Installing Operating Systems

This chapter includes the following sections:

About Operating System Installation

The unattended operating system installation function helps you install the Microsoft Windows, RedHat Enteprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES) operating systems. UCS-SCU has integrated device drivers including RAID drivers to seamlessly install operating systems on supported RAID logical arrays without additional load driver steps or devices such as the USB.

UCS-SCU supports operating system installation only on virtual disks. Installation on physical disks is not supported. All UCS-SCU supported operating systems are organized into three groups: Windows, RHEL and SLES.

Note While installing the operating system on C220 and C240 servers, after you provide the operating system CD, the system prompts you to reboot to continue with the installation. At this time, you must change the boot order for the server, and set the appropriate HDD or VD as the first boot device.

Note Before you begin the operating system installation, be sure that you have disabled the Watchdog Timer. If this feature is enabled and the value is set for a time duration that is less than the time needed to install the OS, the operating system installation process is interrupted. This Watchdog Timer feature automatically restarts or powers off the server after the specified time duration.

You can use the following two options to install the operating system:

- Quick Install—Use the Quick Install option to install the operating system with the default settings.

- Custom Install—Use the Custom Install option to modify the default settings prior to installing the operating system. If no parameters are modified, the custom installation performs with the default parameters and downloads the drivers from the SCU boot media.

Performing Quick Install

To perform the quick installation of the OS, follow these steps:

Procedure

Step 1 To enter the unattended operating system installation function area, click OS Install in the left navigation pane.
The OS Install page appears.

Step 2 Click any one of the operating system radio buttons.

Step 3 From the Operating System drop-down list, select the version of the operating system.

Step 4 (For Windows) From the Edition drop-down list, select the edition of the operating system.
The Default Settings area and the Quick Install and Custom Install buttons appear.

The following table shows the default parameters that are displayed in the Default Settings area for the Windows operating system.

Table 1: Default Parameters (for Windows)

Parameter	Default Value
Time Zone	Central American Standard Time
Name	admin
Organization	Organization
Computer Name	Computer
Network	DHCP
Work Group Name	WORKGROUP
Drivers	All drivers will be installed from the SCU boot media
Firewall	Disabled
RDP	Disabled
Disk Details	
Disk Name	LSI
Disk Size	Minimum 40 GB

Parameter	Default Value
Partition Details	
Drive Letter	C
File System	NTFS
Size (MB)	Depends on logical disks

The following table shows the default parameters that are displayed in the Default Settings area for the Red Hat Enterprise Linux operating system.

Table 2: Default Parameters (for RHEL)

Parameter	Default Value
Time Zone	America/New_York
Name	root
Network	DHCP
Drivers	All drivers will be installed from the SCU boot media
Disk Details	
Disk Name	LSI
Disk Size	Depends on the logical disk
Partition Details	
Drive Letter	
File System	ext3
Size (MB)	Depends on logical disks
Drive Letter	
File System	linux-swap
Size (MB)	2048

The following table shows the default parameters that are displayed in the Default Settings area for the SUSE Linux Enterprise Server (SLES) operating system.

Table 3: Default Parameters (for SLES)

Parameters	Default Values
Time Zone	America/New_York
Name	root
Network	DHCP
Drivers	All drivers will be installed from the SCU boot media
Disk Details	
Disk Name	LSI0-Logical Vol-2
Disk Size	Depends on logical disks
Partition Details	
Drive Letter	/
File System	ext3
Size (MB)	Depends on logical disks
Drive Letter	swap
File System	linux-swap
Size (MB)	Minimum 2048

Step 5 Click **Quick Install** to complete the installation.

A progress bar is displayed that indicates the tasks being performed and the percentage of completion.

Note Be sure that logical disks are created before you install the operating system. If logical disks are not available, the following occurs:

- The disk details are not displayed under Default Settings area

- The Quick Install and Custom Install buttons are not displayed

- The following warning message is displayed:

```
OS Installation cannot be done as no logical disks found in the
system. Please use RAID Configuration to create logical disks.
```

Performing Custom Installation for Windows

For unattended Windows Server operating system installation, follow these steps:

Procedure

Step 1 To enter the unattended operating system installation function area, click OS Install in the left navigation pane.
The OS Install page appears .

Step 2 Click the **Windows** radio button and choose an operating system from the Operating System drop-down list.
The Edition drop-down list appears.

Step 3 From the Edition drop-down list, choose an edition.
The Default Settings area and the Quick Install and Custom Install buttons appear.

> **Note** The Windows Server 2008 R2 option in the drop-down list is the same for both Windows Server 2008 R2 and Windows Server 2008 R2 SP1. Depending on the installation CD used (Win2k8 R2 or Win2k8R2 SP1), the corresponding Windows OS version gets installed.

Step 4 Click **Custom Install**.
A progress bar displays indicating the tasks being performed and the percentage of completion. A new OS Install page appears with the following list of collapsible windows

- Personalization—To set the personalization settings, go to Personalization, on page 5

- Installation Partitions—To set the installation partition settings, go to Installation Partitions, on page 6

- Network Settings—To set the network settings, go to Network Settings, on page 7

- Installation Drivers—To set the driver settings, go to Installation Drivers, on page 8

Step 5 Click **Install.**
A progress bar is displayed that indicates the tasks being performed and the percentage of completion. An OS Install dialog box appears which prompts you to remove the UCS-SCU CD and insert the required operating system CD.

Step 6 Insert the operating system CD and click **Ok**.
The system restarts and installation of the operating system begins.

Personalization

To configure the personalization settings, follow these steps:

Procedure

Click **Personalization** to open the corresponding window.
In the Personalization window, do the following:

- From the Time Zone drop-down list, choose a time zone.

- In the Name field, enter a name for the administrator. The maximum limit is 20 characters.

- In the Organization field, enter a name of the organization of the administrator. The maximum limit is 15 characters.

- Select one of the License Information radio buttons and enter the 25 character product key if license needs to be activated.

- In the Computer Name field, enter the name of the server. The maximum limit is 15 characters.

- In the Description field, enter the description of the server. The maximum limit is 25 characters.

Installation Partitions

To configure the installation partition settings, follow these steps:

Procedure

Step 1   Click **Installation Partitions** to open the corresponding window.

Step 2   In the Installation Partitions window, do the following:

a)   From the Select Disk drop-down list, choose a disk to create a logical partition.

b)   Click a disk name to view the corresponding partition details.
The disk entry expands and displays the partition name, drive letter, file system, and the space used in MB.

c)   To edit a partition, do the following:

- Choose a partition to edit and click **Edit.**

  Choose a partition to edit and click Edit.

- In the Edit Partition dialog box, do the following:

  ◦ From the Drive Letter drop-down list, choose a drive.

  ◦ In the Size text field, enter the partition size.

  Note   The size cannot be more than the available disk space.

  ◦ From the File system drop-down list, choose a file system.

  ◦ Click **OK** to save your changes

d)   To create a new partition, do the following

- Choose a free space and click **New.**

  A Create Partition dialog box is displayed.

- In the Create Partition dialog box, do the following:

  ◦ From the Driver Letter drop-down list, choose a drive.

◦ In the Size field, edit the disk size.

Note   The size cannot be more than the available disk space.

◦ From the File System drop-down list, choose a file system.

◦ Click **Ok.**

e) To remove a partition, do the following:

• Choose the partition to delete and click **Delete.**

The OS Install dialog box is displayed.

• Click **Yes** to delete the partition.

Note   In the Red Hat Enterprise Linux, the Root and Swap partitions are necessary. If you do not specify their sizes during the partition process, the UCS-SCU generates an alert message and suggests an alternate partition solution. Accept it if you are not familiar with Linux partitions.

Network Settings

The Network Settings allows you to enter the network configuration settings for the onboard network adapters that are detected by the operating system during installation. These settings do not affect the network settings for the CIMC. We recommend that you set different IP addresses for the operating system and CIMC. The network interface column lists each network adapter detected by the UCS-SCU. Your operating system may have a different name for the interface after you install the operating system.

To configure the network settings, follow these steps:

Procedure

Step 1   Click **Network Settings** to open the corresponding window.
The Network Settings window displays the link status of available network interfaces and the corresponding IP address, subnet mask, gateway, DNS, link status, vendor, type, and MAC address.

Step 2   In the Network Settings window, do the following:

a) In the Work Group or Network Domain area, choose one of the following options:

• Select **No network** or **No domain** radio button when a network or domain does not need to be added. Enter a workgroup name in the Work Group Name field. The maximum limit is 20 characters.

• Select the **Join this Domain** radio button and do the following:

◦ In the Domain Name text field, enter the name of the domain. The maximum limit is 20 characters.

◦ In the Domain Username, enter the user name of the domain. The maximum limit is 20 characters.

◦ In the Domain password, enter the password of the domain. The maximum limit is 20 characters

b) Select or deselect the **Enable Remote Access (RDP)** radio button for remote access settings.

c) Select or deselect the **Disable Firewall** radio button for firewall settings.

d) In the DNS Suffix/Domain field, specify the DNS suffix of the domain. The maximum limit is 25 characters.

e) In DNS Suffix Search Order 1 field, enter a DNS suffix search order. The maximum limit is 25 characters.

f) In the DNS Suffix Search Order 2 field, enter another DNS suffix search order. The maximum limit is 25 characters.

g) In the Proxy Address field, enter the IP address or name of the proxy server. The maximum limit is 30 characters.

h) In the Port field, enter the port number of the proxy server. The maximum limit is 5 characters.

i) Edit the Network Settings by doing the following:

- Select a network interface and click **Edit**.

  The Network Settings dialog box displays.

- Select IP Address from DHCP server or Static IP Address. If you select Static IP Address, do the following:

  ◦ In the IP Address field, enter the IPv4 address.

  ◦ In the Subnet Mask field, enter the subnet IPv4 address.

  ◦ In the Gateway field, enter the gateway IPv4 address.

  ◦ In the DNS field, enter the DNS IPv4 address.

  ◦ Click **OK**.

Installation Drivers

UCS-SCU displays all available drivers downloaded from the driver source. Deselect the drivers that you do not want to install. If you want to install an operating system on a RAID volume, select the driver for the appropriate RAID controller.

To configure the installation driver settings, follow these steps:

Procedure

Step 1   Click **Installation Drivers** to open the corresponding window

Step 2   Select the drivers that you want to install from the Choose Drivers to Install table.
If drivers are not available in the Choose Drivers to Install table, download the drivers using the Installation Drivers toolbar. To download the drivers, choose one of the following options

- Downloading from Cisco.com

- Downloading from SCU Boot Media

- Downloading from Network Share

- Downloading from USB

Performing Custom Installation for Linux Server Series Operating System

For unattended Linux operating system installation, follow these steps:

Procedure

Step 1 To enter the unattended operating system installation function area, click OS Install in the left navigation pane.
The OS Install page appears .

Step 2 Click the **RHEL** radio button and choose an operating system from the Operating System drop-down list
The Default Settings area and the Quick Install and Custom Install buttons appear.

Step 3 Click **Custom Install**.
A progress bar is displayed that indicates the tasks being performed and the percentage of completion. A new OS Install page appears with the following list of collapsible windows:

- Basic Configuration—To set the personalization settings, go to Basic Configuration, on page 9

- Installation Partitions— To set the installation partition settings, go to Installation Partitions, on page 6

- Package Selection—To set the package selection settings, go to Package Selection, on page 11

- Network Settings—To set the network settings, go to Network Settings, on page 7

- Installation Drivers—To set the driver settings, go to Installation Drivers, on page 8

Step 4 Click **Install.**
A progress bar is displayed that indicates the tasks being performed and the percentage of completion. An OS Install dialog box appears.

Step 5 Click **Ok**.

Step 6 Remove the UCS-SCU CD and insert the required operating system CD.

Basic Configuration

To configure the basic configuration settings, follow these steps:

Procedure

Step 1 Click **Basic Configuration** to open the corresponding window.

Step 2 In the Basic Configuration window, do the following:

a) In the Root Password field, enter the root password.

b) In the Confirm Root Password field, reenter the root password.

c) From the Default Language drop-down list, choose a default language.

d) From the Keyboard drop-down list, choose the type of keyboard layout.

e) From the Time Zone drop-down list, choose the time zone.

f) In the Additional Languages list, select all languages that apply.

Installation Partitions

To configure the installation partition settings, follow these steps:

Procedure

Step 1 Click **Installation Partitions** to open the corresponding window.

Step 2 In the Installation Partitions window, do the following:

a) From the Select Disk drop-down list, choose a disk to create a logical partition.

b) Click a disk name to view the corresponding partition details.
The disk entry expands and displays the partition name, drive letter, file system, and the space used in MB.

c) To edit a partition, do the following:

- Choose a partition to edit and click **Edit.**

  Choose a partition to edit and click Edit.

- In the Edit Partition dialog box, do the following:

  ◦ From the Drive Letter drop-down list, choose a drive.

  ◦ In the Size text field, enter the partition size.

  Note The size cannot be more than the available disk space.

  ◦ From the File system drop-down list, choose a file system.

  ◦ Click **OK** to save your changes

d) To create a new partition, do the following

- Choose a free space and click **New.**

  A Create Partition dialog box is displayed.

- In the Create Partition dialog box, do the following:

  ◦ From the Driver Letter drop-down list, choose a drive.

  ◦ In the Size field, edit the disk size.

Note The size cannot be more than the available disk space.

◦ From the File System drop-down list, choose a file system.

◦ Click **Ok.**

e) To remove a partition, do the following:

• Choose the partition to delete and click **Delete.**

The OS Install dialog box is displayed.

• Click **Yes** to delete the partition.

Note In the Red Hat Enterprise Linux, the Root and Swap partitions are necessary. If you do not specify their sizes during the partition process, the UCS-SCU generates an alert message and suggests an alternate partition solution. Accept it if you are not familiar with Linux partitions.

Package Selection

To configure the package selection settings, follow these steps:

Procedure

Step 1 Click **Package Selection** to open the corresponding window.

Step 2 Select all check boxes that apply.

Network Settings

The Network Settings allows you to enter the network configuration settings for the onboard network adapters that are detected by the operating system during installation. These settings do not affect the network settings for the CIMC. We recommend that you set different IP addresses for the operating system and CIMC. The network interface column lists each network adapter detected by the UCS-SCU. Your operating system may have a different name for the interface after you install the operating system.

To configure the network settings, follow these steps:

Procedure

Step 1 Click **Network Settings** to open the corresponding window.
The Network Settings window displays the link status of available network interfaces and the corresponding IP address, subnet mask, gateway, DNS, link status, vendor, type, and MAC address.

Step 2 In the Network Settings window, do the following:

a) In the Work Group or Network Domain area, choose one of the following options:

- Select **No network** or **No domain** radio button when a network or domain does not need to be added. Enter a workgroup name in the Work Group Name field. The maximum limit is 20 characters.

- Select the **Join this Domain** radio button and do the following:

  ◦ In the Domain Name text field, enter the name of the domain. The maximum limit is 20 characters.

  ◦ In the Domain Username, enter the user name of the domain. The maximum limit is 20 characters.

  ◦ In the Domain password, enter the password of the domain. The maximum limit is 20 characters

b) Select or deselect the **Enable Remote Access (RDP)** radio button for remote access settings.
c) Select or deselect the **Disable Firewall** radio button for firewall settings.
d) In the DNS Suffix/Domain field, specify the DNS suffix of the domain. The maximum limit is 25 characters.
e) In DNS Suffix Search Order 1 field, enter a DNS suffix search order. The maximum limit is 25 characters.
f) In the DNS Suffix Search Order 2 field, enter another DNS suffix search order. The maximum limit is 25 characters.
g) In the Proxy Address field, enter the IP address or name of the proxy server. The maximum limit is 30 characters.
h) In the Port field, enter the port number of the proxy server. The maximum limit is 5 characters.
i) Edit the Network Settings by doing the following:

- Select a network interface and click **Edit**.

  The Network Settings dialog box displays.

- Select IP Address from DHCP server or Static IP Address. If you select Static IP Address, do the following:

  ◦ In the IP Address field, enter the IPv4 address.

  ◦ In the Subnet Mask field, enter the subnet IPv4 address.

  ◦ In the Gateway field, enter the gateway IPv4 address.

  ◦ In the DNS field, enter the DNS IPv4 address.

  ◦ Click **OK**.

Installation Drivers

UCS-SCU displays all available drivers downloaded from the driver source. Deselect the drivers that you do not want to install. If you want to install an operating system on a RAID volume, select the driver for the appropriate RAID controller.

To configure the installation driver settings, follow these steps:

Procedure

Step 1 Click **Installation Drivers** to open the corresponding window

Step 2 Select the drivers that you want to install from the Choose Drivers to Install table.
If drivers are not available in the Choose Drivers to Install table, download the drivers using the Installation Drivers toolbar. To download the drivers, choose one of the following options

- Downloading from Cisco.com

- Downloading from SCU Boot Media

- Downloading from Network Share

- Downloading from USB

Performing Custom Installation for SUSE Linux Server Operating System

To perform an unattended SLES (SUSE Linux Enterprise Server) operating system installation, follow these steps:

Procedure

Step 1 To enter the unattended operating system installation function area, click OS Install in the left navigation pane.
The OS Install page appears.

Step 2 Click the **SLES** radio button and choose an operating system from the Operating System drop-down list
The Default Settings area and the Quick Install and Custom Install buttons appear.

Step 3 Click **Custom Install**.
A progress bar is displayed that indicates the tasks being performed and the percentage of completion. A new OS Install page appears with the following list of collapsible windows:

- Basic Configuration—To set the personalization settings, go to Basic Configuration, on page 14

- Installation Partitions—To set the installation partition settings, go to Installation Partitions, on page 6

- Package Selection—To set the package selection settings, go to Package Selection, on page 11

- Network Settings—To set the network settings, go to Network Settings, on page 7

- Installation Drivers—To set the driver settings, go to Installation Drivers, on page 8

Step 4 Click **Install**.

A progress bar is displayed that indicates the tasks being performed and the percentage of completion. An OS Install dialog box appears.

Step 5   Click **Ok**.

Step 6   Remove the UCS-SCU CD and insert the required operating system CD.

Basic Configuration

To configure the basic configuration settings, follow these steps:

Procedure

Step 1   Click **Basic Configuration** to open the corresponding window

Step 2   In the Basic Configuration window, do the following:

a)   In the Root Password field, enter the root password.

b)   In the Confirm Root Password, reenter the root password.

c)   From the Default Language drop-down list, choose a default language.

d)   From the Keyboard drop-down list, choose the type of keyboard layout.

e)   From the Time Zone drop-down list, choose the time zone.

Installation Partitions

To configure the installation partition settings, follow these steps:

Procedure

Step 1   Click **Installation Partitions** to open the corresponding window.

Step 2   In the Installation Partitions window, do the following:

a)   From the Select Disk drop-down list, choose a disk to create a logical partition.

b)   Click a disk name to view the corresponding partition details.
    The disk entry expands and displays the partition name, drive letter, file system, and the space used in MB.

c)   To edit a partition, do the following:

   • Choose a partition to edit and click **Edit.**

      Choose a partition to edit and click Edit.

   • In the Edit Partition dialog box, do the following:

      ◦ From the Drive Letter drop-down list, choose a drive.

      ◦ In the Size text field, enter the partition size.

Note The size cannot be more than the available disk space.

◦ From the File system drop-down list, choose a file system.

◦ Click **OK** to save your changes

d) To create a new partition, do the following

• Choose a free space and click **New.**

A Create Partition dialog box is displayed.

• In the Create Partition dialog box, do the following:

◦ From the Driver Letter drop-down list, choose a drive.

◦ In the Size field, edit the disk size.

Note The size cannot be more than the available disk space.

◦ From the File System drop-down list, choose a file system.

◦ Click **Ok.**

e) To remove a partition, do the following:

• Choose the partition to delete and click **Delete.**

The OS Install dialog box is displayed.

• Click **Yes** to delete the partition.

Note In the Red Hat Enterprise Linux, the Root and Swap partitions are necessary. If you do not specify their sizes during the partition process, the UCS-SCU generates an alert message and suggests an alternate partition solution. Accept it if you are not familiar with Linux partitions.

Package Selection

To configure the package selection settings, follow these steps:

Procedure

Step 1 Click **Package Selection** to open the corresponding window.

Step 2 Select all check boxes that apply.

Network Settings

The Network Settings allows you to enter the network configuration settings for the onboard network adapters that are detected by the operating system during installation. These settings do not affect the network settings for the CIMC. We recommend that you set different IP addresses for the operating system and CIMC. The network interface column lists each network adapter detected by the UCS-SCU. Your operating system may have a different name for the interface after you install the operating system.

To configure the network settings, follow these steps:

Procedure

Step 1   Click **Network Settings** to open the corresponding window.
The Network Settings window displays the link status of available network interfaces and the corresponding IP address, subnet mask, gateway, DNS, link status, vendor, type, and MAC address.

Step 2   In the Network Settings window, do the following:

   a)   In the Work Group or Network Domain area, choose one of the following options:

      • Select **No network** or **No domain** radio button when a network or domain does not need to be added. Enter a workgroup name in the Work Group Name field. The maximum limit is 20 characters.

      • Select the **Join this Domain** radio button and do the following:

         ◦ In the Domain Name text field, enter the name of the domain. The maximum limit is 20 characters.

         ◦ In the Domain Username, enter the user name of the domain. The maximum limit is 20 characters.

         ◦ In the Domain password, enter the password of the domain. The maximum limit is 20 characters

   b)   Select or deselect the **Enable Remote Access (RDP)** radio button for remote access settings.
   c)   Select or deselect the **Disable Firewall** radio button for firewall settings.
   d)   In the DNS Suffix/Domain field, specify the DNS suffix of the domain. The maximum limit is 25 characters.
   e)   In DNS Suffix Search Order 1 field, enter a DNS suffix search order. The maximum limit is 25 characters.
   f)   In the DNS Suffix Search Order 2 field, enter another DNS suffix search order. The maximum limit is 25 characters.
   g)   In the Proxy Address field, enter the IP address or name of the proxy server. The maximum limit is 30 characters.
   h)   In the Port field, enter the port number of the proxy server. The maximum limit is 5 characters.
   i)   Edit the Network Settings by doing the following:

      • Select a network interface and click **Edit**.

       The Network Settings dialog box displays.

      • Select IP Address from DHCP server or Static IP Address. If you select Static IP Address, do the following:

         ◦ In the IP Address field, enter the IPv4 address.

         ◦ In the Subnet Mask field, enter the subnet IPv4 address.

◦ In the Gateway field, enter the gateway IPv4 address.

◦ In the DNS field, enter the DNS IPv4 address.

◦ Click **OK**.

Installation Drivers

UCS-SCU displays all available drivers downloaded from the driver source. Deselect the drivers that you do not want to install. If you want to install an operating system on a RAID volume, select the driver for the appropriate RAID controller.

To configure the installation driver settings, follow these steps:

Procedure

Step 1 Click **Installation Drivers** to open the corresponding window

Step 2 Select the drivers that you want to install from the Choose Drivers to Install table.
If drivers are not available in the Choose Drivers to Install table, download the drivers using the Installation Drivers toolbar. To download the drivers, choose one of the following options

- Downloading from Cisco.com

- Downloading from SCU Boot Media

- Downloading from Network Share

- Downloading from USB