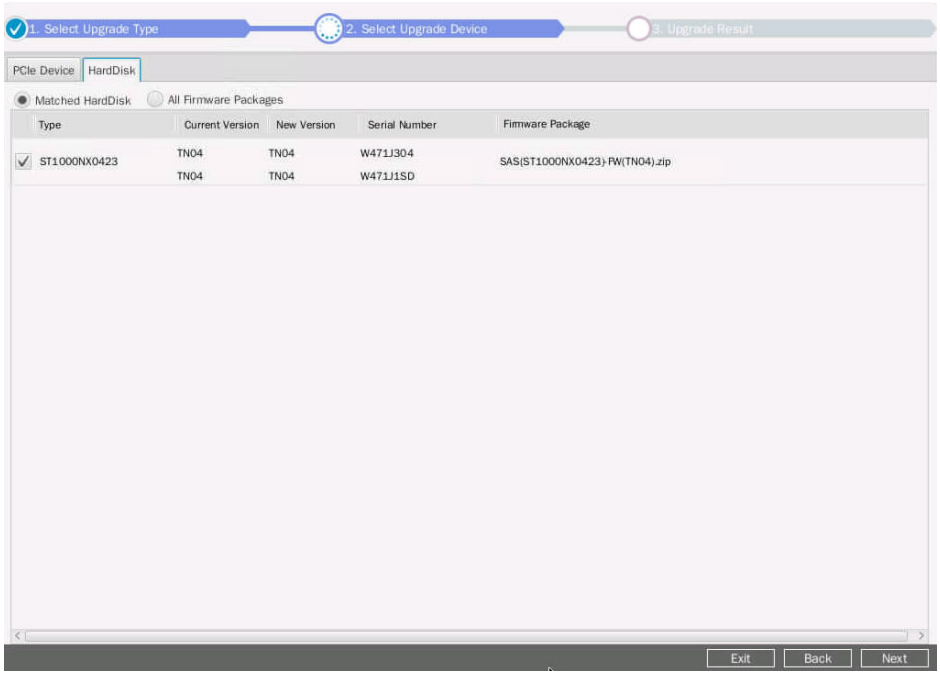
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NOTE

The Smart Provisioning component package does not match any PCIe device. Select **All Firmware Packages**, select the component package to be upgraded.

- Click the **HardDisk** tab page in **Figure 4-620**. The **HardDisk** tab page is displayed, as shown in **Figure 4-622**.

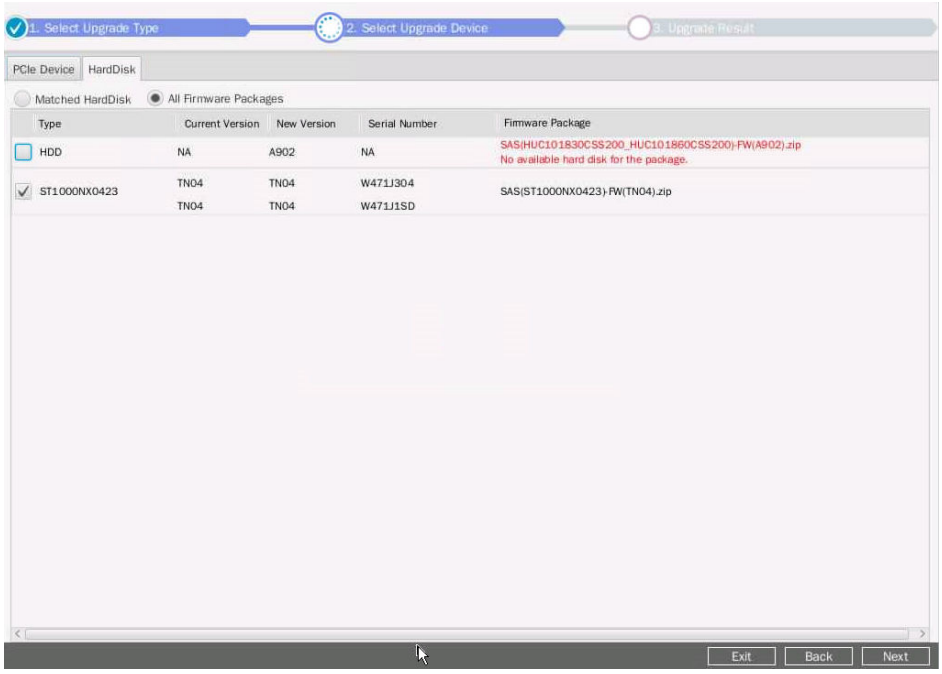
Figure 4-622 HardDisk tab



If you select **Matched Devices**, information about the firmware matched will be displayed. If you select **All Firmware Packages**, information about all the firmware packages in the specified folder will be displayed, as shown in **Figure 4-623**. Select the firmware package to be used.

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Figure 4-623 All Firmware Packages

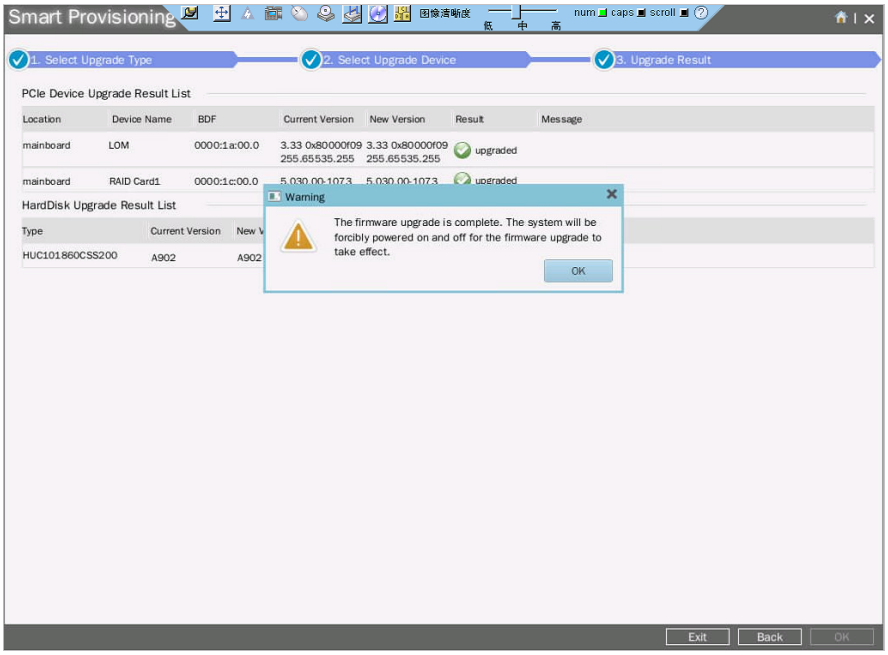


Step 8 Select the component to be upgraded, and click **Next**.

Step 9 The firmware upgrades of different components take effect in different ways.

- The hard drive firmware upgrade takes effect immediately.
- The X722 NIC firmware upgrade takes effect after the system is forcibly powered off and on, as shown in **Figure 4-624**. The system will be forcibly powered off and on after you click OK.

Figure 4-624 Forcibly powering off and on the system for the upgrade to take effect

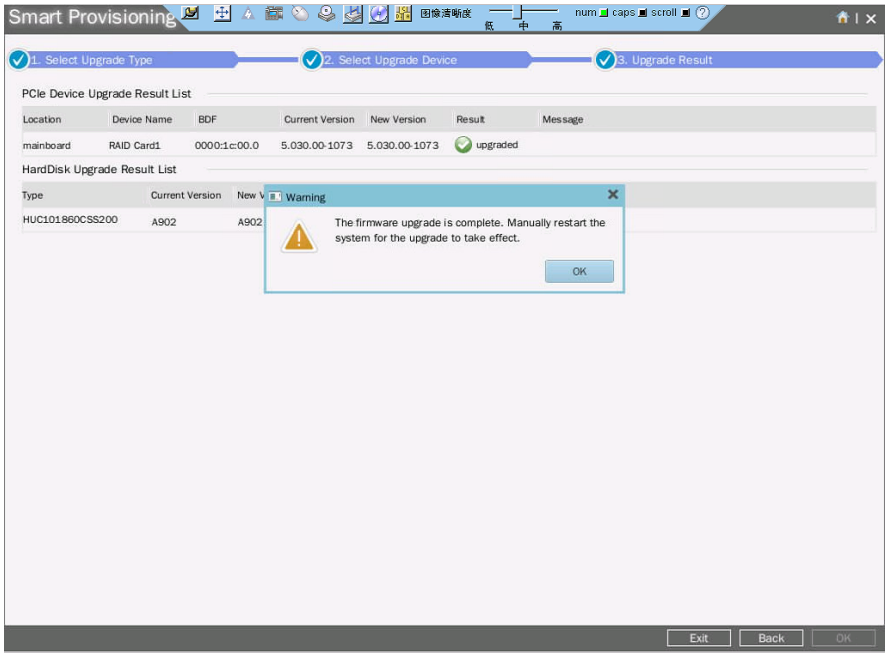


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– After the firmware of the RAID controller card, NICs (excluding X722), and the Smart Provisioning component package are upgraded, you need to manually restart the server for the upgrade to take effect. The procedure is as follows:

i. In the displayed dialog box, click **OK**. See **Figure 4-625**.

Figure 4-625 Manual restart warning



ii. Click  in the upper right corner.

"Are you sure to stop Smart Provisioning and restart the system?" is displayed, as shown in **Figure 4-626**.

Figure 4-626 Confirmation dialog box

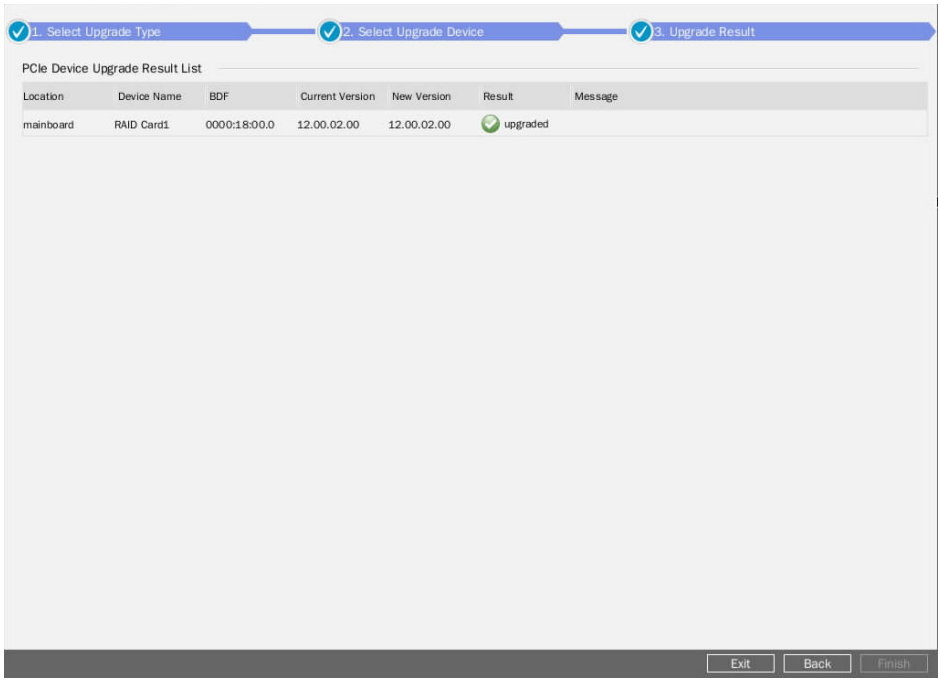


iii. Click **OK**.

Step 10 View the Smart Provisioning upgrade status. If information similar to that shown in **Figure 4-627** is displayed, the upgrade is successful.

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Figure 4-627 Upgrade succeeded



Step 11 Click **Exit** to return to the Smart Provisioning main window.

----End

4.4.3.2 Upgrading the Smart Provisioning for a Single Server

Use the onboard boot or drive boot to upgrade Smart Provisioning for a single server. Time required for upgrading is as shown in **Table-Time required for upgrading (for reference only)**.

Table 4-44 Time required for upgrading (for reference only)

iBMC Version	Minutes for Onboard Boot Upgrading	Minutes for Drive Boot Upgrading
x.xx	50	60
x.xx.xx.xx	20	25

4.4.3.2.1 Onboard Boot Upgrading

Onboard boot: During the device and BIOS startup, press **F6** to enter Smart Provisioning.

Enable the earlier version of Smart Provisioning on the device, mount the latest image package, for example, **SmartProvisioning-1.*.iso**, downloaded from the **Support** website, and install the latest version of Smart Provisioning.

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NOTE

- A version earlier than V134 can be upgraded to V134 or a later version only through the CD-ROM boot, see **4.3.3.3.2-Drive Boot Upgrading**.
- To upgrade from V140 or earlier to a version later than 1.2.0.4 through the onboard boot, you have to upgrade to 1.2.0.4 before upgrading to the target version.
- 1.2.0.4 and later versions cannot be rolled back to V140 or earlier versions.
- For a 9008 V5 server, only Smart Provisioning of the 9008 V5 without a central management enclosure (CME) can be upgraded.
- For Smart Provisioning 1.5.2.1 or later, you can upgrade the component on the upgrade page of Smart Provisioning.
- For Smart Provisioning 1.2.0.5 to 1.5.1.2, you can upgrade the component by upgrading the firmware. For details, see **4.4.3.1 Upgrading RAID Controller Card, NIC, and Disk Firmware**.
- For Smart Provisioning versions earlier than 1.2.0.5, component upgrades are not supported.

Data Preparations

- Download the latest image package, for example, **SmartProvisioning-1.*.iso**, on the **Smart Provisioning product** page.

Upgrade Procedure

Step 1 Download the Smart Provisioning software package in **.zip** format from the **Support** website. Decompress the Smart Provisioning software package.

The Smart Provisioning image file (for example, **SmartProvisioning-1.*.iso**) is generated.

Step 2 Access the Smart Provisioning main window, as shown in **Figure 4-628**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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Figure 4-628 Smart Provisioning main window



Step 3 In the Smart Provisioning main window, click **Upgrade**.

The upgrade main window is displayed, as shown in **Figure 4-629**.

Figure 4-629 Upgrade main window

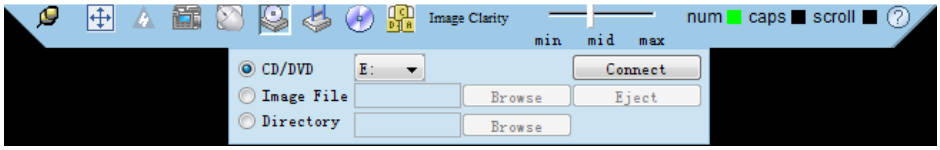


Step 4 Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-630**.

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Figure 4-630 Virtual DVD-ROM drive



Step 5 Select **Image File** and click **Browse**.

The **Open** dialog box is displayed.

Step 6 Select the local Smart Provisioning image file (for example, **SmartProvisioning-V1*.iso**), and click **Open**.

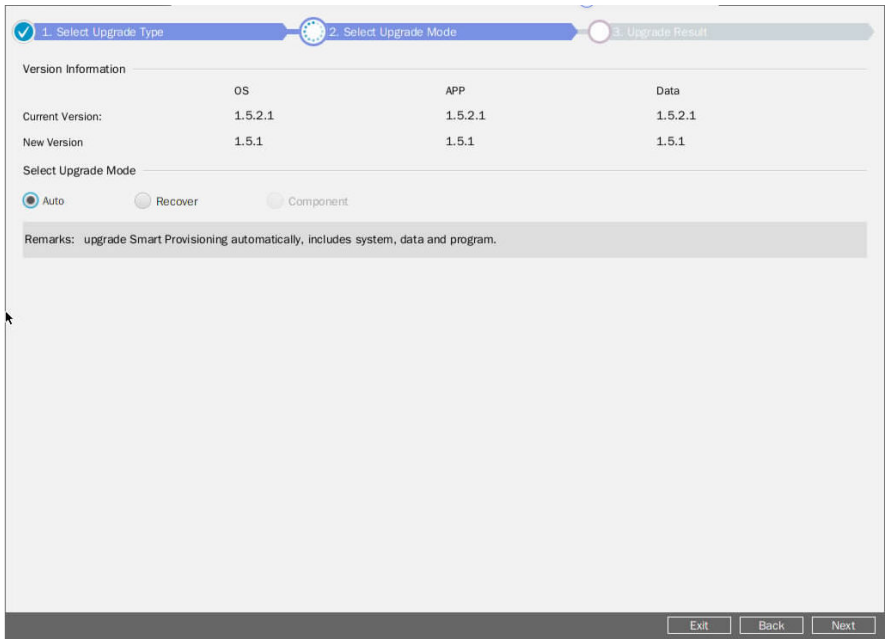
Step 7 Click **Connect**. See **Figure 4-630**.

When **Connect** changes to **Disconnect**, the Smart Provisioning image file is successfully mounted.

Step 8 In the upgrade main window, select **Smart Provisioning** and click **Next**.

The **Select Upgrade Mode** window is displayed, as shown in **Figure 4-631**.

Figure 4-631 Select Upgrade Mode



Step 9 Select an upgrade mode. The following uses **Auto** as an example. You can select an upgrade mode as required. The upgrade modes are described as follows:

- **Auto:** If the current version of OS, APP, or Data is different from the target version, upgrade OS, APP, or Data of Smart Provisioning to the target version. The default mode is **Auto**.
- **Recover:** Format the partition where Smart Provisioning is located, and then upgrade all OS, APP, and Data to the target versions.
- **Component:** component-based software upgrade.

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NOTE

- When the Smart Provisioning of a later version is rolled back to the same version or an earlier version, only the **Recover** mode can be used.
- The Smart Provisioning upgrade from 1.5.2 or ealier to 1.5.2 can be performed only in the **Recover** mode.
- After Smart Provisioning 1.5.2 and later versions are upgraded in **Component** mode, the upgraded Smart Provisioning version takes effect immediately on the GUI. However, the upgraded Smart Provisioning version cannot be found when you use Redfish to query it. The Smart Provisioning version takes effect only after the Smart Provisioning is restarted.
- For upgrades in **Auto** or **Recover** mode, mount the .iso image file. For upgrades in Component mode, mount the .zip component package.

Step 10 Click **Next**.

The **Upgrade Result** window is displayed.

NOTE

During the Smart Provisioning upgrade process, operations such as resetting the BMC, restarting the server, or disconnecting the Smart Provisioning image will damage Smart Provisioning. After Smart Provisioning is damaged, you need to use uREST or mount the Smart Provisioning image to upgrade Smart Provisioning in **Recover** mode. For details about how to use uREST, see the ***FusionServer Tools uREST User Guide***.

Step 11 View the Smart Provisioning upgrade status. If information similar to that shown in **Figure 4-632** is displayed, the upgrade is successful.

Figure 4-632 Upgrade succeeded



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The OS automatically restarts after the upgrade is successful. During the restart process, you can press **F6** on the boot option selection screen to go to the Smart Provisioning main window.

----End

4.4.3.2.2 Drive Boot Upgrading

Drive boot: Mount the Smart Provisioning image package and boot from the drive.

Log in to the KVM, mount the Smart Provisioning image package, (for example, **SmartProvisioning-V1*.iso**) downloaded from the **Support** website to the virtual DVD-ROM drive, and set BIOS booting from the DVD-ROM drive first. Restart the device, install the loaded target version of Smart Provisioning to perform the upgrade.

NOTE

- When Smart Provisioning is upgraded to a version later than 1.2.0.4, the V5 and V6 servers require the iBMC of xFusion signed versions. The Table **Table 4-45** lists the xFusion signed versions for V5 and V6 models.
- To upgrade Smart Provisioning to V134 or a later version, use the virtual DVD-ROM drive of the target version to mount the image and access the Smart Provisioning homepage to perform the upgrade.
- 1.2.0.4 and later versions cannot be rolled back to V140 or earlier versions.
- For a KunLun 9008 V5 server, only Smart Provisioning of the 9008 V5 without a central management enclosure (CME) can be upgraded.

Table 4-45 xFusion signed iBMC version for each model

Series	Model	iBMC version (Format: *x.xx*)	iBMC version (Format: *x.xx.xx.xx*)
V5	1288H V5	6.39 or later (Except 6.46)	All versions
	1288X V5	6.39 or later (Except 6.46)	All versions
	2288 V5	6.39 or later (Except 6.46)	All versions
	2288C V5	6.39 or later (Except 6.46)	All versions
	2288H V5	6.39 or later (Except 6.46)	All versions
	2288X V5	6.39 or later (Except 6.46)	All versions
	2298 V5	6.39 or later (Except 6.46)	All versions

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Series	Model	iBMC version (Format: *x.xx*)	iBMC version (Format: *x.xx.xx.xx*)
	2488 V5	6.39 or later (Except 6.46)	All versions
	2488H V5	6.39 or later (Except 6.46)	All versions
	5288 V5	6.39 or later (Except 6.46)	All versions
	5288X V5	6.39 or later (Except 6.46)	All versions
	5885H V5	6.39 or later (Except 6.46)	All versions
	8100 V5	6.39 or later (Except 6.46)	All versions
	CH121 V5	6.48 or later	All versions
	CH121L V5	6.48 or later	All versions
	CH221 V5	6.39 or later (Except 6.46)	All versions
	CH225 V5	6.39 or later (Except 6.46)	All versions
	XH321 V5	6.39 or later (Except 6.46)	All versions
	XH321L V5	6.39 or later (Except 6.46)	All versions
	G530 V5	6.41 or later (Except 6.46)	All versions
	G560 V5	6.41 or later (Except 6.46)	All versions
	DH120 V5	8.05 or later	All versions
	DH120C V5	8.05 or later	All versions
	9008 V5	6.47 or later	All versions
V6	1288H V6	-	3.03.07.09 or later (does not containe 3.03.07.13)
	2288H V6	-	3.03.07.09 or later (does not containe 3.03.07.13)

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Series	Model	iBMC version (Format: *x.xx*)	iBMC version (Format: *x.xx.xx.xx*)
	2488H V6	-	3.03.00.19 or later (does not containe 3.03.07.13)
	5288 V6	-	3.03.07.09 or later (does not containe 3.03.07.13)
	DH120C V6	-	3.03.07.09 or later
	DH121C V6	-	3.3.10.1 or later
	DH140C V6	-	3.3.0.49 or later

Data Preparations

- Download the latest image package, for example, **SmartProvisioning-1.*.iso**, on the **Smart Provisioning product** page.

Upgrade Procedure

Step 1 Log in to the KVM by using either of the following modes.

- Use the iBMC to log in to the KVM from a web page.
  a. Log in to the iBMC WebUI.
  b. Access the KVM through the **Remote Console** screen.
     - Choose **Remote Console** from the main menu, and click **Java Integrated Remote Console (Shared)** or **Java Integrated Remote Console (private)**. The KVM screen is displayed.

       NOTE

       If you click **Java Integrated Remote Console (Shared)**, two users are allowed to simultaneously access and perform operations on the server. Each user can view the operations performed by the other user, which causes security risks.

       If the Java integrated remote console cannot be started, see "Failed to Open the Remote Virtual Console" in the ***iBMC User Guide***.

     - Choose **Remote Console** from the main menu, and click **HTML5 Integrated Remote Console (private)** or **HTML5 Integrated Remote Console (Shared)**.

       NOTE

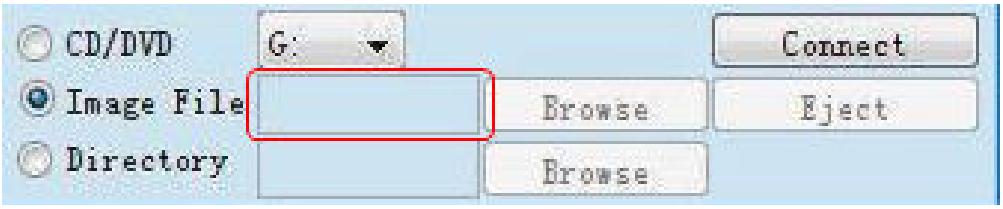
       If you click **HTML5 Integrated Remote Console (Shared)**, two users are allowed to simultaneously access and perform operations on the server. Each user can view the operations performed by the other user, which causes security risks.

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- Download the KVM software and log in.
  - Log in to the **Independent Remote Console**, download the KVM package of the corresponding OS, and log in the KVM.

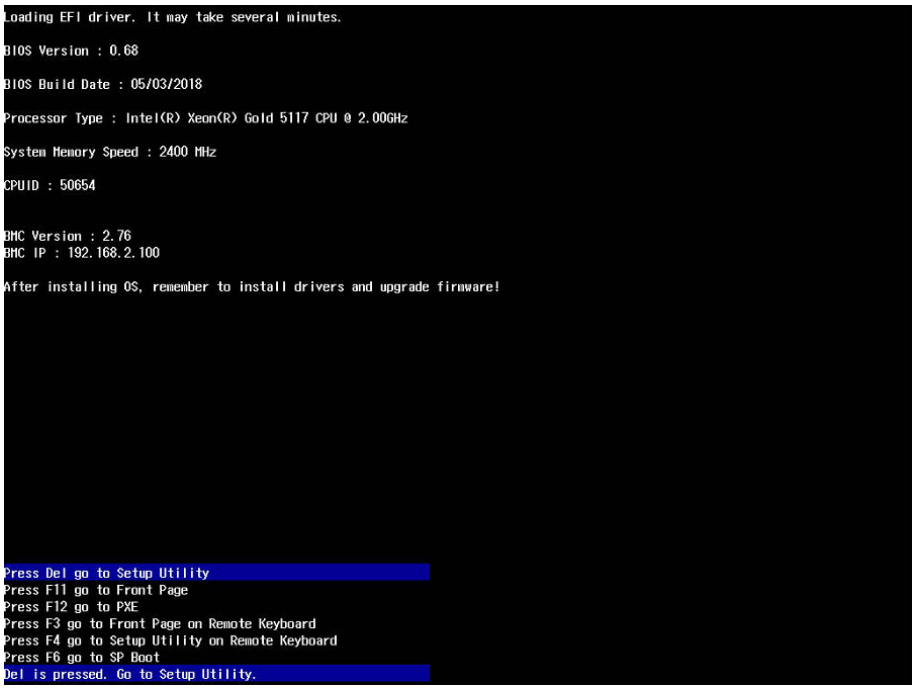
Step 2 On the KVM page, upload the image file and click **Connect**. See **Figure 4-633**.

Figure 4-633 KVM screen



Step 3 The Boot Manager screen is displayed.

- If the BIOS platform is Purley and the BIOS version is V363 or earlier:
  a. Restart the server.
  b. When the following screen is displayed, press **F11** or **F3**.



  c. During the startup, if the system prompts you to enter the password, enter the password in the displayed dialog box. The default password is **Admin@9000**.

     The **Front Page** screen is displayed.
  d. Use arrow keys to select **Boot Manager** and press **Enter**.

     The Boot Manager screen is displayed.
- If the BIOS platform is Purley and the BIOS version is V658 or later, or the BIOS platform is Cedar Island:
  a. Restart the server.
  b. When the screen shown in **Figure 4-634** or **Figure 4-635** is displayed, press **F11** or **F3**.

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Figure 4-634 BIOS of V658 or later on the Purley platform

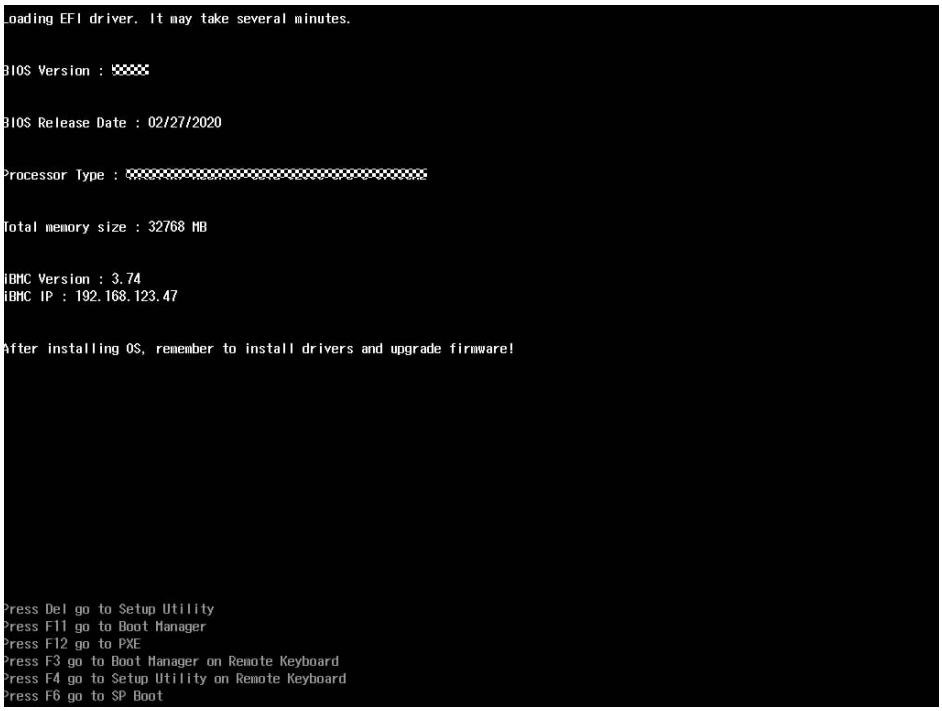
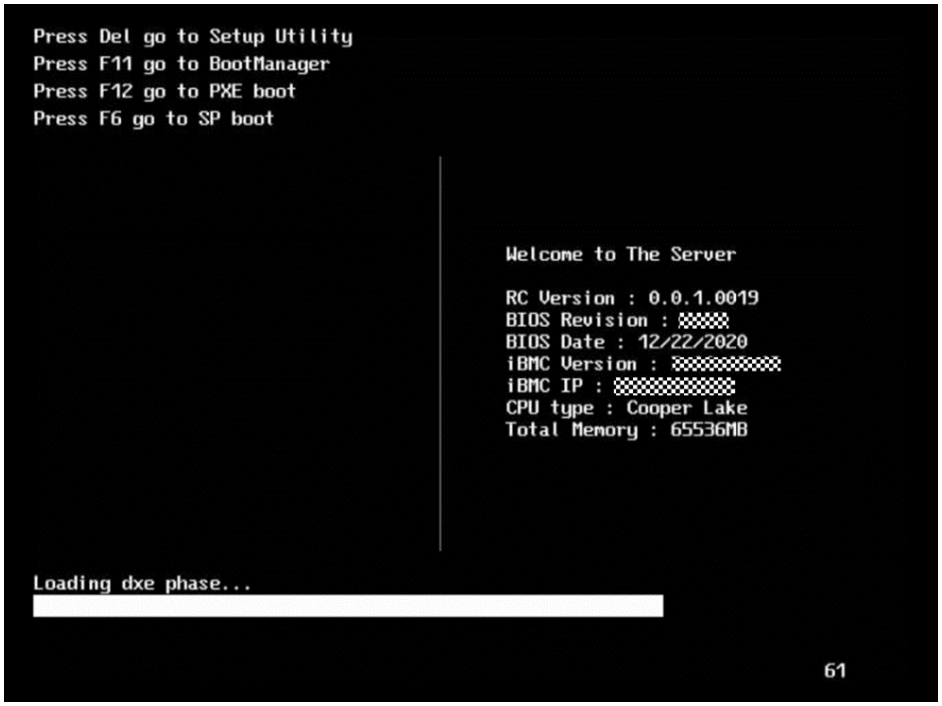


Figure 4-635 BIOS on the Cedar Island/Whitley platform



c. During the startup, if the system prompts you to enter the password, enter the password in the displayed dialog box. The default password is **Admin@9000**.

   The Boot Manager screen is displayed.

Step 4 Select **Boot Manager** in the displayed screen, and press **Enter**.

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Step 5 In the dialog box that is displayed, choose to boot from the DVD-ROM drive. See **Figure 4-636** or **Figure 4-637**.

Figure 4-636 Booting from the DVD-ROM drive (Purley platform)

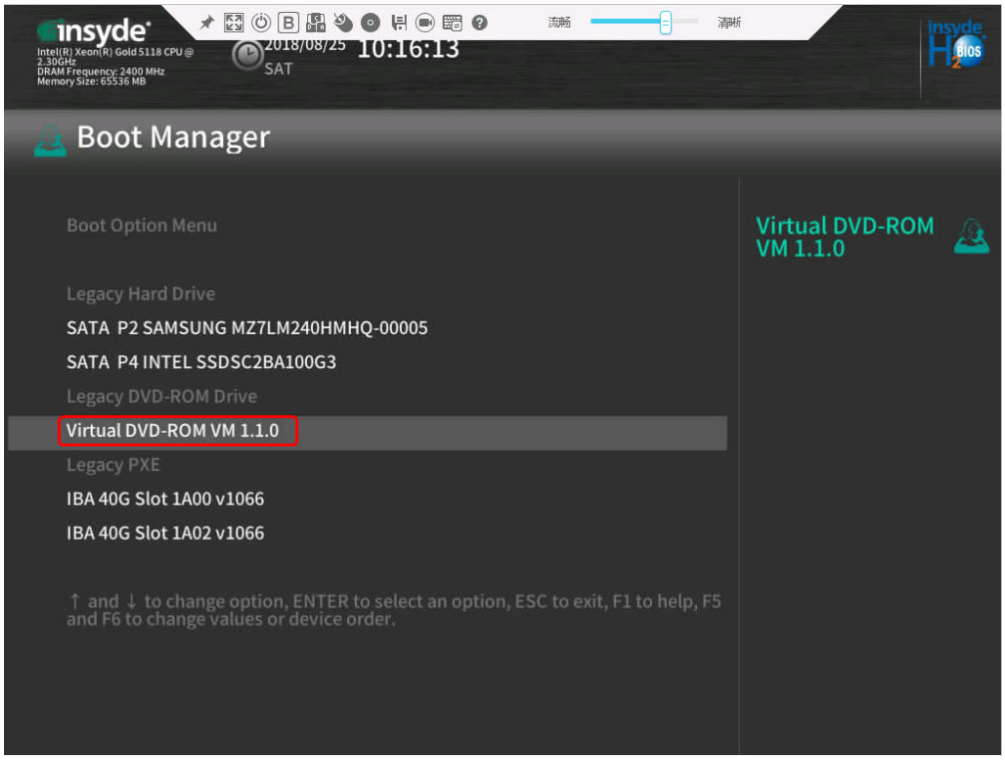
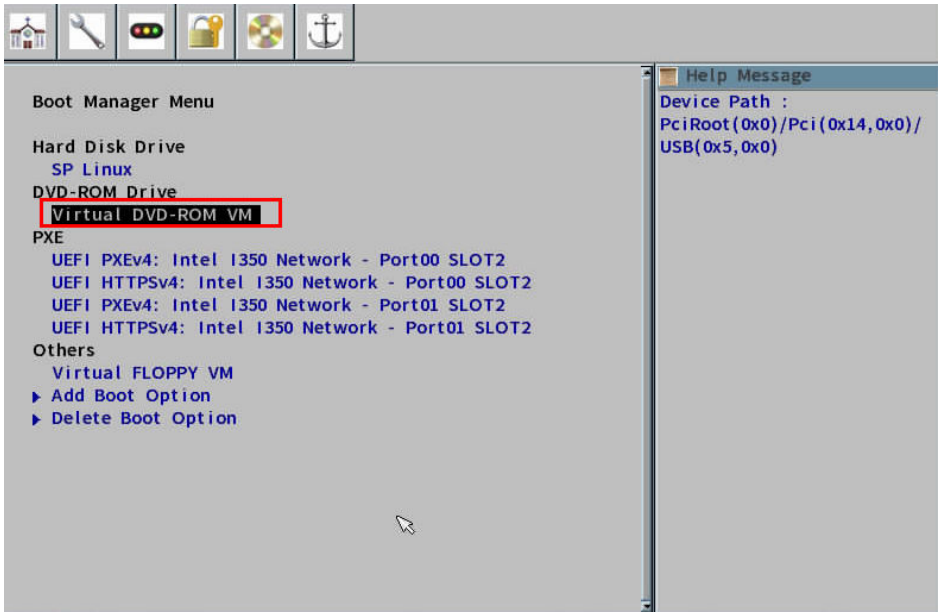


Figure 4-637 Booting from the DVD-ROM drive (Cedar Island Platform)



Step 6 After the booting is complete, the Smart Provisioning main window is displayed. Perform subsequent operations.

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NOTE

- To upload another image file, click **Eject** to eject the existing image file, select a new image file whose format is ***.iso**, and click **Insert**.
- To dismount the virtual DVD-ROM drive from the server, click **Disconnect**. Then, click **Yes** in the **Confirm** dialog box.

Figure 4-638 Smart Provisioning main window

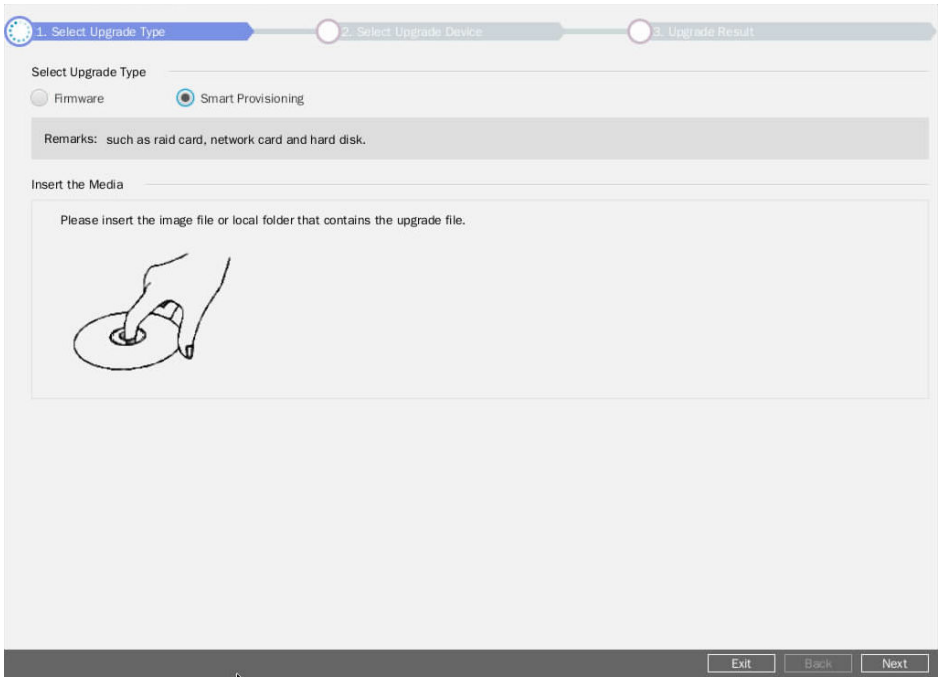


Step 7 In the Smart Provisioning main window, click **Upgrade**, as shown in **Figure Smart Provisioning main window**.

The upgrade main window is displayed, as shown in **Figure 4-639**.

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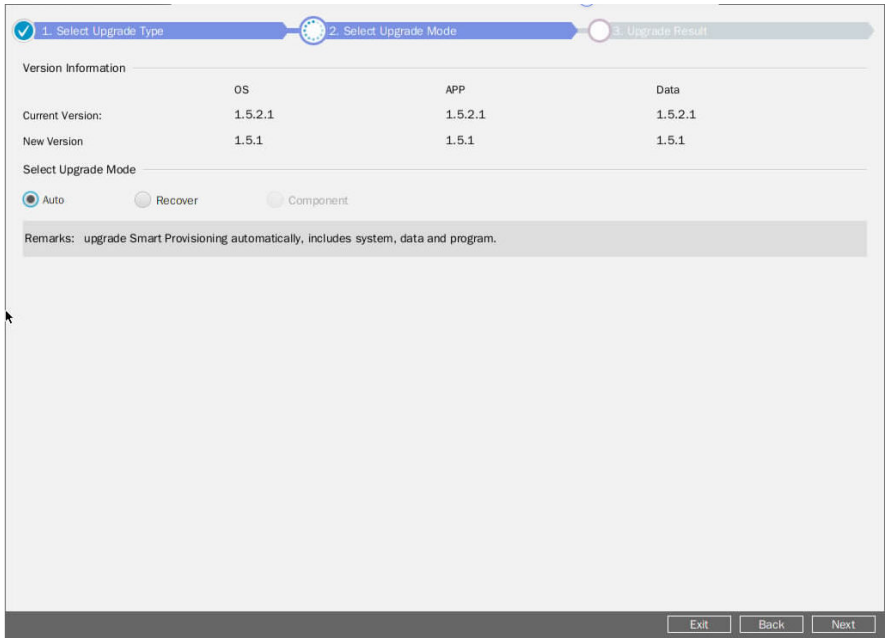
Figure 4-639 Upgrade main window



Step 8 In the upgrade main window, as shown in **Figure Upgrade main window**, select **Smart Provisioning** and click **Next**.

The **Select Upgrade Mode** window is displayed, as shown in **Figure 4-640**.

Figure 4-640 Select Upgrade Mode



Step 9 Select an upgrade mode. The following uses **Auto** as an example. You can select an upgrade mode as required. The upgrade modes are described as follows:

- **Auto:** If the current version of OS, APP, or Data is different from the target version, upgrade OS, APP, or Data of Smart Provisioning to the target version. The default mode is **Auto**.

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- **Recover:** Format the partition where Smart Provisioning is located, and then upgrade all OS, APP, and Data to the target versions.
- **Component:** component-based software upgrade.

  NOTE

  – When the Smart Provisioning of a later version is rolled back to the same version or an earlier version, only the **Recover** mode can be used.
  – The Smart Provisioning upgrade from 1.5.2 or ealier to 1.5.2 can be performed only in the **Recover** mode.
  – The **Component** mode is not supported during the drive boot upgrade.

Step 10 Click **Next**.

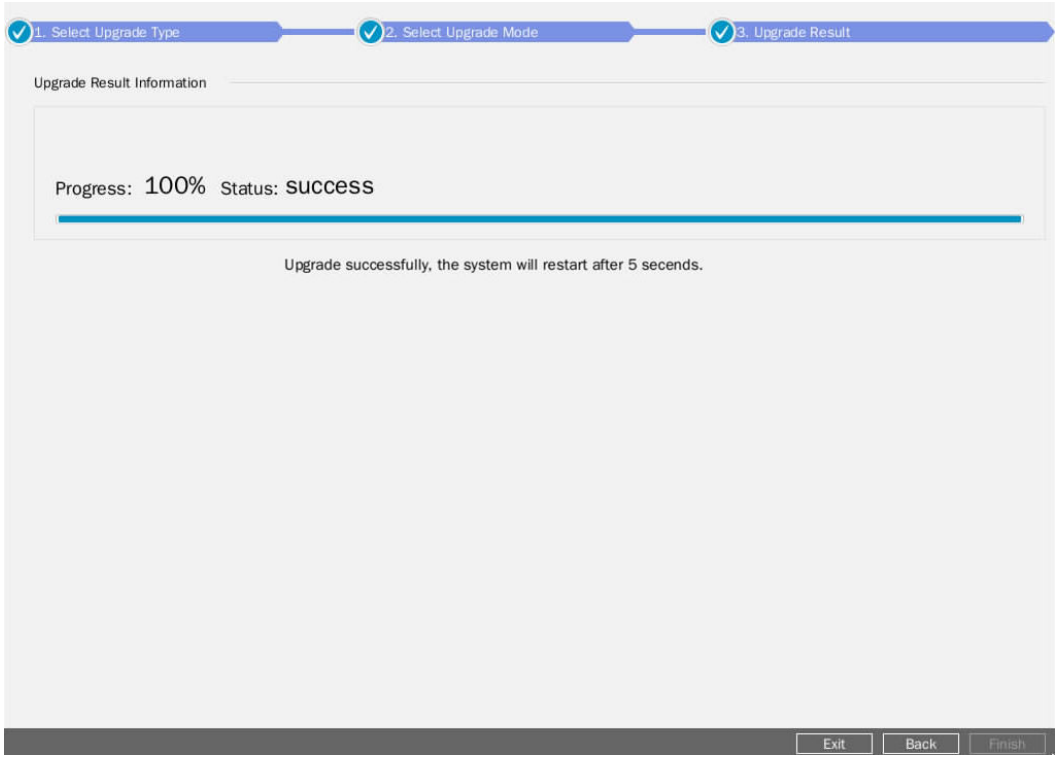
The **Upgrade Result** window is displayed.

NOTE

During the Smart Provisioning upgrade process, operations such as resetting the BMC, restarting the server, or disconnecting the Smart Provisioning image will damage Smart Provisioning. After Smart Provisioning is damaged, you need to use uREST or mount the Smart Provisioning image to upgrade Smart Provisioning in **Recover** mode. For details about how to use uREST, see the ***FusionServer Tools uREST User Guide***.

Step 11 View the Smart Provisioning upgrade status. If information similar to that shown in **Figure 4-641** is displayed, the upgrade is successful.

Figure 4-641 Upgrade succeeded



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The OS automatically restarts after the upgrade is successful. During the restart process, you can press **F6** on the boot option selection screen to go to the Smart Provisioning main window.

----End

4.4.3.3 Upgrading the components of Smart Provisioning for a Single Server

Onboard boot: During the device and BIOS startup, press **F6** to enter Smart Provisioning.

Enable the earlier version of Smart Provisioning on the device, mount the latest component upgrade package, for example, **SmartProvisioning-1.*-Upgrade.zip**, downloaded from the **Support** website, and install the latest version of Smart Provisioning.

NOTE

- For Smart Provisioning 1.5.2.1 or later, you can upgrade the component on the upgrade page of Smart Provisioning.
- For Smart Provisioning 1.2.0.5 to 1.5.1.2, you can upgrade the component by upgrading the firmware. For details, see **4.4.3.1 Upgrading RAID Controller Card, NIC, and Disk Firmware**.
- For Smart Provisioning versions earlier than 1.2.0.5, component upgrades are not supported.
- Compared with upgrading Smart Provisioning as a whole package, component package upgrade only upgrades the components of Smart Provisioning, which takes about 5 minutes.

Data Preparations

- Download the latest component upgrade package, for example, **SmartProvisioning-1.*-Upgrade.zip**, on the **Smart Provisioning product** page.

Upgrade Procedure

Step 1 Access the Smart Provisioning main window.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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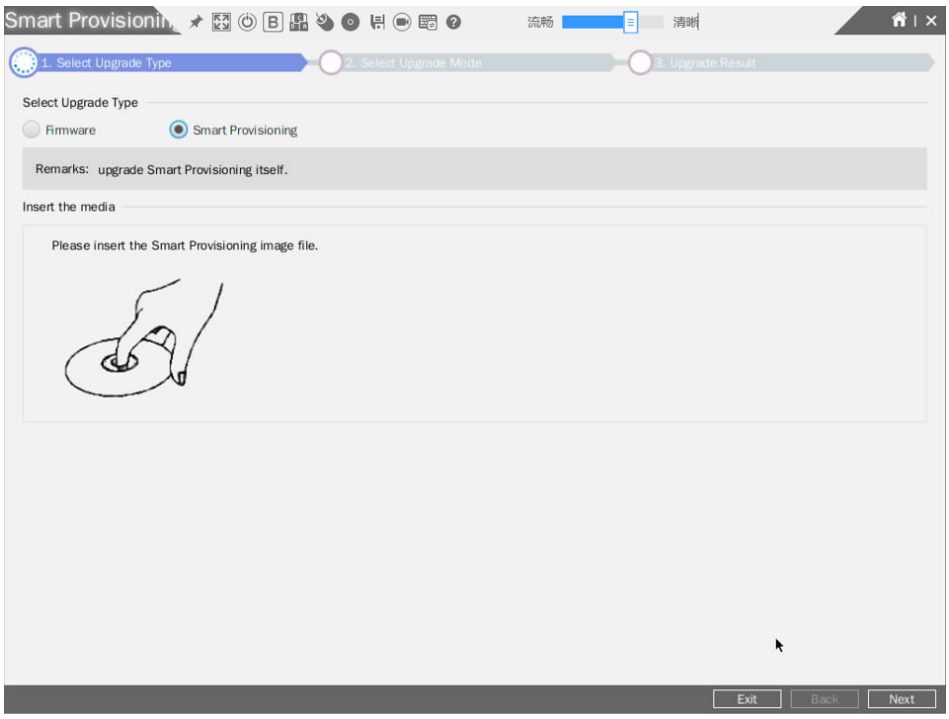
Figure 4-642 Smart Provisioning main window



Step 2 In the Smart Provisioning main window, click **Upgrade**.

The upgrade main window is displayed, as shown in **Figure 4-643**.

Figure 4-643 Upgrade main window

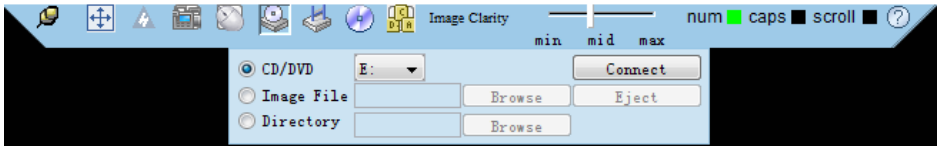


Step 3 Click  on the toolbar.

The virtual DVD-ROM drive dialog box is displayed, as shown in **Figure 4-644**.

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Figure 4-644 Virtual DVD-ROM drive



Step 4 Select **Directory** and click **Browse**.

The **Open** dialog box is displayed.

Step 5 Select the local component package file in **.zip** format, and click **Open**.

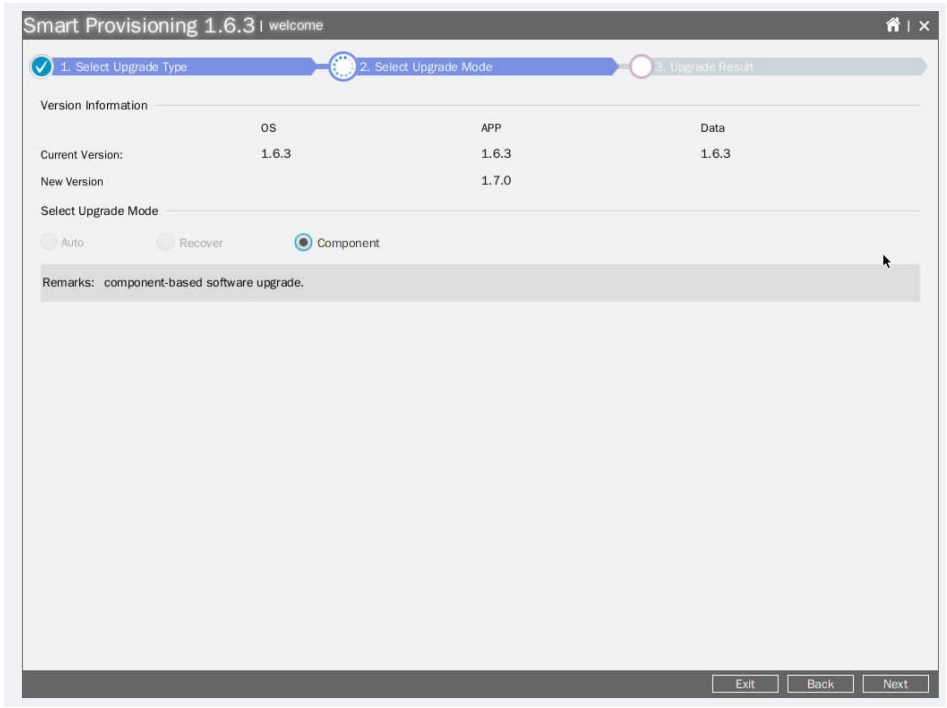
Step 6 Click **Connect**. See **Figure 4-644**.

When **Connect** changes to **Disconnect**, the Smart Provisioning image file is successfully mounted.

Step 7 In the upgrade main window, select **Smart Provisioning** and click **Next**.

The **Select Upgrade Mode** window is displayed, as shown in **Figure 4-645**.

Figure 4-645 Select Upgrade Mode



Step 8 Select an upgrade mode. **Component** is selected by default.

NOTE

- After Smart Provisioning 1.5.2 and later versions are upgraded in **Component** mode, the upgraded Smart Provisioning version takes effect immediately on the GUI. However, the upgraded Smart Provisioning version cannot be found when you use Redfish to query it. The Smart Provisioning version takes effect only after the Smart Provisioning is restarted.
- For upgrades in **Auto** or **Recover** mode, mount the .iso image file. For upgrades in Component mode, mount the .zip component package.

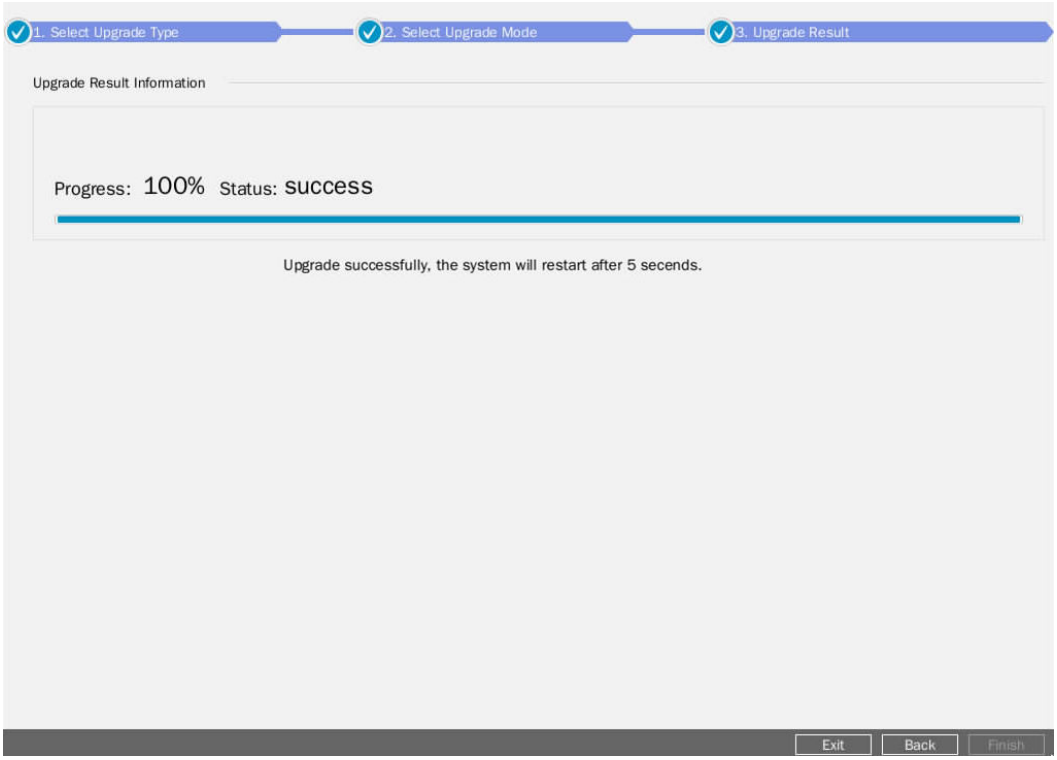
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Step 9 Click **Next**.

The **Upgrade Result** window is displayed.

Step 10 View the Smart Provisioning upgrade status. If information similar to that shown in **Figure 4-646** is displayed, the upgrade is successful.

Figure 4-646 Upgrade succeeded



The OS automatically restarts after the upgrade is successful. During the restart process, you can press **F6** on the boot option selection screen to go to the Smart Provisioning main window.

----End

4.4.3.4 Batch Upgrading the Smart Provisioning for Server

Batch upgrade the Smart Provisioning for servers as shown in**Table 4-46**.

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Table 4-46 Batch upgrading the Smart Provisioning for servers

No.	Batch upgrading tool	Reference
1	FusionDirector	Use FusionDirector to batch upgrade the Smart Provisioning for servers. For details, see FusionDirector WebUI Introduction > Update Management > Update Schedule Examples > Smart Provisioning Update Schedule in ***FusionDirector Operation Guide***.
2	FusionServer Tools	Use FusionDirector to batch upgrade the Smart Provisioning for servers. For details, see Using FusionServer Tools > Bundle Upgrade in ***FusionServer Tools User Guide***.

NOTE

- When Smart Provisioning is upgraded to a version later than 1.2.0.4, the V5 and V6 servers require the iBMC of xFusion signed versions. The Table **Table 4-47** lists the xFusion signed versions for V5 and V6 models.
- For a KunLun 9008 V5 server, only Smart Provisioning of the 9008 V5 without a central management enclosure (CME) can be upgraded.
- The V140 or earlier version cannot be rolled back after being upgraded to 1.2.0.4 or later.
- For iBMC 6.69 or earlier of the V5 server, the Smart Provisioning upgrade from a version earlier than 1.5.2 to 1.5.2 or later in auto mode is not supported.

Table 4-47 xFusion signed iBMC version for each model

Series	Model	iBMC version (Format: *x.xx*)	iBMC version (Format: *x.xx.xx.xx*)
V5	1288H V5	6.39 or later (Except 6.46)	All versions
	1288X V5	6.39 or later (Except 6.46)	All versions
	2288 V5	6.39 or later (Except 6.46)	All versions
	2288C V5	6.39 or later (Except 6.46)	All versions
	2288H V5	6.39 or later (Except 6.46)	All versions
	2288X V5	6.39 or later (Except 6.46)	All versions

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Series	Model	iBMC version (Format: *x.xx*)	iBMC version (Format: *x.xx.xx.xx*)
	2298 V5	6.39 or later (Except 6.46)	All versions
	2488 V5	6.39 or later (Except 6.46)	All versions
	2488H V5	6.39 or later (Except 6.46)	All versions
	5288 V5	6.39 or later (Except 6.46)	All versions
	5288X V5	6.39 or later (Except 6.46)	All versions
	5885H V5	6.39 or later (Except 6.46)	All versions
	8100 V5	6.39 or later (Except 6.46)	All versions
	CH121 V5	6.48 or later	All versions
	CH121L V5	6.48 or later	All versions
	CH221 V5	6.39 or later (Except 6.46)	All versions
	CH225 V5	6.39 or later (Except 6.46)	All versions
	XH321 V5	6.39 or later (Except 6.46)	All versions
	XH321L V5	6.39 or later (Except 6.46)	All versions
	G530 V5	6.41 or later (Except 6.46)	All versions
	G560 V5	6.41 or later (Except 6.46)	All versions
	DH120 V5	8.05 or later	All versions
	DH120C V5	8.05 or later	All versions
	9008 V5	6.47 or later	All versions
V6	1288H V6	-	3.03.07.09 or later (does not containe 3.03.07.13)

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Series	Model	iBMC version (Format: *x.xx*)	iBMC version (Format: *x.xx.xx.xx*)
	2288H V6	-	3.03.07.09 or later (does not containe 3.03.07.13)
	2488H V6	-	3.03.00.19 or later (does not containe 3.03.07.13)
	5288 V6	-	3.03.07.09 or later (does not containe 3.03.07.13)
	DH120C V6	-	3.03.07.09 or later
	DH121C V6	-	3.3.10.1 or later
	DH140C V6	-	3.3.0.49 or later

4.4.4 Importing and Exporting the Configuration

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-647**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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Figure 4-647 Smart Provisioning main window



Step 2 Click  in the upper right corner to enter the maintenance mode.

Figure 4-648 Maintenance mode



Step 3 Click **Export & Import**. The **Export & Import** window is displayed.

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NOTE

Configurations of BMC, BIOS, RAID controller cards, and HBA cards can be imported and exported.

- RAID controller cards include LSI SAS3008, LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i, BROADCOM MegaRAID 9580-8i8e, BROADCOM SAS3808iMR, BROADCOM SAS3816iMR, BROADCOM SAS3808-BootCard(XP270-M), BROADCOM SAS3808-BootCard (XP270-M2), BROADCOM SAS3908, BROADCOM SAS3916. Scenarios where multiple RAID controller cards are used are not supported.
- HBA cards include LPE 12002 and Qlogic 2672.
- Before importing the Qlogic 2672 configuration, ensure that the FC port of the card is properly connected to the storage device, and ensure that the ID of the imported TargetLUN node is the same as the host LUN ID configured in the LUN group on the storage device.
- Before exporting the Qlogic 2672 configuration, ensure that the FC port of the card is properly connected to the storage device, and ensure that the remote boot information TargetWWPN configured for the port is the same as the WWPN of the connected storage device. Otherwise, the exported configuration information does not contain the target node.
- For details about the RAID controller card specifications, see **Table 4-49**. For details about the HBA card specifications, see **Table 4-50**. For details about the BMC and BIOS specifications, see section "Configuration File Description" in the ***FusionServer Rack Server iBMC User Guide*** of the desired version.

- **Export the configuration.**
  - Export data to a USB flash drive.

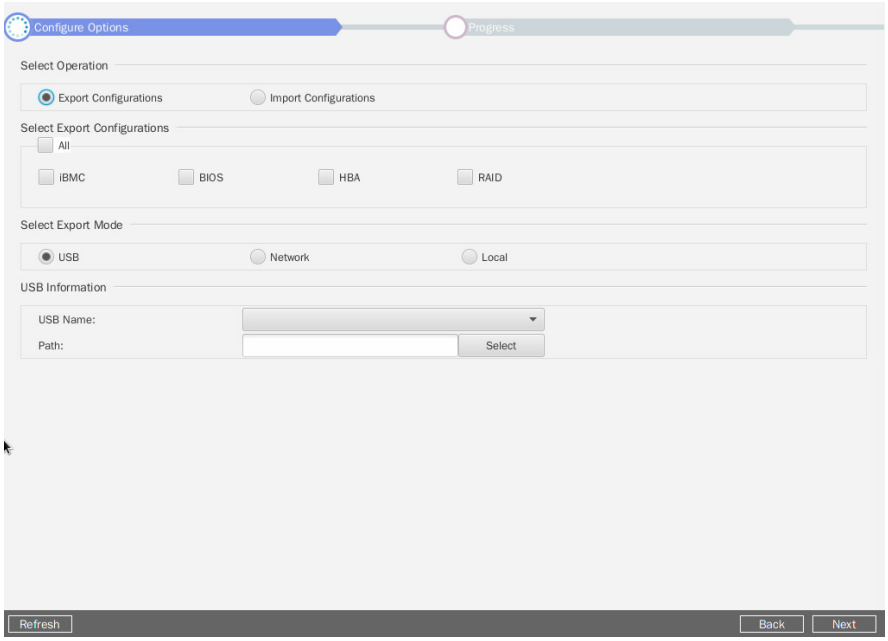
    NOTE

    - You need to insert the USB flash drive into the USB port of the V5 or V6 server. If the USB flash drive is not displayed on the screen after it is inserted, click **Refresh** in the lower left corner.
    - The USB flash drive supports the following file formats: ext2, ext3, ext4, NTFS, exFAT, FAT, and FAT32. The NTFS, exFAT, and FAT32 file system formats are recommended because they can be identified in both Windows and Linux.

    i. On the **Export & Import** screen, select **Export Configurations**.
    ii. Select the configuration items to be exported.
    iii. Set **Select Export Mode** to **USB**.
    iv. Set the USB flash drive name and export path.
    v. Click **Next**.

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Figure 4-649 Exporting the configuration to a USB flash drive



After a few seconds, the system displays a message indicating that the export is successful.

Then you can check whether the exported configuration file exists in the USB flash drive.

NOTE

The exported file is named in the following format: *Exported configuration item name*_cfg_*Export time*.tar.gz. The export time is the BMC system time.

– Export the configuration to a network.

NOTE

- Before the export, insert a network cable into the service network port on the V5 or V6 server.
- When you select the CIFS protocol to export or import the configuration to a Windows system folder, you need to share the local folder with the administrator. To share the local folder, right-click the folder, choose **Share with** > **Specific people**, enter the user name of the remote server, click **Add**, and click **Share**.
- In Windows 10, ensure that the **SMB 1.0/CIFS File Sharing Support** component has been installed and enabled before you select the CIFS protocol for export.

i. On the **Export & Import** screen, select **Export Configurations**.
ii. Select the configuration items to be exported.
iii. In the **Select Export Configurations** area, select **Network**.
iv. Set parameters in **Network Setting**, as shown in **Table 4-48**.
v. Click **Next**.

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Figure 4-650 Exporting the configuration to a network

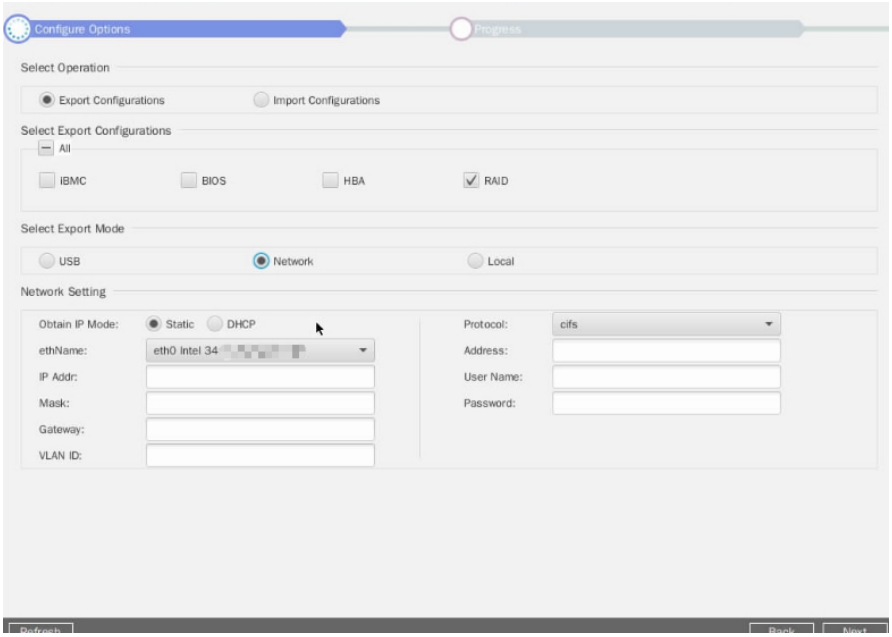


Table 4-48 Parameter description

Network Configured in the Smart Provisioning System (Left)	Target Network for the Export (Right)
Obtain IP Mode ○ Static ○ DHCP Obtain IP address, subnet mask and gateway information automatically without manual operation.	-
ethName: specifies the name of the NIC corresponding to the service network port where the network cable is inserted. This parameter is optional.	**Protocol:** Select **cifs** for Windows, and select **scp** for Linux.
IP Addr: specifies the IP address of the OS configured for the local server.	**Address:** ○ Windows: Specifies the IP address of the OS of the remote server or name of the shared folder. ○ Linux: Specifies the IP address of the OS of the remote server or name of the exported folder.

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Network Configured in the Smart Provisioning System (Left)	Target Network for the Export (Right)
Mask: specifies the subnet mask of the OS IP address configured for the local server.	**User Name:** ○ Windows: Specifies the user name for network sharing. ○ Linux: Specifies the user name for the OS of the remote server.
Gateway: specifies the gateway configured for the selected NIC.	**Password**: ○ Windows: Specifies the password for network sharing. ○ Linux: Specifies the password for the OS of the remote server.
VLAN ID: Virtual Local Area Network ID. **NOTE** The ID number could be any digit from 1 to 4096.	-

Example:

Select the CIFS protocol to export the configuration to a Windows system folder.

i. Right-click the folder used for export on Windows, choose **Share**, and specify the current administrator as the user for sharing.

ii. Select **Export Configurations**.

iii. In the **Select Export Configurations** area, select the configuration items to be exported.

iv. In the **Select Export Mode** area, set the export mode to **Network**.

v. In **Obtain IP Mode** select the IP address obtaining mode.

vi. In the **Network Setting** area, set **Protocol** to **cifs**, enter the network location of the shared file in the Windows OS,and **User Name** and **Password** of the system.

vii. Click **Next**.

After a few seconds, the system displays a message indicating that the export is successful.

viii. Check whether the file is successfully exported to the shared folder on Windows.

Select the SCP protocol to export the configuration to a Linux system folder.

i. Select **Export Configurations**.

ii. In the **Select Export Configurations** area, select the configuration items to be exported.

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iii. In the **Select Export Mode** area, set the export mode to **Network**.

iv. In **Obtain IP Mode** select the IP address obtaining mode.

v. In the **Network Setting** area, set **Protocol** to **scp**, enter the remote access path of the exported file on Linux, and **User Name** and **Password** of the system.

vi. Click **Next**.

After a few seconds, the system displays a message indicating that the export is successful.

vii. Check whether the file is successfully exported to the exported folder on Linux.

– Export the configuration to a local server.

i. On the **Export & Import** screen, select **Export Configurations**.

ii. Select the configuration items to be exported.

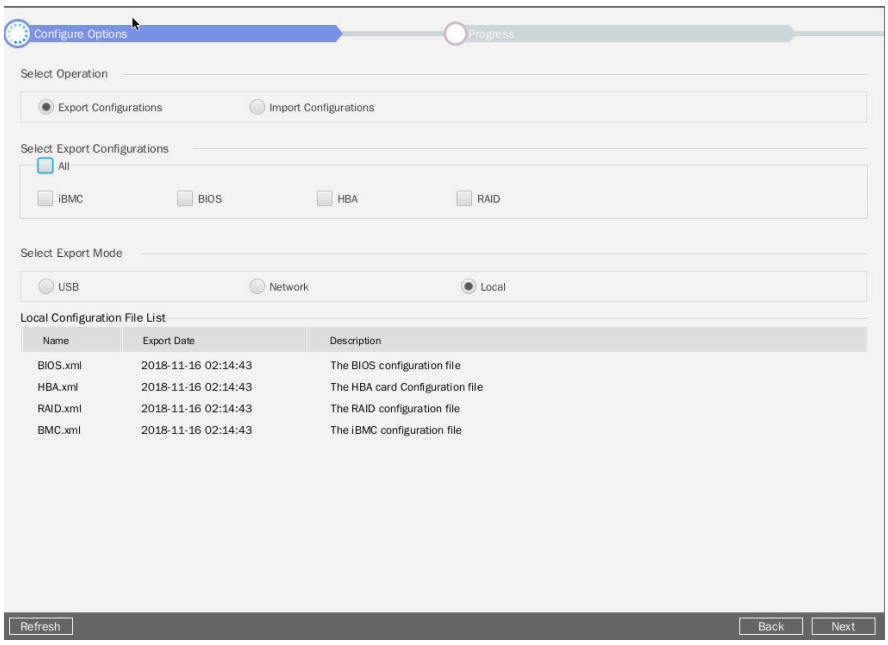
iii. Set the export mode to **Local.**

NOTE

- After the export mode is set to **Local**, the configuration file information exported to a local server last time is displayed automatically. After the export is complete, the configuration file information exported last time is automatically updated to the configuration file information exported this time.
- If Smart Provisioning has been installed and enabled on the server, the configuration file exported to the local PC is permanently stored on the server. If the Smart Provisioning image is mounted to the virtual DVD-ROM drive, the configuration file exported to the local PC is cached on the server.

iv. Click **Next**.

Figure 4-651 Exporting the configuration to a local server



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After a few seconds, the system displays a message indicating that the export is successful.

After the export is complete, the configuration file is automatically saved on the local server.

- **Import the configuration.**

  NOTE

  The imported file must be in .zip, .xml, or .tar.gz format.

  – Import the configuration file from the USB flash drive.

    i. Select **Import Configurations**.
    ii. Select the configuration items to be imported.
    iii. Set the import mode to **USB**.
    iv. Select the name and import path of the USB flash drive.
    v. Click **Next**. The system displays a message indicating that the import is successful.

  – Import the configuration from a network.

    ▪ Select the CIFS protocol to import the configuration from Windows.

      1) On Windows, share the folder where the imported file is located to the current administrator.
      2) Select **Import Configurations**.
      3) Select the configuration items to be imported.
      4) Set the export mode to **Network**.
      5) Select the IP address obtaining mode.
      6) Set the protocol to **cifs**, enter the network location of the shared folder on Windows, and enter the user name and password for network sharing.
      7) Click **Next**. The system displays a message indicating that the import is successful.

    ▪ Select the SCP protocol to import the configuration from Linux.

      1) Select **Import Configurations**.
      2) Select the configuration items to be imported.
      3) Set the export mode to **Network**.
      4) Select the IP address obtaining mode.
      5) Set the protocol to **scp**, enter the remote access path of the imported file on Linux, and enter the user name and password of the remote server OS.
      6) Click **Next**. The system displays a message indicating that the import is successful.

  – Import the configuration from a local path.

    i. On the **Export & Import** screen, select **Export Configurations**.
    ii. Select the configuration items to be imported.
    iii. Set the import mode to **Local**.

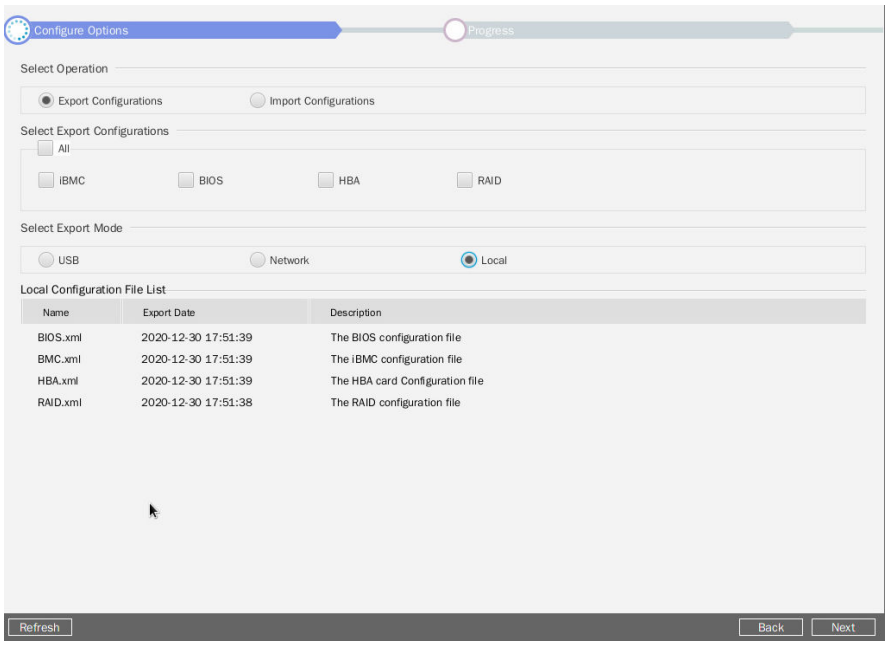
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NOTE

After the import mode is set to **Local**, the configuration file information imported to a local server last time is displayed automatically.

iv. Click **Next**.

Figure 4-652 Importing the configuration from a local path



After a few seconds, the system displays a message indicating that the import is successful.

----End

4.4.4.1 Specifications for Configuration Import and Export

Table 4-49 RAID controller card specifications

Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
AdapterType	Mandatory	RAID controller card name	The value must be consistent with the exported name.	NA	-	-
RAIDArray	Mandatory	-	-	NA	-	-

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
RAIDType	Mandatory	Configured RAID level	0, 1, 5, 10, 50, 6, 60	-	-	The LSI SAS3008IR, LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i and BROADCOM MegaRAID 9580-8i8e are supported.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
Disk	Mandatory	• In DiskArray: ID of the disk to be added to the RAID. The value starts from 0 and cannot exceed the number of physical disks. • In DedicateHSP: ID of the dedicated spare disk to be configured. • In GlobalHSP: ID of the global hot spare disk to be configured.	0,1,2,3...	-	-	-

Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
DiskArray	Mandatory	Depends on RAID 0/1/5/6. RAID 10/50/60 uses another parameter format.	-	-	-	-
VDName	Optional	Name of the virtual disk to be created.	-	-	-	The LSI SAS3008IR, LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i and BROADCOM MegaRAID 9560-16i are supported.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
LUNSize	Mandatory	Divides a disk into multiple LUNs.	[0..MAXSIZE]. Multiple LUNs can be divided. The size of the last LUN must be MAXSIZE (indicating that the remaining space is divided into one LUN).	MAXSIZE<=16	-	The LSI SAS3008 supports the configuration of only one value of **LUNSize**. The additional values are invalid. The LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i and BROADCOM MegaRAID 9560-16i are supported.
Patrol	Mandatory	Patrol	● **on**: enables the hard disk inspection and sets the delay. ● **off**: disables the hard disk inspection.	You are advised to set this parameter to the value of the exported parameter.	-	The LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i and BROADCOM MegaRAID 9560-16i are supported.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
WritePolicy	Mandatory	Write policy	{WriteBack, WriteThrough}	WriteBack	-	The LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i and BROADCOM MegaRAID 9580-8i8e are supported.
ReadPolicy	Mandatory	Read policy	{ReadAhead,ReadAheadNone}	AdaptiveReadAhead	-	The LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i and BROADCOM MegaRAID 9580-8i8e are supported.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
StripSize	Mandatory	Stripe size	• LSI SAS 3108, Avago SAS 3508: 64 KB, 128 KB, 256 KB, 512 KB, 1024 KB • Avago SAS 3004, Avago SAS 3408: 64 KB	You are advised to set this parameter to the value of the exported parameter.	-	The LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i and BROADCOM MegaRAID 9580-8i8e are supported.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
CachePolicy	Mandatory	Cache policy	{Direct, Cached}	Direct	-	The LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i and BROADCOM MegaRAID 9580-8i8e are supported.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
Dedicate HSP	Optional	Dedicated hot spare disk of the current RAID group	0,1,2,3...	NA	Depends on **RAIDType**.	Only the LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i and BROADCOM MegaRAID 9580-8i8e are supported. Disks that have been configured with RAID groups cannot be used as hot spare disks. Only RAID 1, RAID 5, RAID 6, RAID 10, RAID 50, and RAID 60 support dedicated hot spare disks.

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Parameter	Type	Description	Value Range	Default Value	Dependency	Constraint
GlobalHSP	Optional	Global hot spare disk of the current RAID controller card	0,1,2,3...	NA	Depends on **RAIDType**.	The current RAID controller card has at least one of the following RAID configurations: RAID 1, RAID 5, RAID 6, RAID 10, RAID 50, and RAID 60.
BootDrive	Mandatory	Depends on the created RAID LUN.	Boot LUN. The maximum number of LUNs is 64.	NA	Depends on **LUNSize**.	The JBOD mode does not support the setting of the boot disk. This parameter is supported only in RAID mode.

Table 4-50 HBA specifications

Parameter	Type	Description	Value Range	Default Value
HBAType	Mandatory	HBA type	{LPE12002,QLE2672}	The value is consistent with the exported parameter setting.
Slot	Mandatory	HBA slot number	1, 2, 3...	-
WWPN	Mandatory	HBA port name	-	The value is consistent with the exported parameter setting.
WWNN	Mandatory	HBA node name	-	The value is consistent with the exported parameter setting.

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Parameter	Type	Description	Value Range	Default Value
TargetWWPN	Mandatory	Port name for the connection to the remote storage device	-	NA
TargetWWNN	Mandatory	Name of the node that connects to the remote storage device.	-	NA
TargetLUN	Mandatory	Host LUN ID configured in the LUN group for the connection to the remote storage device	1, 2, 3...	NA
LunBootDev	Mandatory	Sets a device to the boot disk.	• The value of LPE12002 ranges from 0 to 7. • QLE2672: {prim, alt1,alt2,alt3}	NA
SANBoot	Mandatory	Starts the OS from the remote storage device.	{Disabled,Enabled}	NA

4.4.5 Hardware Diagnosis

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-653**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

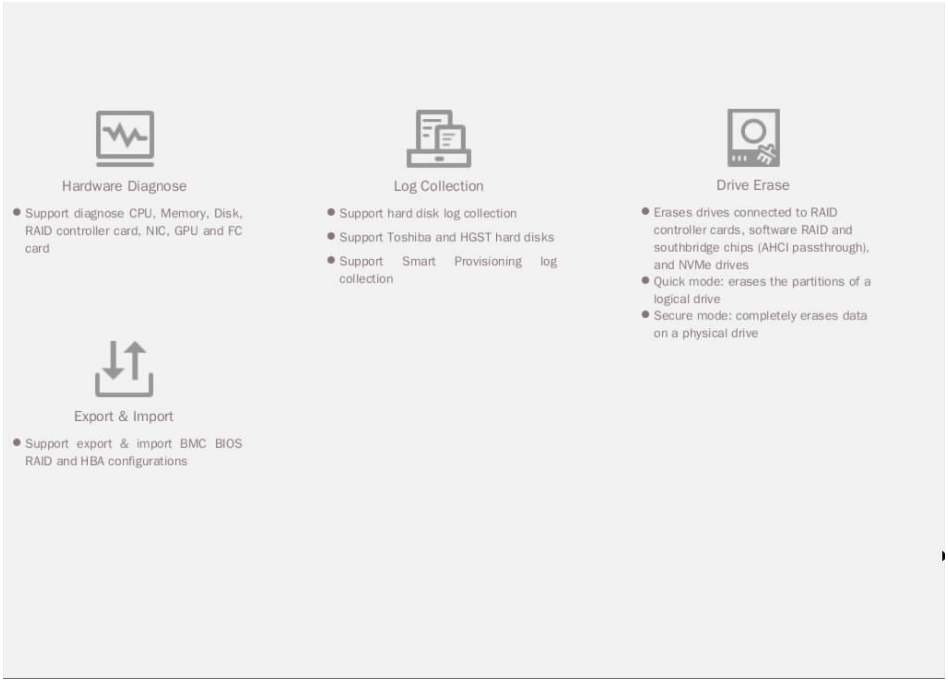
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Figure 4-653 Smart Provisioning main window



Step 2 Click  in the upper right corner to enter the maintenance mode, as shown in **Figure 4-654**.

Figure 4-654 Maintenance mode



Step 3 Click **Hardware Diagnose**. The diagnosis window is displayed, as shown in **Figure 4-655**.

Table 4-8 lists the vendors that support drive diagnosis.

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NOTE

- The function of obtaining hard drive slot information is supported only on servers using iBMC 2.53 or later.
- The supported hard drive types include SAS/SATA HDD and SAS/SATA/NVMe SSD.
- The supported RAID controller card types include LSI SAS3008, LSI SAS3108, Avago SAS3004, Avago SAS3408iMR, Avago SAS3508, Avago SAS3416iMR, Avago SAS3516, Avago 9361-8i, Avago 9440-8i, Avago 9460-8i, Avago 9460-16i, BROADCOM MegaRAID 9560-8i, BROADCOM MegaRAID 9560-16i, HBA 9500-8i, HBA 9500-8e, HBA 9500-16e, HBA 9500-16i, Avago SAS3408IT, Avago SAS3416IT, 9305-24i, BROADCOM MegaRAID 9540-8i, BROADCOM MegaRAID 9540-16i, BROADCOM MegaRAID 9580-8i8e, BROADCOM SAS3808iMR, BROADCOM SAS3816iMR, BROADCOM SAS3808-BootCard(XP270-M), BROADCOM SAS3808-BootCard (XP270-M2), BROADCOM SAS3908, BROADCOM SAS3916, BROADCOM XR370-M-8i and BROADCOM XR370-M-16i and PCH.
- Ensure that the memory capacity of the server is at least 16 GB before performing a memory stress test. Otherwise, the memory stress test will fail.
- For Smart Provisioning 1.3.1.1 or earlier version, stress testing of memory with capacity of 768 GB to 1024 GB may fail due to memory exhaustion. Update it to Smart Provisioning 1.6.1.2 or later version.
- The NIC diagnosis function supports only Ethernet NICs.

Figure 4-655 Hardware diagnosis

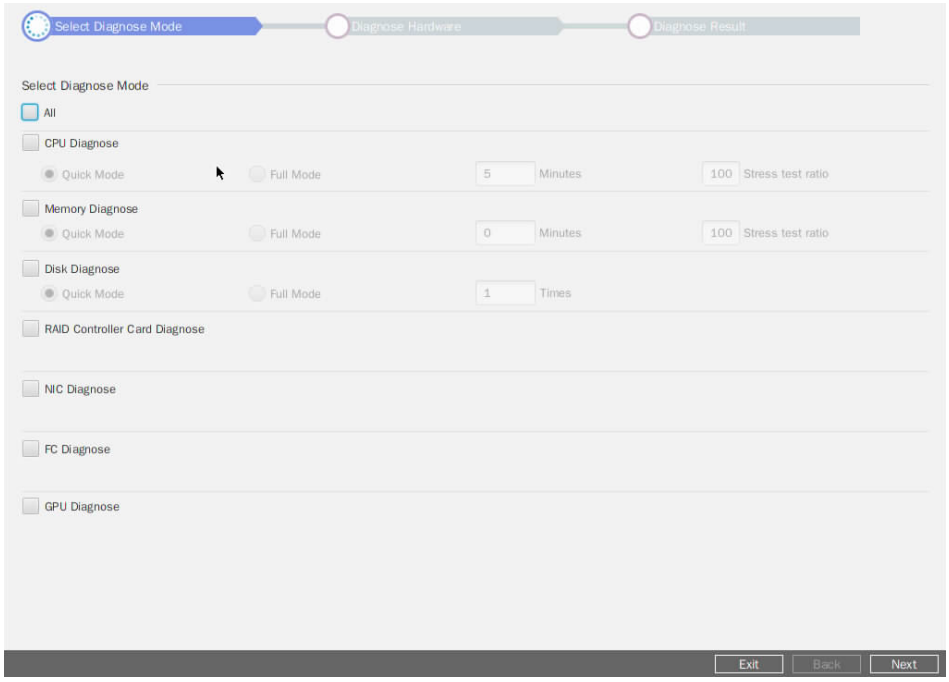


Table 4-51 describes the diagnosis modes.

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Table 4-51 Diagnosis mode description

Diagnosis Item	Quick Mode	Full Mode
CPU pressure test	• Perform a CPU pressure test. This mode is applicable to the short-term test scenarios. • The pressure test takes about 5 minutes.	• Perform a CPU pressure test. This mode is applicable to the long-term test scenarios. • You can set the full pressure test time. The value ranges from 1 to 10000, in minutes. The default value is **60**. • You can set the pressure test ratio. The value ranges from 10% to 100%. The default value is **100%**. **100%** indicates a pressure test with a full load.
Memory pressure test	• Perform a memory pressure test with simple algorithms. During the test, the ECC and UCNA errors are checked. • The pressure test is completed within 1 hour.	• Perform a memory pressure test with complex algorithms. During the test, the ECC and UCNA errors are checked. • You can set the full pressure test time. The value ranges from 0 to 99999, in minutes. The default value is **0**. **0** indicates that the memory is fully tested in the pressure test at a time. The efficiency of a memory pressure test in full mode is affected by the memory capacity and the CPU performance of the device. For details about the efficiency, see **Table 4-52**. • You can set the pressure test ratio. The value ranges from 10% to 100%. The default value is **100%**. **100%** indicates a pressure test with a full load.

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Diagnosis Item	Quick Mode	Full Mode
Drive diagnosis	• Use the short self-check program of the drive SMART. This mode requires a short time period. It is applicable to scenarios where faulty drives need to be identified quickly. • The quick mode takes about 5 minutes.	• Use the long self-check program of the drive SMART. This mode requires a long time period. Generally, the quick mode is used first. If faults are detected, the full mode will be used. • You can set the number of times for the diagnosis in full mode. The value ranges from 1 to 100. The default value is **1**. • The time of the diagnosis in full mode at a time is affected by the CPU performance, the drive capacity, the drive port type, and the drive medium type. For details about the efficiency of a single diagnosis in full mode, see the diagnosis efficiency data. For details, see **Table 4-53**.
NIC diagnosis	• The NIC diagnosis mode is not differentiated. • Diagnosis items include link diagnosis, MAC address validity check, optical module diagnosis, interrupt test, register test, and Eeprom test. • Optical module diagnosis items include whether the type and the transmission rate of the optical module match those of the NIC, and whether the temperature, voltage, sending bias current, sending optical power, and receiving optical power of the optical module are normal. • The diagnosis is completed within 2 minutes.	
RAID diagnosis	• The RAID diagnosis mode is not differentiated. • Diagnosis item includes the detection of both memory ECC errors and NVRAM UCE of the RAID controller card. • The diagnosis is completed within 2 minutes.	
FC diagnosis	• The FC diagnosis mode is not differentiated. • Diagnosis items include port connection status and loopback test. • The diagnosis is completed within 2 minutes.	
GPU diagnosis	• The GPU diagnosis mode is not differentiated. • GPU diagnosis checks whether the bandwidth and the rate of GPUs match with those of PCIe channels.	

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Table 4-52 Refrence for memory full pressure test efficiency

CPU	DIMM	Pressure Test Efficiency
2*Intel(R) Xeon(R) Gold 5118 @ 2.30GHz	24*DDR4 64G	1.5GB/min
2*Intel(R) Xeon(R) Gold 5118 @ 2.30GHz	24*DDR4 32G	1.8GB/min

Table 4-53 Refrence for drive full diagnosis efficiency

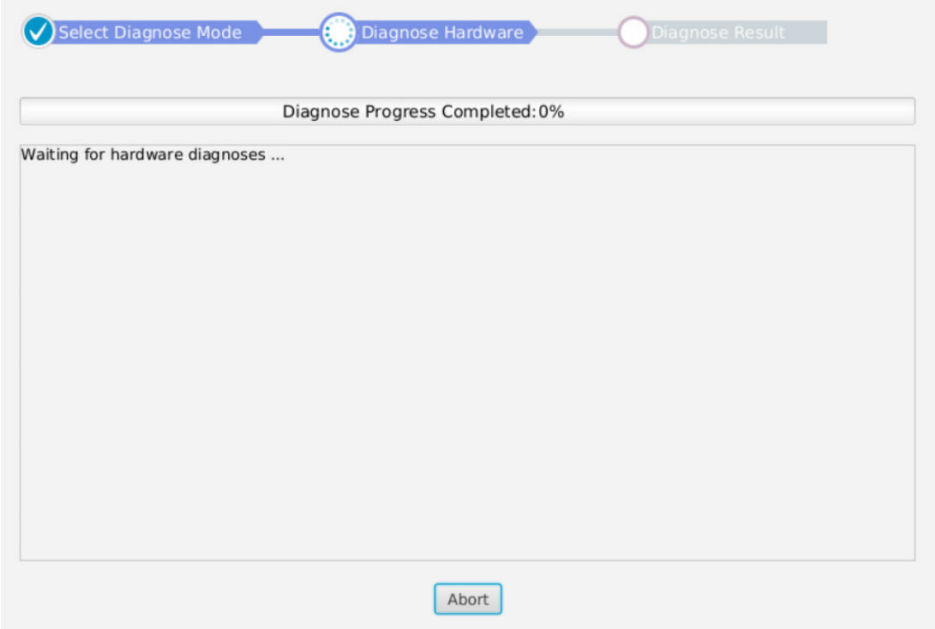
Server Tppe	CPU Model	Environment Drive Configuration and Quantity		Time of a Single Drive Full Diagnosis
		Port Type/Vendor/ Capacity	Qty.	
2288 V5	2 * CPU, model: Intel® Xeon® Gold 5117M CPU @ 2.00GHz	SAS/ SEAGATE/900 GB	1	2.5h
		SAS/HGST/300 GB	2	
		SAS/HGST/900 GB	7	
		SAS/HGST/600 GB	1	
2488H V7	4 * CPU, model: Intel(R) Xeon(R) Platinum 8490H	SATA/SSD/ MICRON/480 GB	1	6min
		SATA/SSD/ XFUSION/240 GB	1	
		SATA/SSD/ INTEL/240 GB	2	
2288H V5	2 * CPU, model: Intel(R) Xeon(R) Gold 5118 CPU @ 2.30GHz	PCIe/SSD/ HUAWEI/800 GB	1	1min
		PCIe/SSD/ HUAWEI/1600 GB	1	
		PCIe/SSD/ SAMSUNG/3200 GB	1	

Step 4 Select the component to be diagnosed and click **Next**.

The diagnosis process starts, as shown in **Figure 4-656**.

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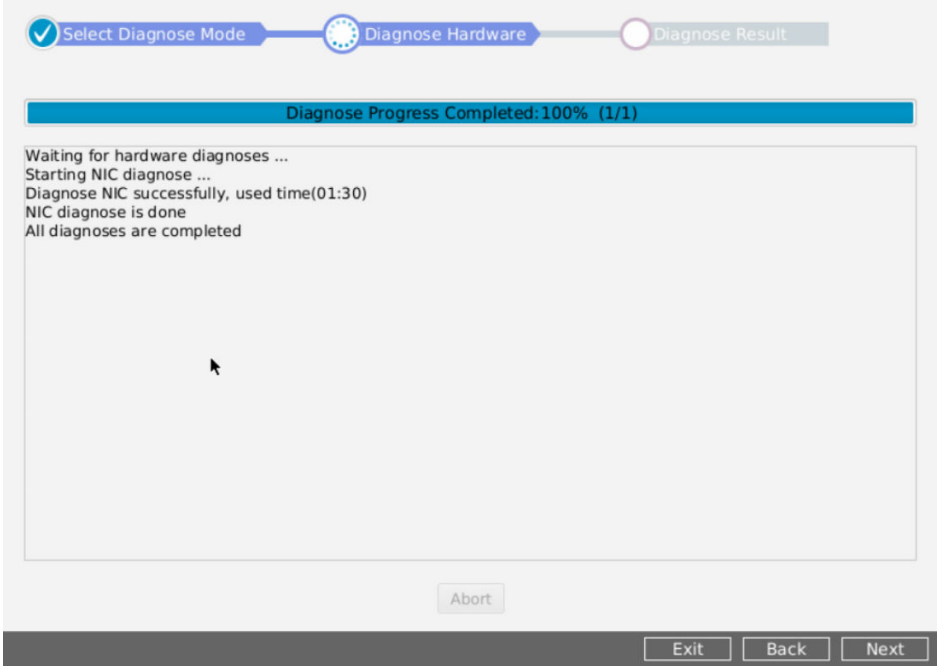
Figure 4-656 Diagnosis process



NOTE

During the erasing, you can click **Abort** to abort the erasing.

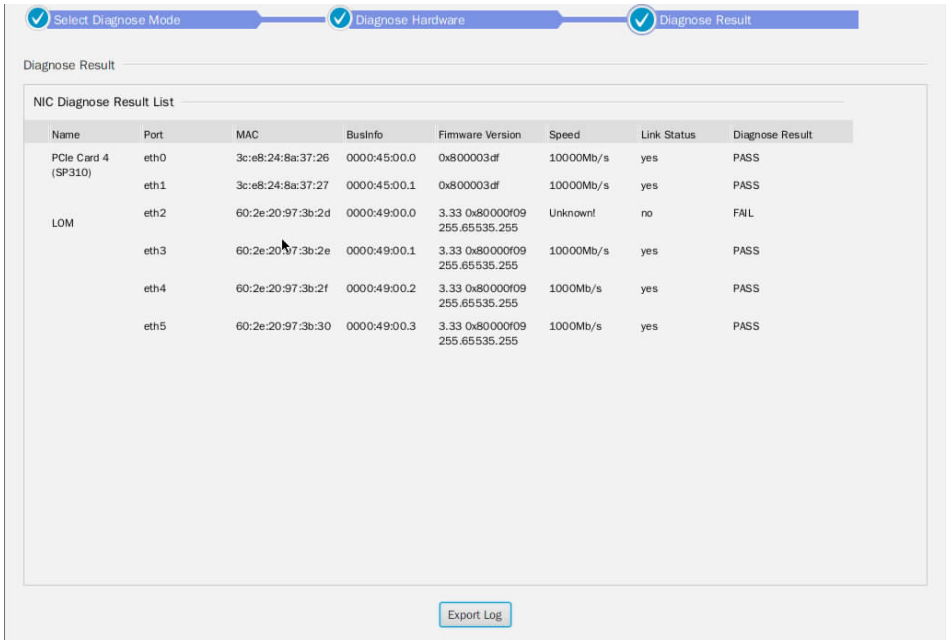
Figure 4-657 Diagnosis completed



Step 5 Click **Next** to view the diagnosis results, as shown in **Figure 4-658**.

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Figure 4-658 Diagnosis results



NOTE

- When Link Status in the NIC Diagnose Result List is "no" or Link Status in the FC Diagnose Result List is "Linkdown", you are suggested to check the connection status of the network port and network cable.
- During FlexIO card diagnosis, **Firmware Version** displayed on the screen does not indicate the chip firmware version of the FlexIO card. You need to view the chip firmware version of the FlexIO card on the iBMC WebUI.

Step 6 Click **Export Log**.

The log export window is displayed, as shown in **Figure 4-659** or **Figure 4-660**.

Figure 4-659 Exporting logs to a USB flash drive

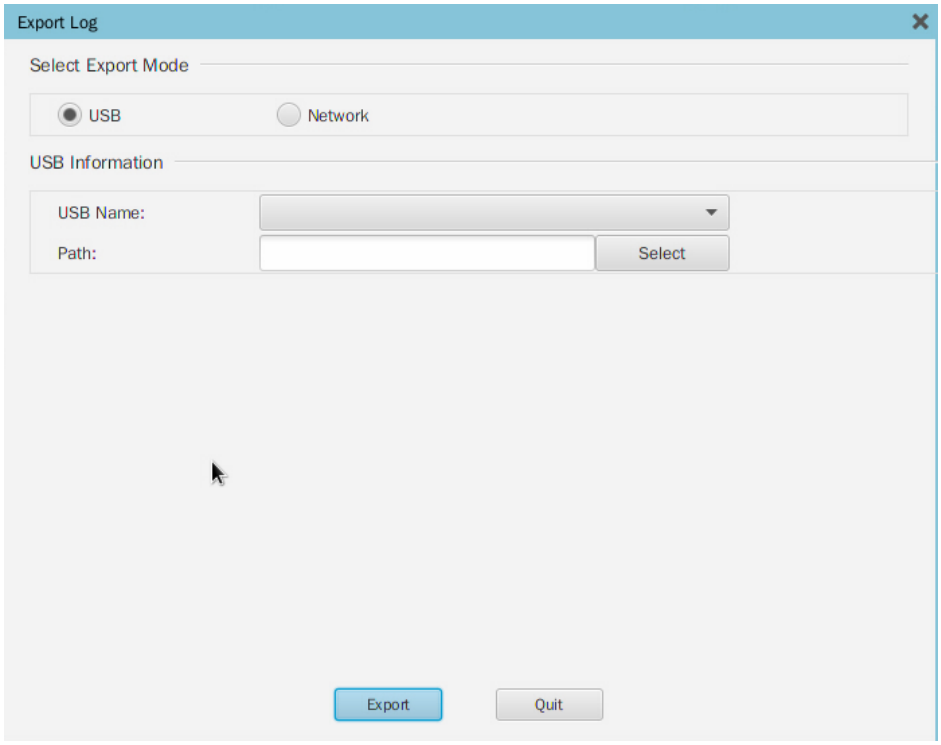
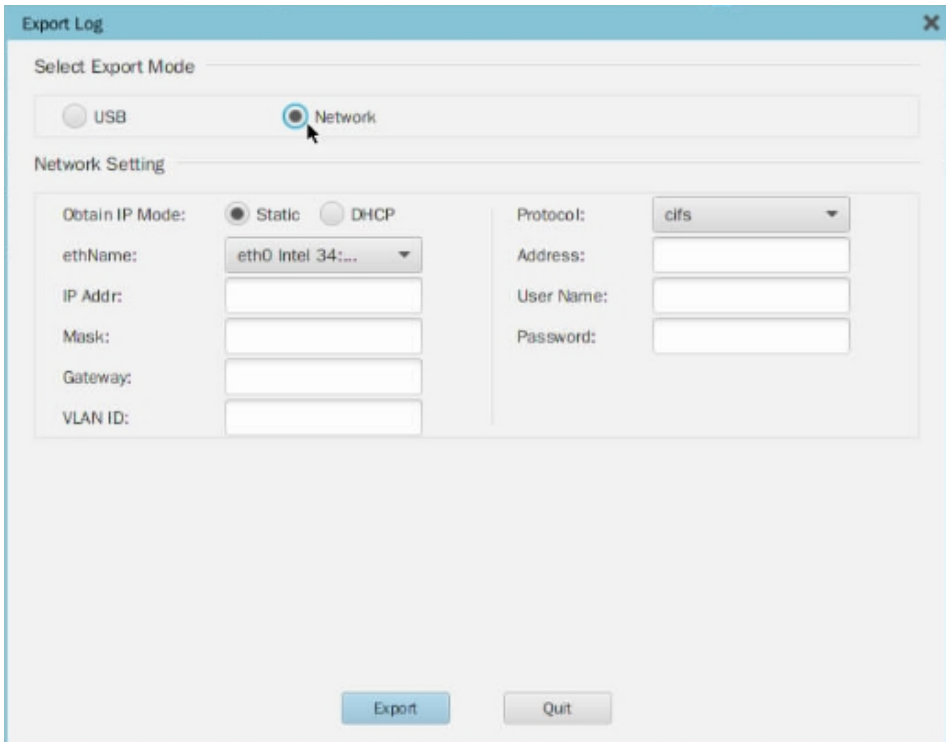


Figure 4-660 Exporting logs to the network



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Table 4-54 Parameter description

Network Configured in the Smart Provisioning System (Left)	Target Network for the Export (Right)
Obtain IP Mode ● Static ● DHCP Obtain IP address, subnet mask and gateway information automatically without manual operation.	-
ethName: specifies the name of the NIC corresponding to the service network port where the network cable is inserted. This parameter is optional.	**Protocol:** Select **cifs** for Windows, and select **scp** for Linux.
IP Addr: specifies the IP address of the OS configured for the local server.	**Address:** ● Windows: Specifies the IP address of the OS of the remote server or name of the shared folder. ● Linux: Specifies the IP address of the OS of the remote server or name of the exported folder.
Mask: specifies the subnet mask of the OS IP address configured for the local server.	**User Name:** ● Windows: Specifies the user name for network sharing. ● Linux: Specifies the user name for the OS of the remote server.
Gateway: specifies the gateway configured for the selected NIC.	**Password:** ● Windows: Specifies the password for network sharing. ● Linux: Specifies the password for the OS of the remote server.
VLAN ID: Virtual Local Area Network ID. **NOTE** The ID number could be any digit from 1 to 4096.	-

NOTE

In Windows 10, ensure that the **SMB 1.0/CIFS File Sharing Support** component has been installed and enabled before you select the CIFS protocol for export.

Example:

Select the CIFS protocol to export the configuration to a Windows system folder.

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1. Right-click the folder used for export on Windows, choose **Share**, and specify the current administrator as the user for sharing.
2. Select **Export Log**.
3. Select the configuration items to be exported.
4. Set the export mode to **Network**.
5. Select the IP address obtaining mode.
6. Set the protocol to **cifs**, enter the network location of the shared folder on Windows, and enter the user name and password of Windows.
7. Click **Export**.

   After a few seconds, the system displays a message indicating that the export is successful.
8. Check whether the file is successfully exported to the shared folder on Windows.

Step 7 Select **USB** or **Network** based on the actual situation.

NOTE

- Click **Refresh** to refresh the newly inserted USB flash drive and the newly connected network port.
- The USB flash drive supports the following file formats: ext2, ext3, ext4, NTFS, exFAT, FAT, and FAT32. The NTFS, exFAT, and FAT32 file system formats are recommended because they can be identified in both Windows and Linux.

Step 8 Click **Export**. The operation is complete.

----End

4.4.6 Collecting Logs

4.4.6.1 Collecting Hard Drive Logs

Table 4-55 lists the vendors that support the hard drive log collection function.

Table 4-55 Vendors that support the hard drive log collection function

Hard Drive Type	HGST	Toshiba	Seagate	WDC
HDD	√	√	√	√
SSD	×	×	×	×

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NOTE

- The following hard drive vendors support the log collection function: Toshiba, HGST, Seagate and WDC.
- The following types of hard drives support log collection function: hard drives managed by the PCH controller, hard drives in a RAID group, and hard drives in JBOD state.
- HGST hard drives of the following models do not support the collection of internal hard drive logs:
  - HUS726060ALE610
  - HUS726020ALA610
  - HUS726T4TALA600
  - HUS726T6TALE600
  - HUH721010ALE600
  - HUH721212ALE600
  - HUS724020ALA640
  - WUH721816ALE6L4
  - HUS728T8TALE6L4
  - Hard drive models starting with HUC
- If the message "……Log Collection Failed" or "……Collection Incomplete" is displayed during drive log collection, the drive does not support the collection of internal drive logs.
- Internal logs of the Toshiba **MG04ACA200N**, **MG04ACA400N**, and **MG04ACA600E** SATA drives can be collected.
- If the message "……log not supported on this device" is displayed during Seagate drive log collection, the drive does not support the collection of internal drive logs.
- The function of obtaining hard drive slot information is supported only on servers using iBMC 2.53 or later.
- The hard drive log collection function does not support scenarios where multiple RAID controller cards are used.
- The hard drive log collection function supports the following hard drive types: SAS and SATA.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-661**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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Figure 4-661 Smart Provisioning main window



Step 2 Click  in the upper right corner to enter the maintenance mode.

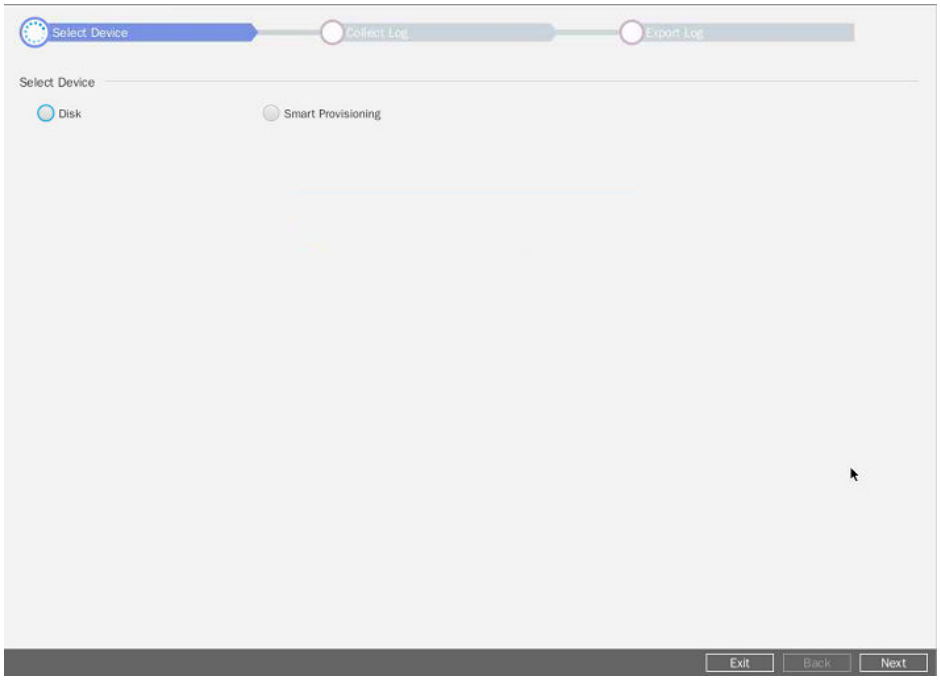
Figure 4-662 Maintenance mode



Step 3 Click **Log Collection**. The device selection window is displayed, as shown in **Figure 4-663**.

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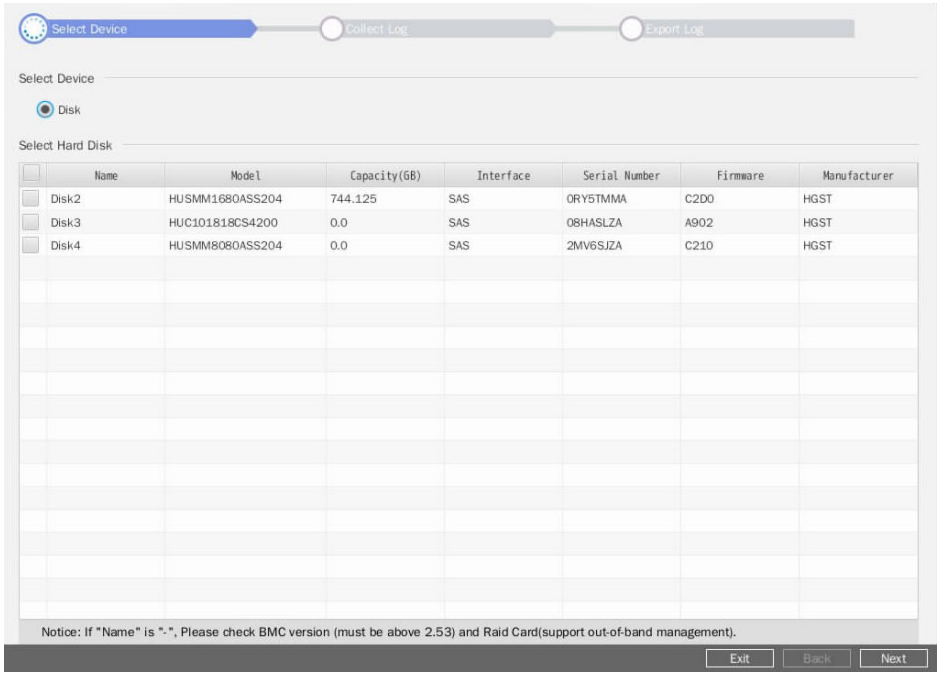
Figure 4-663 Selecting devices



Step 4 Choose **Disk** and click **Next**.

The device selection window is displayed, as shown in **Figure 4-664**. The tool automatically loads the information of hard drives that support log collection.

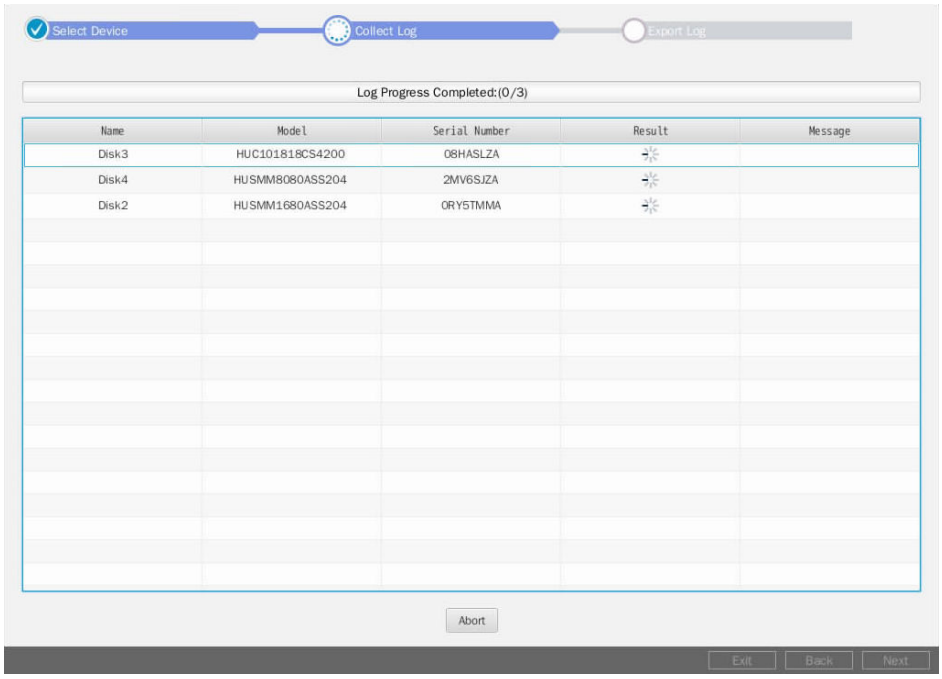
Figure 4-664 Selecting devices



Step 5 Select the hard drives for which you want to collect logs and click **Next**. The log collection window is displayed, as shown in **Figure 4-665**.

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Figure 4-665 Log collection window

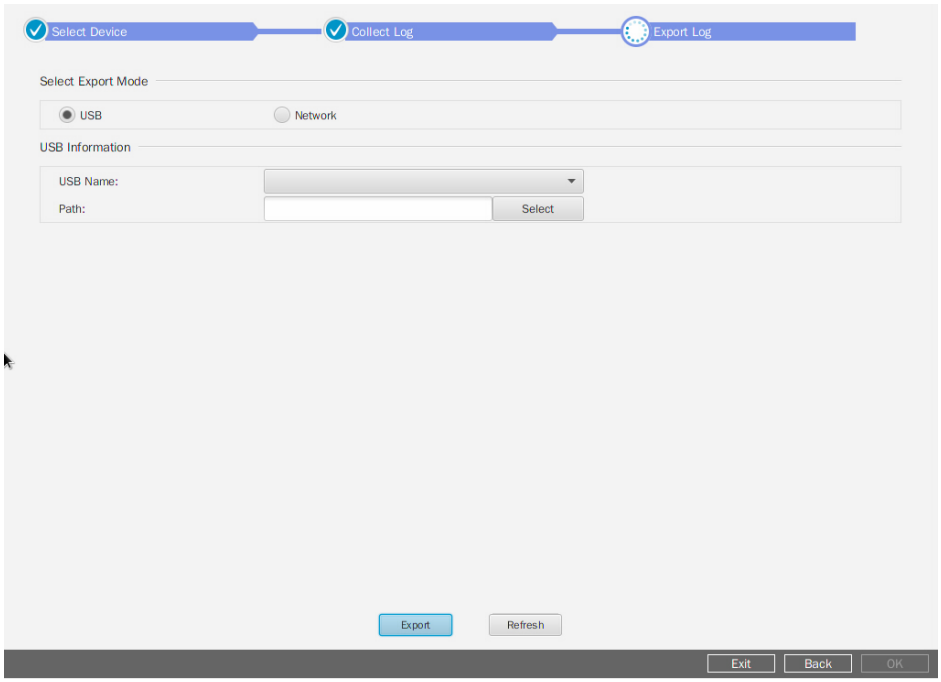


NOTE

During log collection, you can click **Abort** to stop the collection.

After the log collection is successful, the log export window is displayed, as shown in **Figure 4-666** or **Figure 4-667**.

Figure 4-666 Exporting logs to a USB flash drive



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Figure 4-667 Exporting logs to the network

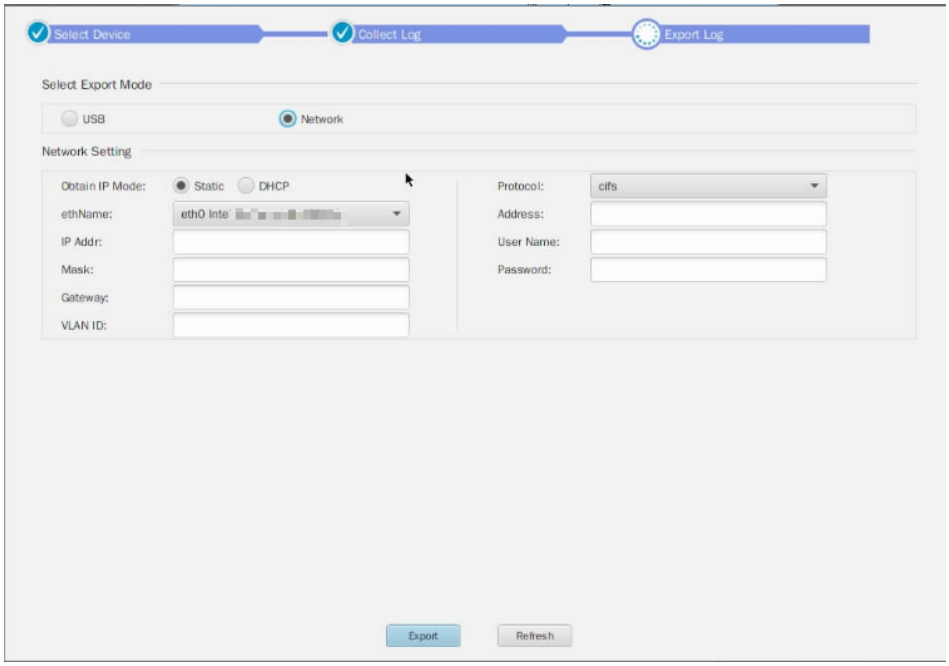


Table 4-56 Parameter description

Network Configured in the Smart Provisioning System (Left)	Example	Target Network for the Export (Right)	Example
Obtain IP Mode • Static • DHCP Obtain IP address, subnet mask and gateway information automatically without manual operation.	-	-	-
ethName: specifies the name of the NIC corresponding to the service network port where the network cable is inserted. This parameter is optional.	-	**Protocol:** Select **cifs** for Windows, and select **scp** for Linux.	-

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Network Configured in the Smart Provisioning System (Left)	Example	Target Network for the Export (Right)	Example
IP Addr: specifies the IP address of the OS configured for the local server.	192.168.2.239	**Address:** ● Windows: *IP address**folder*. (*IP address* indicates the IP address of the OS of the remote server, and *folder* indicates the name of the shared folder.) ● Linux: *IP address*/*folder*. (*IP address* indicates the IP address of the OS of the remote server, and *folder* indicates the name of the exported folder.)	192.168.2.259/share
Mask: specifies the subnet mask of the OS IP address configured for the local server.	255.255.255.0	**User Name:** ● Windows: Specifies the user name for network sharing. ● Linux: Specifies the user name for the OS of the remote server.	user123
Gateway: specifies the gateway configured for the selected NIC.	192.168.0.1	**Password:** ● Windows: Specifies the password for network sharing. ● Linux: Specifies the password for the OS of the remote server.	password456
VLAN ID: Virtual Local Area Network ID. **NOTE** The ID number could be any digit from 1 to 4096.	10	-	-

NOTE

In Windows 10, ensure that the **SMB 1.0/CIFS File Sharing Support** component has been installed and enabled before you select the CIFS protocol for export.

Example:

Select the CIFS protocol to export the configuration to a Windows system folder.

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1. Right-click the folder used for export on Windows, choose **Share**, and specify the current administrator as the user for sharing.
2. Select **Export Configurations**.
3. Select the configuration items to be exported.
4. Set the export mode to **Network**.
5. Select the IP address obtaining mode.
6. Set the protocol to **cifs**, enter the network location of the shared folder on Windows, and enter the user name and password of Windows.
7. Click **Next**.

   After a few seconds, the system displays a message indicating that the export is successful.
8. Check whether the file is successfully exported to the shared folder on Windows.

Step 6 Select **USB** or **Network** based on the actual situation.

NOTE

- Click **Refresh** to refresh the newly inserted USB flash drive and the newly connected network port.
- The USB flash drive supports the following file formats: ext2, ext3, ext4, NTFS, exFAT, FAT, and FAT32. The NTFS, exFAT, and FAT32 file system formats are recommended because they can be identified in both Windows and Linux.

Step 7 Click **Export**. The operation is complete.

NOTE

Toshiba and HGST drive logs are exported as .bin files, and Seagate and WDC drive logs are exported as .json files, which are internal logs of drives.

----End

4.4.6.2 Collecting Smart Provisioning Logs

4.4.6.2.1 Collecting Smart Provisioning Logs

NOTE

The Smart Provisioning log collection function can be used to collect logs of modules such as RAID controller cards and NICs.

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-668**.

- If Smart Provisioning is accessed, click  in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

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Figure 4-668 Smart Provisioning main window



Step 2 Click  in the upper right corner to enter the maintenance mode.

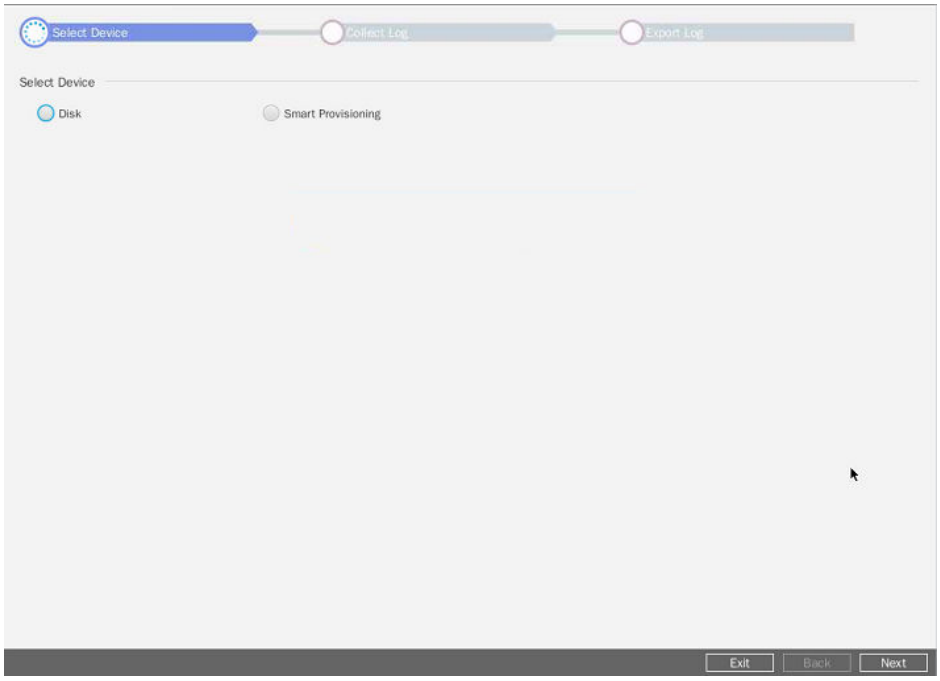
Figure 4-669 Maintenance mode



Step 3 Click **Log Collection**. The device selection window is displayed, as shown in **Figure 4-670**.

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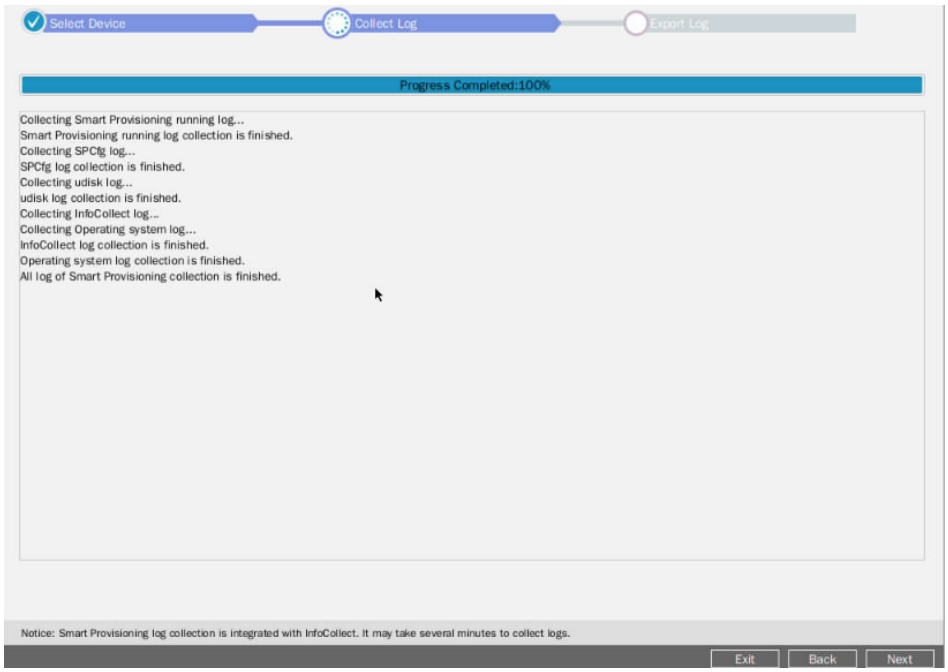
Figure 4-670 Selecting devices



Step 4 Select **Smart Provisioning**, and click **Next**.

The log collection starts, as shown in **Figure 4-671**.

Figure 4-671 Log collection window



Step 5 After log collection is complete, click **Next**.

The log export window is displayed, as shown in **Figure 4-672** or **Figure 4-673**.

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Figure 4-672 Exporting logs to a USB flash drive

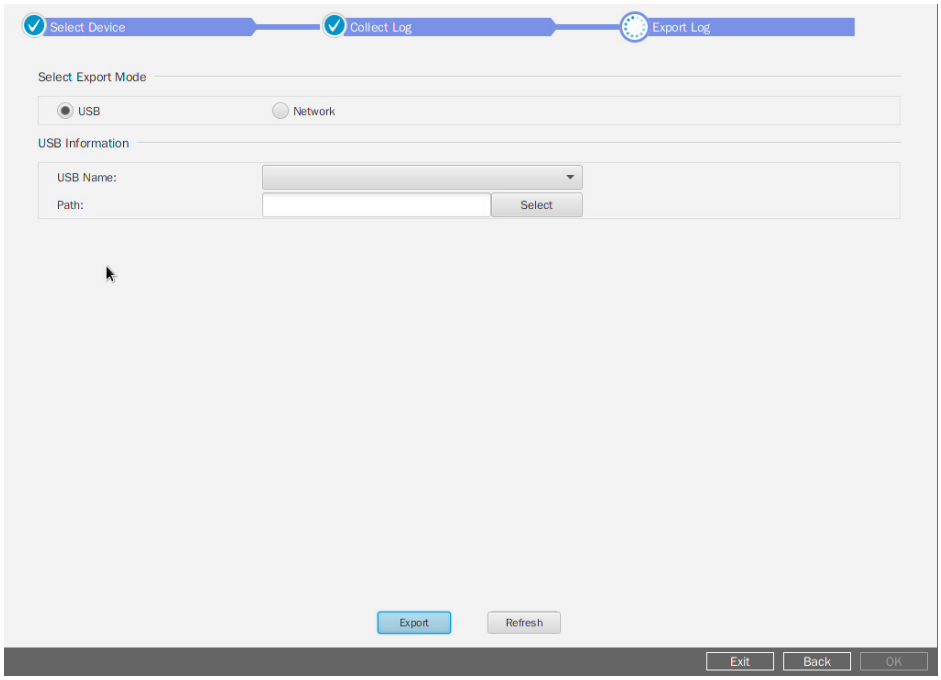


Figure 4-673 Exporting logs to the network

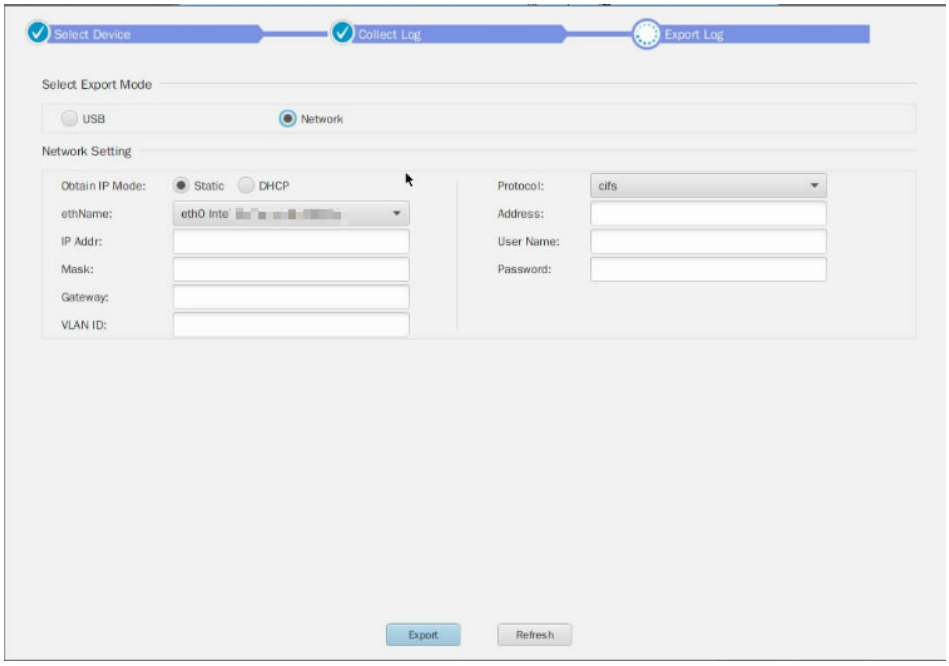


Table 4-57 Parameter description

Network Configured in the Smart Provisioning System (Left)	Example	Target Network for the Export (Right)	Example
Obtain IP Mode ● Static ● DHCP Obtain IP address, subnet mask and gateway information automatically without manual operation.	-	-	-
ethName: specifies the name of the NIC corresponding to the service network port where the network cable is inserted. This parameter is optional.	-	**Protocol:** Select **cifs** for Windows, and select **scp** for Linux.	-
IP Addr: specifies the IP address of the OS configured for the local server.	192.168.2.239	**Address:** ● Windows: *IP address*/*folder*. (*IP address* indicates the IP address of the OS of the remote server, and *folder* indicates the name of the shared folder.) ● Linux: *IP address*/*folder*. (*IP address* indicates the IP address of the OS of the remote server, and *folder* indicates the name of the exported folder.)	192.168.2.259/share
Mask: specifies the subnet mask of the OS IP address configured for the local server.	255.255.255.0	**User Name:** ● Windows: Specifies the user name for network sharing. ● Linux: Specifies the user name for the OS of the remote server.	user123

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Network Configured in the Smart Provisioning System (Left)	Example	Target Network for the Export (Right)	Example
Gateway: specifies the gateway configured for the selected NIC.	192.168.0.1	**Password:** ● Windows: Specifies the password for network sharing. ● Linux: Specifies the password for the OS of the remote server.	password456
VLAN ID: Virtual Local Area Network ID. **NOTE** The ID number could be any digit from 1 to 4096.	10	-	-

NOTE

In Windows 10, ensure that the **SMB 1.0/CIFS File Sharing Support** component has been installed and enabled before you select the CIFS protocol for export.

Example:

Select the CIFS protocol to export the configuration to a Windows system folder.

1. Right-click the folder used for export on Windows, choose **Share**, and specify the current administrator as the user for sharing.
2. Select **Export Configurations**.
3. Select the configuration items to be exported.
4. Set the export mode to **Network**.
5. Select the IP address obtaining mode.
6. Set the protocol to **cifs**, enter the network location of the shared folder on Windows, and enter the user name and password of Windows.
7. Click **Next**.

   After a few seconds, the system displays a message indicating that the export is successful.
8. Check whether the file is successfully exported to the shared folder on Windows.

Step 6 Select **USB** or **Network** based on the actual situation.

NOTE

- Click **Refresh** to refresh the newly inserted USB flash drive and the newly connected network port.
- The USB flash drive supports the following file formats: ext2, ext3, ext4, NTFS, exFAT, FAT, and FAT32. The NTFS, exFAT, and FAT32 file system formats are recommended because they can be identified in both Windows and Linux.

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Step 7 Click **Export**. The operation is complete.

----End

4.4.6.2.2 List of the Collected Logs

Table 4-58 Log collection items

Module	Document Name	Type	Description
SPLogDump	DriveErase	Folder	Smart Provisioning hard disk erasing log
	syslog.tar.gz	Compressed package	System log
	config	Folder	Backup of the exported configuration files
	deviceinfo.json	Resource file	Server asset information
	diagnose	Folder	Hardware diagnosis log
	dmesg.log	Log	Smart Provisioning system dmesg log
	dmesg.tar.gz	Compressed package	dmesg history logs
	SPCfglog.tar.gz	Compressed package	SPCfg log
	maintainlog.csv	Log	Smart Provisioning maintenance log
	maintainlog.tar.gz	Compressed package	Smart Provisioning maintenance history logs
	operatinglog.csv	Log	Smart Provisioning run log
	ping6.log	Log	Network communication log
	ping6.tar.gz	Compressed package	Network communication history logs
	varmesg.log	Log	Smart Provisioning system message log

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Module	Document Name	Type	Description
	sp_upgrade_info.log	Log	Smart Provisioning self-upgrade log
	upgrade	Folder	Firmware upgrade log
	version.json*	Configuration file	Smart Provisioning configuration file
	spdevicestatus	Log	Status of the USB device for Smart Provisioning
	component_version.json	Configuration file	Version configuration files of the Smart Provisioning component package
InfoCollectLogDump	localhost.localdomain_XXX_XXX.tar.gz[Note 1]	Log	Compressed log package collected by using InfoCollect
udiskLogDump	operatinglog.txt	Log	Log about hard disk diagnosis and log collection
	udisklog.txt	Log	Log about hard disk diagnosis and log maintenance
SPCfgLogDump	cfg_and_export_run.log	Log	Log about NIC and RAID card configuration import and export
	cfg_and_export_run.log_CNA_*.log	Log	Log about NIC configuration import and export
	storcli.log	Log	RAID controller card operation logs
	MegaSAS.log	Log	Information about the Mega RAID controller card
	SPCfglog.tar.gz	Log	Information about the Mega RAID controller card

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Module	Document Name	Type	Description
	log.txt	Compressed package	Log about configuration import and export
	log.csv	Log	Log about configuration import and export
sysLogDump	-	Log folder	The Smart Provisioning integrates all logs in the **/var/log** directory on the FusionOS.

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NOTE

Note 1: Decompress the collected log package in the **InfoCollectLogDump** directory and check whether all log files are collected by referring to the **filelist.txt** file as described in **Figure 4-674**.

Figure 4-674 Content of the filelist.txt file

filelist.txt

```
1
2   atlas Dir file list:
3
4   bigdata Dir file list:
5     1     bigdata/lspci_log.txt
6
7   bios Dir file list:
8     1     bios/version_bios.txt
9
10  bmc Dir file list:
11    1     bmc/mc_info.txt
12    2     bmc/sel.csv
13    3     bmc/sdr.csv
14    4     bmc/bmc_lan.txt
15    5     bmc/sensor.csv
16    6     bmc/fru.txt
17    7     bmc/time.txt
18    8     bmc/version_cpld.txt
19
20  cpu Dir file list:
21    1     cpu/cpu_dmidecode.txt
22    2     cpu/cpuinfo.txt
23
24  disk Dir file list:
25    1     disk/udisk.txt
26    2     disk/disk_smart.txt
27    3     disk/scheduler.txt
28    4     disk/sys_block.txt
29    5     disk/es3000_v2.txt
30    6     disk/es3000_v3_v5/es3000_v3_v5.txt
31    7     disk/parted_disk.txt
32    8     disk/hwdiag_hdd.txt
```

4.4.7 Erasing Hard Drives

The hard drive erasing function supports erasing data from Broadcom RAID controller cards, PMC RAID control cards, pass-through hard drives (HDD, SSD, NVMe), and encrypted hard disks supported by Smart Provisioning.

NOTE

This operation will delete all data on hard drives. Exercise caution when performing this operation.

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Procedure

Step 1 Access the Smart Provisioning main window, as shown in **Figure 4-675**.

- If Smart Provisioning is accessed, click in the upper right corner to return to the welcome window. Then click **Start** in the welcome window to access the Smart Provisioning main window.
- If Smart Provisioning is not accessed, access the Smart Provisioning main window by seeing **3 Logging In to Smart Provisioning**.

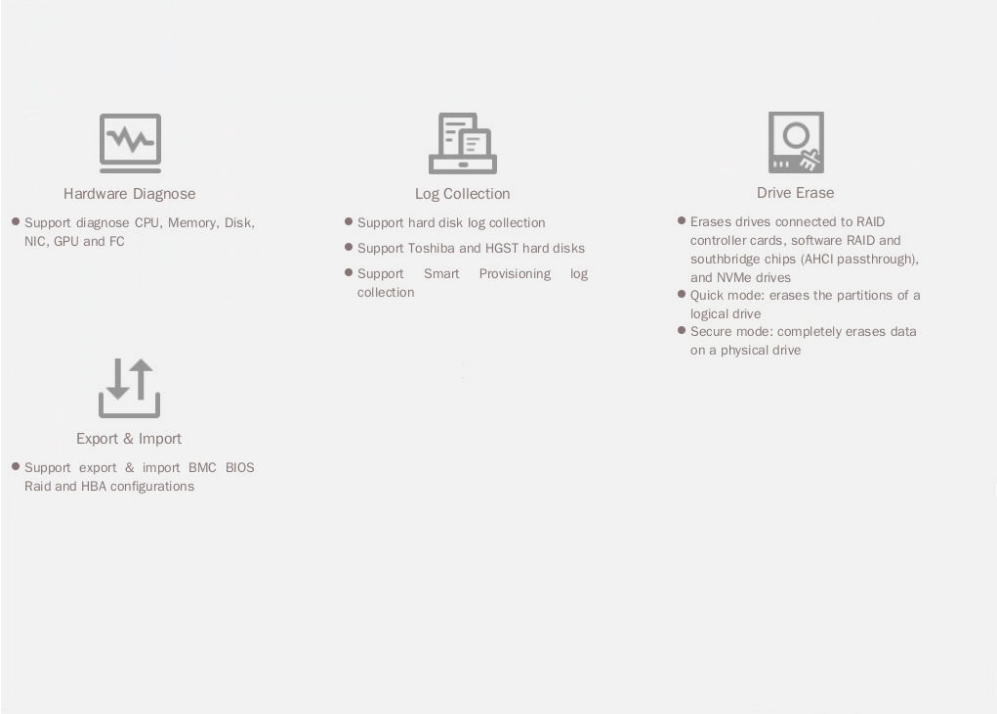
Figure 4-675 Smart Provisioning main window



Step 2 Click in the upper right corner to enter the maintenance mode.

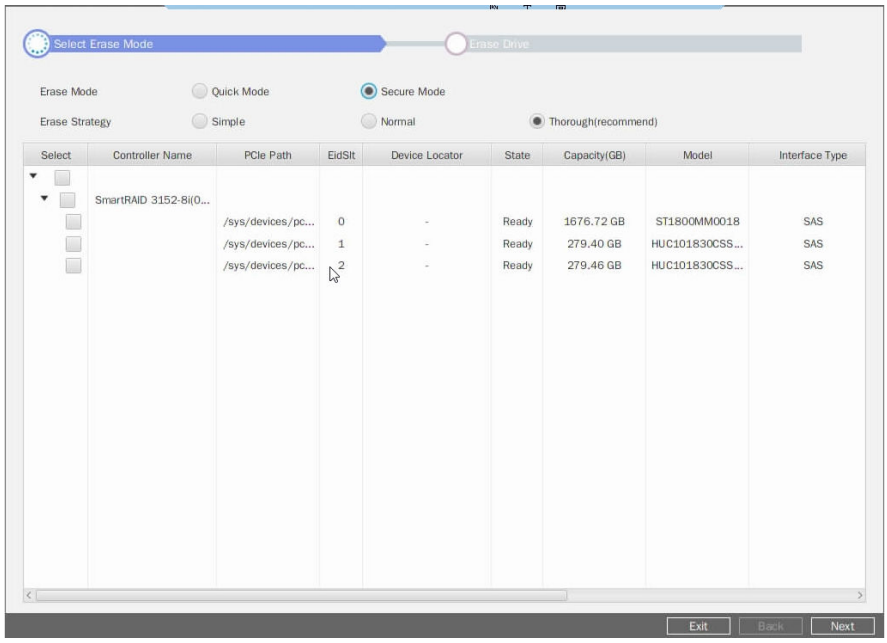
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Figure 4-676 Maintenance mode



Step 3 Click **Drive Erase**. The **Select Erase Mode** window is displayed, as shown in **Figure 4-677**.

Figure 4-677 Selecting an erase mode



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NOTE

The two erase modes are **Quick Mode** or **Secure Mode**.

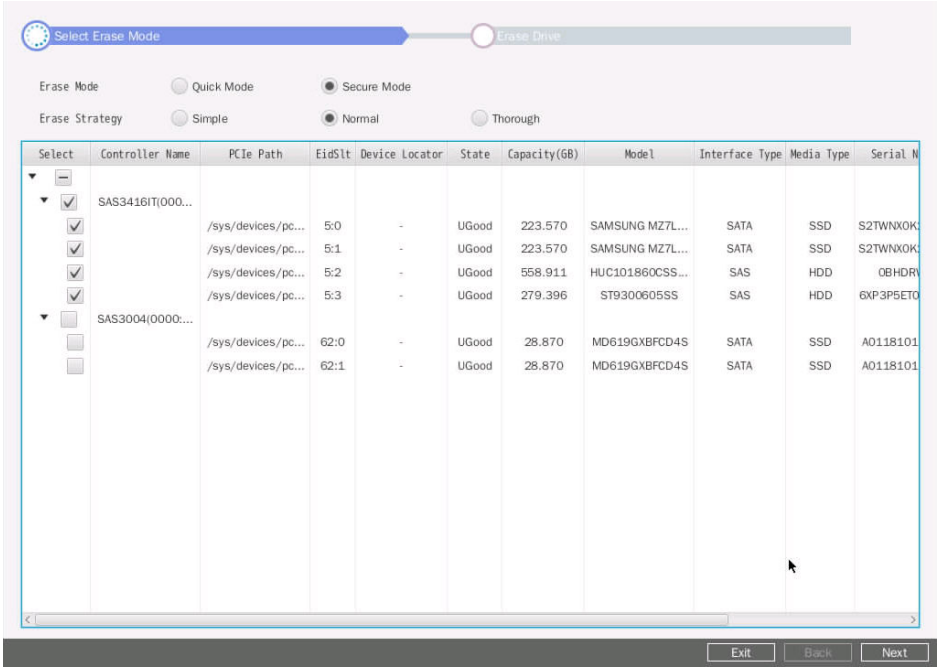
- **Quick Mode**: erases only the partition information of the logical drive.
- **Secure Mode**: erases all data on the physical hard drive. The following policies are available:
  - **Simple**: erases data on a hard drive only one round.
  - **Normal**: erases data on a hard drive three rounds.
  - **Thorough(recommend)**: erases data on a hard drive nine rounds. To ensure that data cannot be restored, you are advised to use the **Thorough** mode to erase data.

The following uses **Secure Mode** as an example to describe the operation procedure.

Step 4 Select **Secure Mode** and set **Erase Strategy**.

Step 5 Select the hard drive to be erased, as shown in **Figure 4-678**.

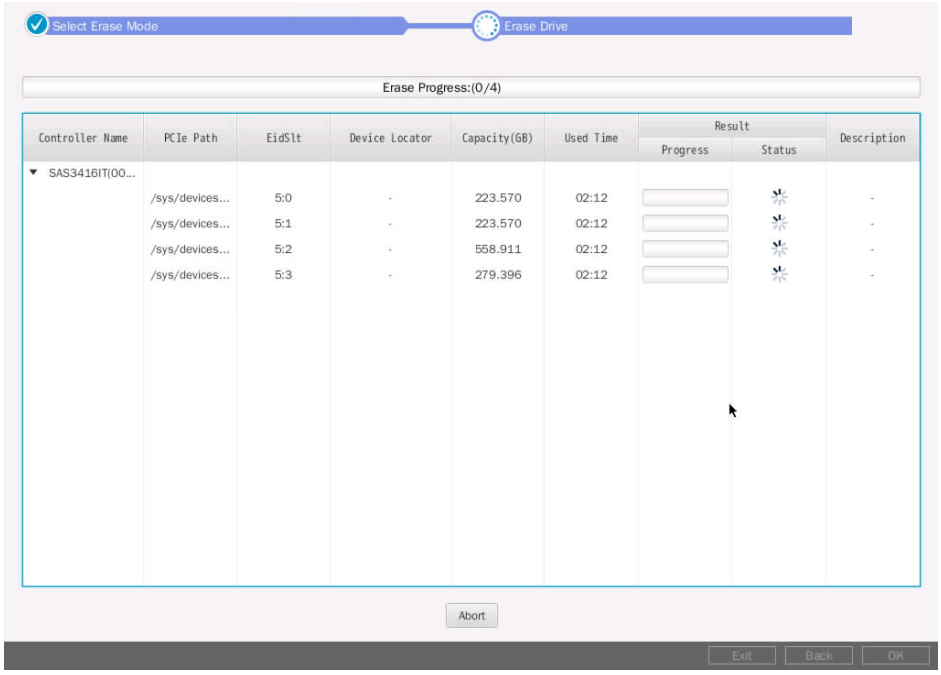
Figure 4-678 Selecting a hard drive



Step 6 Click **Next**. The erase operation is started, as shown in **Figure 4-679**.

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Figure 4-679 Erasing process

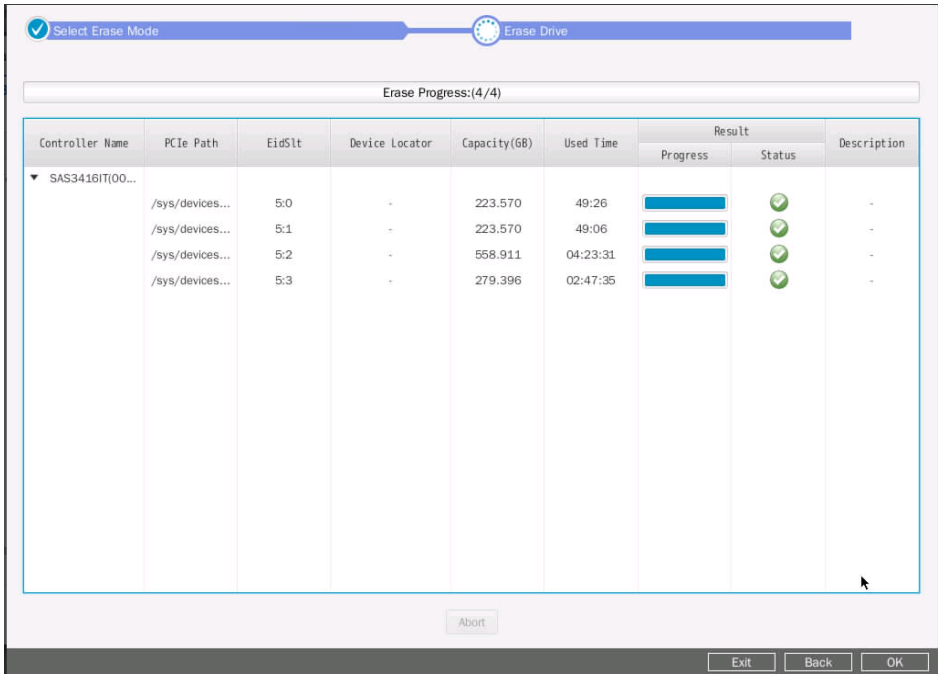


NOTE

During the erasing, you can click **Abort** to abort the erasing. In this case, the erasing task that is being executed is aborted and will be restarted when it is executed next time. The drive whose erasing is aborted can be used normally.

If the value of **Status** is , data has been successfully erased, as shown in **Figure 4-680**.

Figure 4-680 Completing the erase operation



----End

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5 FAQs

5.1 Some RAID Controller Cards Cannot Be Identified in a Multi-RAID Controller Card Scenario in Legacy Mode

5.2 What Should I Do If I Fail to Start Smart Provisioning by Pressing F6 During BIOS Startup?

5.3 An Error Occurs During Windows Installation on a Hard Disk of a Server When Windows Has Been Installed on Another Hard Disk

5.4 When a Folder Is Mounted by Using the Independent Remote Console for Firmware Upgrade, A Message Is Displayed Indicating that the File Fails to Be Copied

5.5 What Should I Do If "SP Boot is not supported" Is Displayed When I Press F6 to Start Smart Provisioning During BIOS Startup?

5.6 "Prepare tools failed" during the firmware upgrade.

5.7 Failed to deploy system in Legacy mode in V6-16 DIMM pass-through hard drive environment

5.8 During the BIOS startup, the user enters the OS directly when pressing F6 to start Smart Provisioning

5.9 What Can I Do If the RAID Group Fails to Be Created After the JBOD Working Mode Is Set?

5.10 Mellanox Driver Fails to Be Installed When the Server Has a Mellanox NIC and Any OS Is Deployed and the Driver Is Uploaded

5.11 Driver Fails to Be Installed When the OS Is Installed and the Driver Is Uploaded

5.12 When creating RAID10 on MegaRAID 9560-8i controller with 24 drives and setting Span parameter to 2, the error message Invalid PDs specified is displayed

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5.1 Some RAID Controller Cards Cannot Be Identified in a Multi-RAID Controller Card Scenario in Legacy Mode

Symptom

The 2288H V5 server is configured with the Avago SAS3004iMR standard card and the Avago SAS3416IT controller card. When the server is started in legacy mode, only the Avago SAS3004iMR standard card is identified.

Cause

If the M.2 card and RAID controller card are both configured, the M.2 card is loaded preferentially due to insufficient resources.

Solution

Smart Provisioning does not support this scenario currently.

5.2 What Should I Do If I Fail to Start Smart Provisioning by Pressing F6 During BIOS Startup?

Symptom

Failed to start Smart Provisioning by pressing **F6** during BIOS startup.

Cause

- Smart Provisioning is not installed on the server or the storage location of Smart Provisioning is damaged.
- The BIOS version of the server is too early.

Solution

- Start Smart Provisioning by mounting the image file, and upgrade Smart Provisioning in Recover mode by referring to Upgrading Smart Provisioning. After the upgrade is complete, restart the server and press **F6** to start Smart Provisioning.
- Upgrade the BIOS to the latest version.

5.3 An Error Occurs During Windows Installation on a Hard Disk of a Server When Windows Has Been Installed on Another Hard Disk

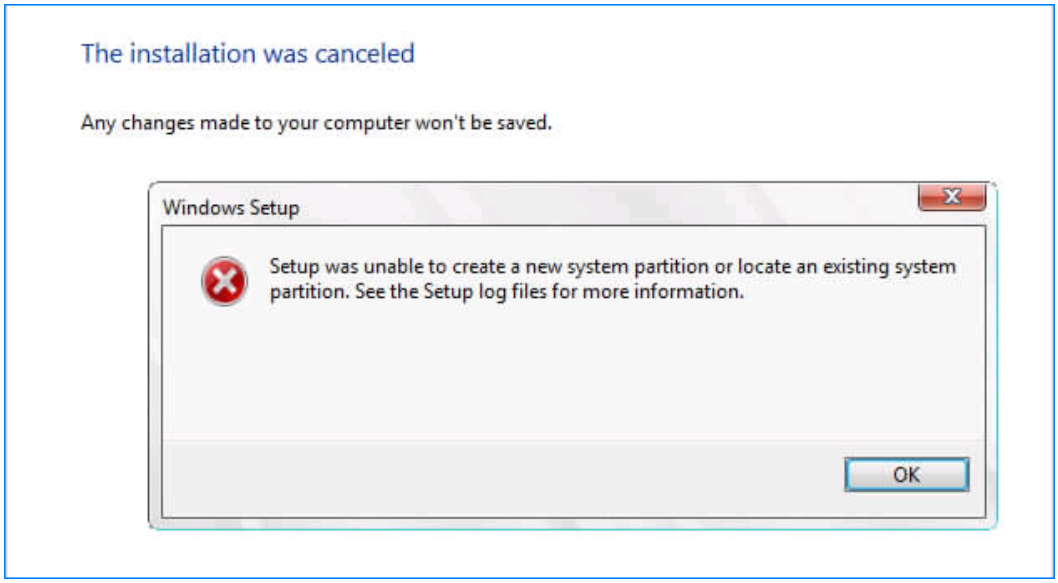
Symptom

In Legacy or UEFI mode, when Windows has been installed on a hard disk of a server, error message "Setup was unable to create a new system partition or locate

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an existing system partition. See the Setup log files for more information." is displayed during Windows installation in silent mode using Smart Provisioning on another hard disk, as shown in **Figure 5-1**.

Figure 5-1 Windows installation is canceled



Cause

When Windows has been installed on a hard disk of a server, the OS cannot identify the primary boot partition where it is to be installed. As a result, the installation fails.

Solution

Install Windows on the new hard disk in customized mode of Smart Provisioning.

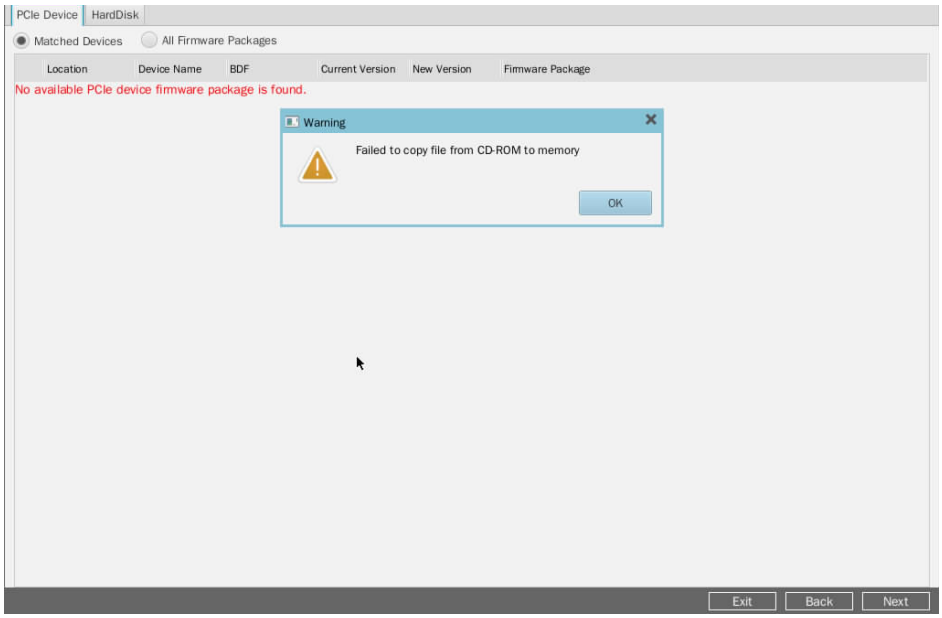
5.4 When a Folder Is Mounted by Using the Independent Remote Console for Firmware Upgrade, A Message Is Displayed Indicating that the File Fails to Be Copied

Symptom

When the firmware upgrade function is used, a local folder containing firmware is mounted by using the independent remote console program. During the upgrade, a message is displayed indicating that the file fails to be copied, as shown in **Figure 5-2**.

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Figure 5-2 Failed to copy a file from the mounted folder to the memory



Cause

The independent remote console version has defects.

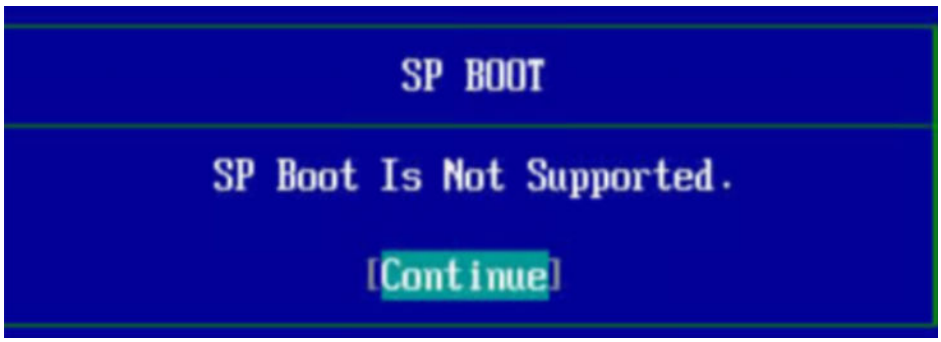
Solution

You are advised to upgrade the independent remote console to 1.0.5.228 or later.

5.5 What Should I Do If "SP Boot is not supported" Is Displayed When I Press F6 to Start Smart Provisioning During BIOS Startup?

Symptom

During the BIOS startup, press F6 to start Smart Provisioning. The message "SP Boot is not supported" is displayed.



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Solution

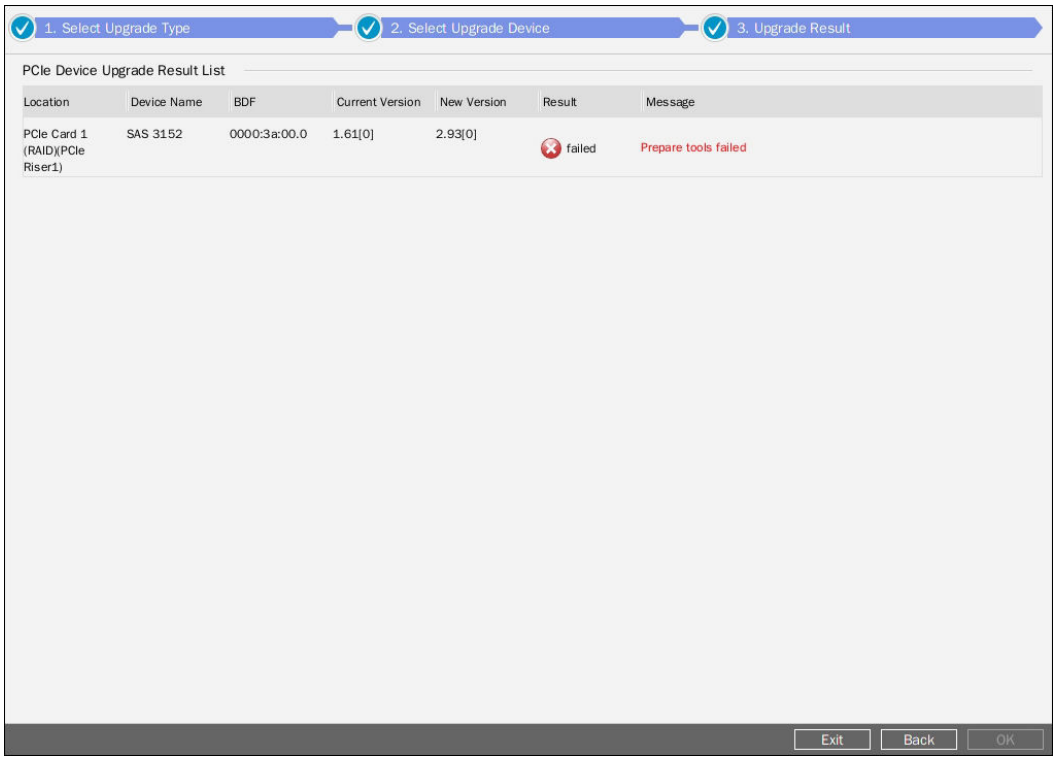
Check the server model and iBMC version to see whether the server model supports Smart Provisioning. If the server model supports Smart Provisioning, contact technical support.

5.6 "Prepare tools failed" during the firmware upgrade.

Symptom

"Prepare tools failed" during the firmware upgrade, as shown in **Figure Upgrade Result List**.

Figure 5-3 Upgrade Result List



Solution

Check whether the FusionServer iDriver where the firmware package locates is version 3.0.84 or later. It is recommended to upgrade to 3.0.84 or later versions if it is an earlier version.

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5.7 Failed to deploy system in Legacy mode in V6-16 DIMM pass-through hard drive environment

Symptom

Failed to deploy system in Legacy mode in V6-16 DIMM pass-through hard drive environment.

Cause

The BIOS cannot boot properly.

Solution

Smart Provisioning does not support this scenario currently.

5.8 During the BIOS startup, the user enters the OS directly when pressing F6 to start Smart Provisioning

Symptom

During the BIOS startup, the user enters the OS directly when pressing **F6** to start Smart Provisioning.

Cause

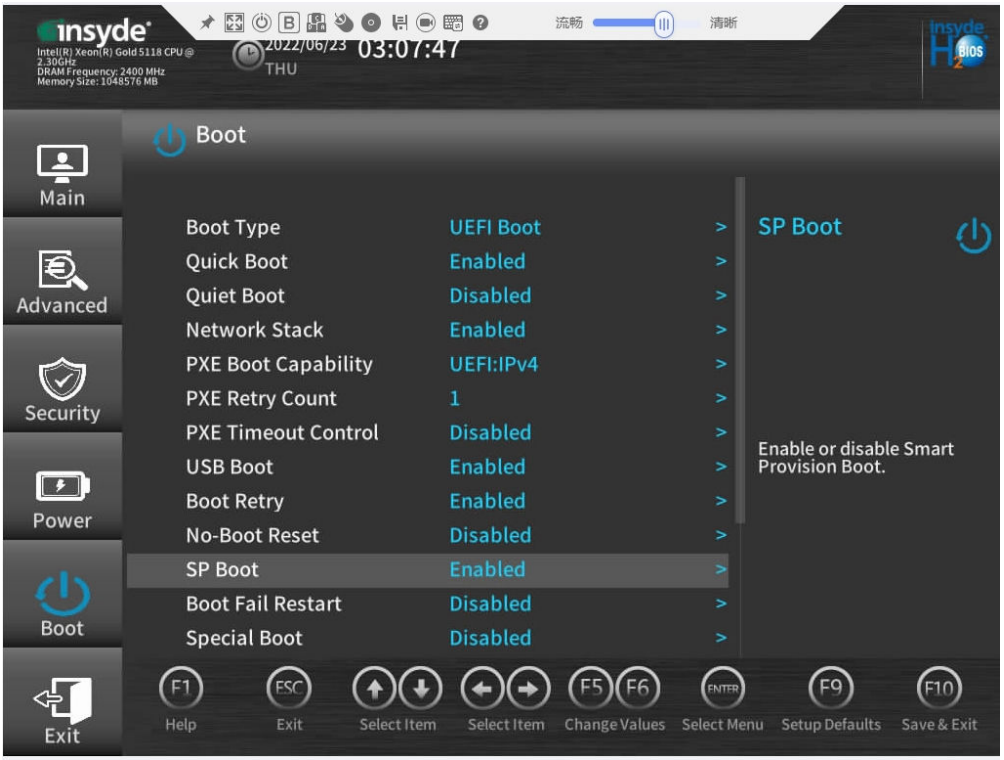
The Smart Provisioning boot option is not enabled in the BIOS.

Solution

In the BIOS, set **Boot Retry** to **Enabled**, as shown in **Figure 5-4**.

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Figure 5-4 Set Boot Retry To Enabled



5.9 What Can I Do If the RAID Group Fails to Be Created After the JBOD Working Mode Is Set?

Symptom

After the JBOD working mode is set, the RAID group fails to be created.

Cause

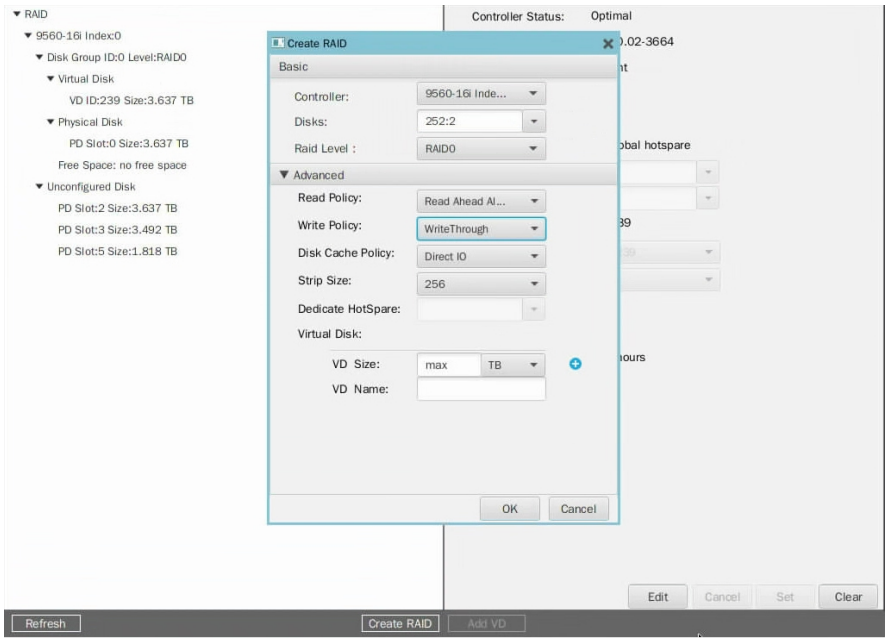
To create a RAID group, you are allowed to set **Write Policy** to **WriteThrough** only rather than **WriteBack** or **Always WriteBack**.

Solution

Set **Write Policy** to **WriteThrough**, as shown in **Figure 5-5**.

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Figure 5-5 Setting Write Policy to WriteThrough



5.10 Mellanox Driver Fails to Be Installed When the Server Has a Mellanox NIC and Any OS Is Deployed and the Driver Is Uploaded

Symptom

The Mellanox driver fails to be installed when the server has a Mellanox NIC and any OS is deployed and the driver is uploaded.

Cause

The components required for installing the Mellanox driver are unavailable.

Solution

For details about how to install the Mellanox driver, see the installation guide on Mellanox's official website.

5.11 Driver Fails to Be Installed When the OS Is Installed and the Driver Is Uploaded

Symptom

The driver fails to be installed when the OS is installed and the driver is uploaded.

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Cause

The components required for installing the driver are unavailable.

Solution

Check the driver installation log file **/var/log/iDriver_install.log**. If the message "smartpqi-dkms depends on dkms; however: Package dkms is not installed;" is displayed in the file (**dkms** indicates the components required for installing the driver), install the components and the required driver as prompted.

5.12 When creating RAID10 on MegaRAID 9560-8i controller with 24 drives and setting Span parameter to 2, the error message Invalid PDs specified is displayed

Symptom

When configuring RAID10 on the MegaRAID 9560-8i controller with 24 hard drives and a Span parameter set to 2, the operation fails with the error "Invalid PDs specified".

Cause

For RAID10 on MegaRAID 9560-8i, the maximum allowed Span count is 8. With 24 drives and Span=2, the calculated Span count is 24/2 = 12, exceeding the hardware limit.*(Refer to the RAID controller user guide for specific server constraints.)*

Solution

Adjust the Span parameter to ensure the total Span count ≤ 8.

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6 Host Accounts

Security description: A host account is created when FusionOS is installed, and the user status is disabled.

Table 6-1 Host accounts

Account	Owner Group	Account Description
root	root	Super administrator account
bin	bin	Bin account
daemon	daemon	Daemon account
adm	adm	ADM account
lp	lp	Print service account
sync	root	Service synchronization account
shutdown	root	Shutdown service account
halt	root	Shutdown service account
mail	mail	Mail service account
operator	root	Operator account
games	users	Games account
ftp	ftp	FTP account
nobody	nobody	Anonymous account The **nobody** account requires no special permission to allocate software processes.

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Account	Owner Group	Account Description
system-coredump	systemd-coredump	Systemd coredump account
systemd-network	systemd-network	Systemd network management account. **systemd-networkd** is the system service for managing networks. It detects and configures network devices and creates virtual network devices.
systemd-timesync	systemd-timesync	Systemd timesync account
unbound	unbound	Unbound DNS resolver account
saslauth	saslauth	Saslauthd daemon account
dhcpd	dhcpd	DHCP service account
rpc	rpc	RPC service account
sshd	sshd	SSH service account
dbus	dbus	System message bus account
polkitd	polkitd	Polkit service account
rpcuser	rpcuser	RPC service account
named	named	DNS service account
chrony	chrony	Chronyd service account
ibma account (The user status is disabled.)	ibma	iBMA common user who has the permission to access only the iBMA installation directory.
system-resolve	system-resolve	Account used by the network name resolution user
tss	tss	tcsd service account
operator	root	Operation account

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7 Public IP Addresses and Email Addresses

Smart Provisioning Public IP Addresses describes the public IP addresses and email addresses of the open-source and third-party software used in Smart Provisioning. For details, see the ***Smart Provisioning Public IP Addresses***.

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A Getting Help

If a fault persists during routine maintenance or troubleshooting, contact xFusion technical support.

A.1 Collecting Fault Information

Collect fault information before troubleshooting.

The information includes:

- Customer company and address
- Contact person and telephone number
- Time when the fault occurred
- Detailed fault symptom
- Device type and software version
- Any measures taken and effects
- Fault severity and expected rectification deadline

A.2 Preparing for Debugging

During the communication with xFusion technical support engineers, they may assist you in performing certain operations to collect more information about the fault or directly rectify the fault.

Before contacting xFusion technical support, get ready the spare parts and tools such as screwdrivers, screws, serial cables, and network cables.

A.3 Using Product Documentation

xFusion provides a complete documentation shipped with the device. The documentation provides guidance on how to solve common problems that occur during routine maintenance and troubleshooting.

To better rectify the fault, you are advised to refer to the documentation before you seek technical support.

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A.4 Technical Support

xFusion provides timely and efficient technical support through local branch offices, the secondary technical support system, telephone technical support, remote technical support, and onsite technical support.

Technical Support Website

Technical documents are available on the technical support website: **xFusion Technical Support**.

Cases

To obtain case study about servers, visit **Case Library**. Currently, **Case Library** is available only for technical support engineers from xFusion and its partners.

Contact xFusion

xFusion provides comprehensive technical support and services. To obtain assistance, contact xFusion technical support as follows:

- Contact customer service center at **support@xfusion.com**
- Contact technical support personnel at your local xFusion branch office.

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