



# Unattended Installation of Red Hat Enterprise Linux 7 Operating System on Dell PowerEdge Servers Using iDRAC With Lifecycle Controller

*This Dell Technical White Paper describes the capabilities of Lifecycle Controller to install Red Hat Enterprise Linux 7 operating system in an unattended mode (by using an OS configuration file) on the Dell PowerEdge servers.*

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## Executive summary

Lifecycle Controller provides an infrastructure for installing operating systems on PowerEdge servers using Dell-supported driver packs. You can install operating systems in an unattended mode for both legacy BIOS and UEFI boot modes.

This white paper provides detailed information on installing the Red Hat Enterprise Linux 7 operating system in an unattended mode using Lifecycle Controller.



## Introduction

The **OS Deployment** feature available in Lifecycle Controller enables you to deploy standard and custom operating systems on the managed system. You can also configure RAID before installing the operating system if it is not already configured.

You can deploy the operating system using any of the following methods:

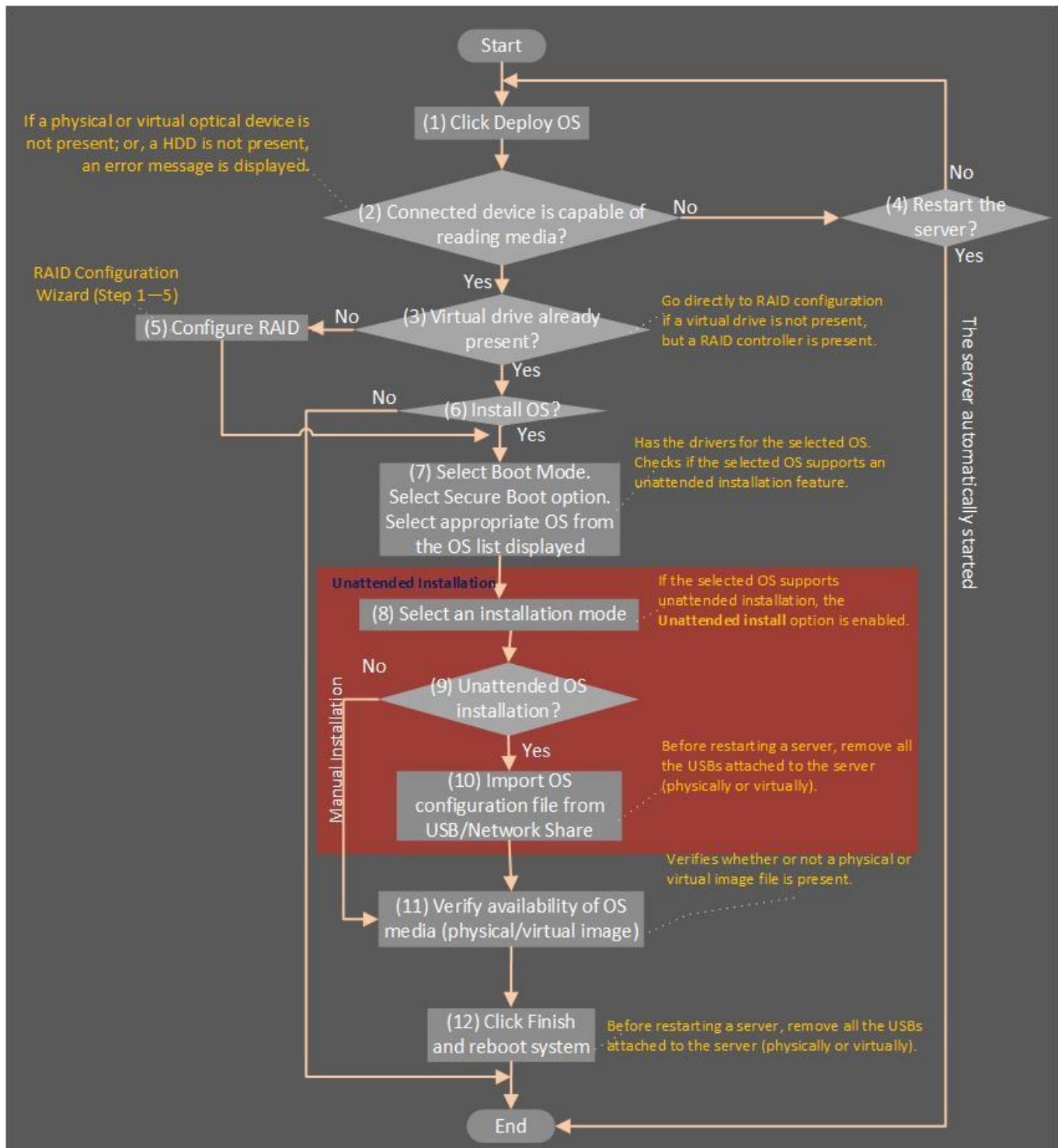
- Manual installation
- Unattended installation

The unattended installation feature requires an OS configuration or answer file. During unattended installation, the answer file is provided to the OS loader. This activity requires minimal or no user intervention. Currently, the unattended installation feature is supported only for Microsoft Windows and Red Hat Enterprise Linux 7 operating systems from Lifecycle Controller.

**Note:** This paper only covers unattended installation of Red Hat Enterprise Linux 7 operating system from Lifecycle Controller. For more information about unattended installation of Microsoft Windows operating systems, see the "Unattended Installation of Windows Operating Systems on Dell PowerEdge Servers by Using Lifecycle Controller" white paper available at the Dell TechCenter.



# 1 Unattended OS installation using Lifecycle Controller— process flow chart



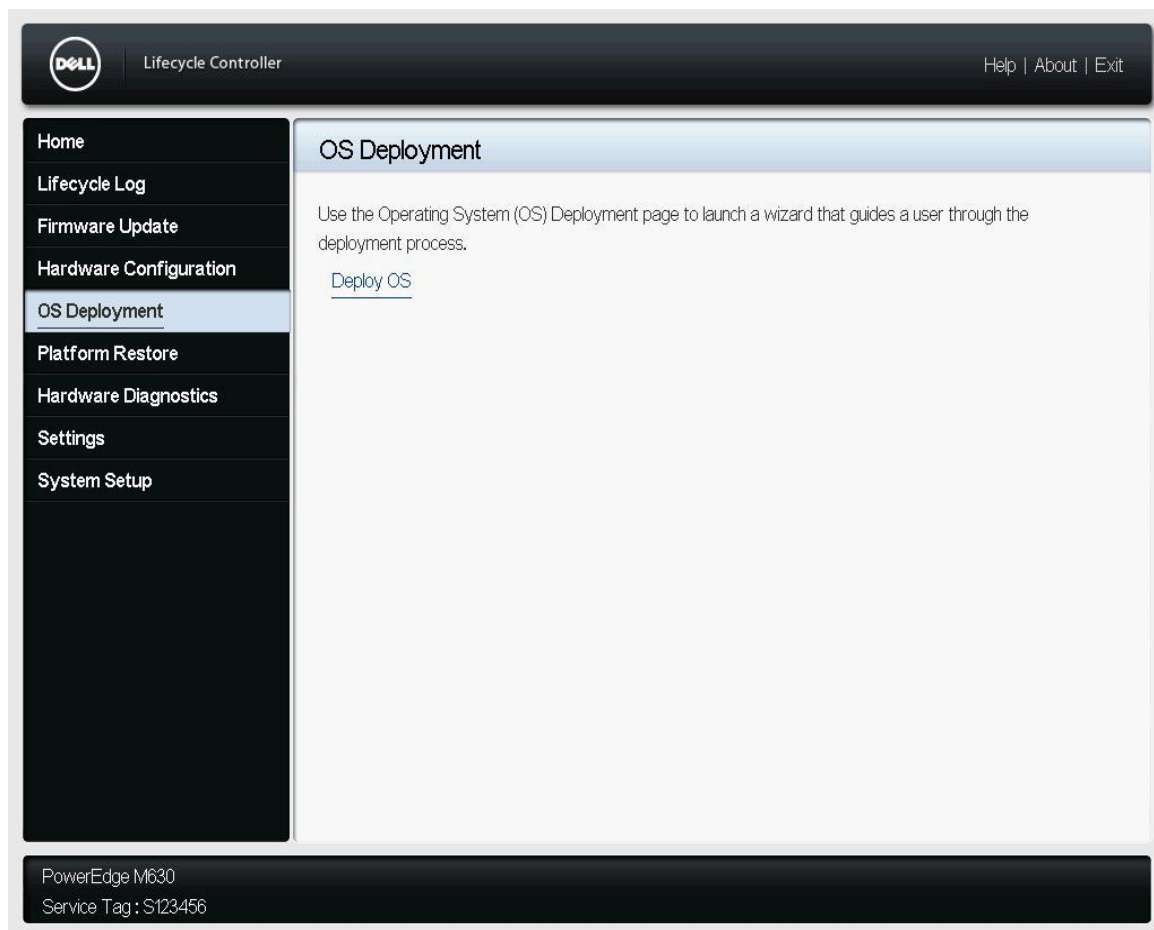
## 2 Unattended installation of an operating system

Before performing unattended OS installation, make sure that the following prerequisites are met:

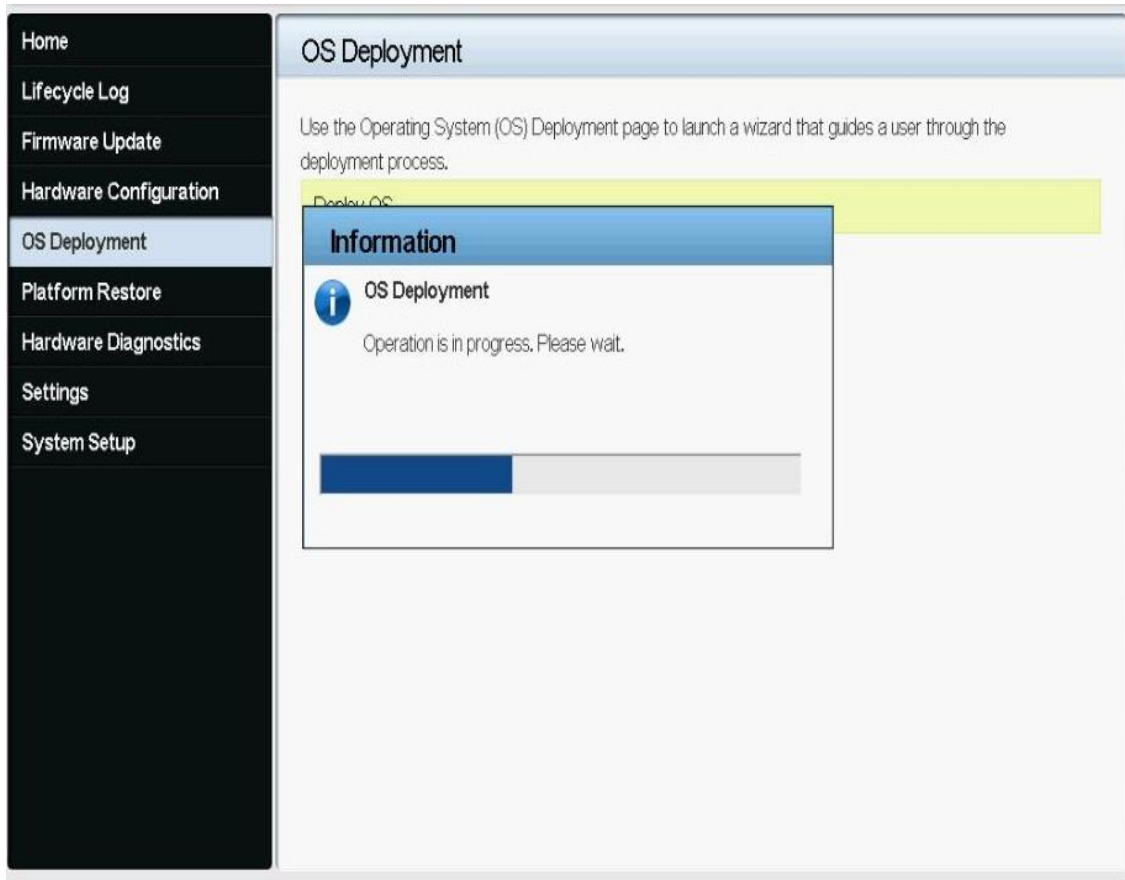
- OS configurations file (**ks.cfg** for Red Hat Enterprise Linux 7) is created. To create the operating system configurations file, see the [Annexure](#) section.
- OS configurations file is copied to a USB drive or network share (CIFS/ NFS) for Lifecycle Controller to import.
- Optical DVD drive with OS media is connected to the server, or a virtual disk (.ISO image) is attached to the server. For more information, see the [Attaching Virtual Media](#) section.
- Software RAID controller is enabled or PERC controller is installed, and a minimum number of hard-disk drives (HDDs) are available for creating a virtual disk. If the RAID is not already configured, then, the OS Deployment wizard in Lifecycle controller enables you to configure RAID before installing an OS.

To install an OS using the Unattended Install mode:

1. Press F10 during POST to launch Lifecycle Controller.
2. In the left pane, click **OS Deployment**.



3. In the right pane, click **Deploy OS**.  
OS deployment logic verifies whether an optical DVD drive is connected to the server or a virtual DVD drive is attached to the server. It also checks the presence of a virtual disk. It is recommended to have the necessary hard-disk drives in the system.





4. After clicking **Deploy OS**, if an optical DVD drive is connected or a virtual DVD is attached and virtual disk is already present, then the **Select Deployment path** page is displayed. If a virtual disk is already configured, select **Go Directly to OS Deployment**, and then click **Next**. Else, select **Configure RAID First**, and click **Next** to configure RAID or edit an existing virtual disk. For more information, see the [Configuring RAID](#) section in the white paper.

**Dell** Lifecycle Controller Help | About | Exit

**Select Deployment path**

- Select an Operating System
- Select Installation Mode
- Insert OS Media
- Reboot the System

**OS Deployment: Deploy OS**

Step 1 of 5: Select Deployment path

Select OS Deployment Path

☐ Configure RAID First

☒ Go Directly to OS Deployment

**i** RAID can be configured prior to OS Deployment; the current wizard will be restarted after the RAID wizard is completed.

Software storage controllers support only Microsoft Windows operating system installation.

PowerEdge M630  
Service Tag : S123456

Cancel Back Next

5. On the **Select an Operating System** page, select the following options.
- **Boot Mode** — Allows you to select the boot mode — **BIOS** or **UEFI**. The operating systems in the **Available Operating System** drop-down list box is populated based on the boot mode selected.

The screenshot displays the Dell Lifecycle Controller interface for OS deployment. The title bar shows the Dell logo and 'Lifecycle Controller' with links for 'Help | About | Exit'. The left sidebar lists navigation steps: 'Select Deployment path' (checked), 'Select an Operating System' (active), 'Select Installation Mode', 'Insert OS Media', and 'Reboot the System'. The main content area is titled 'OS Deployment: Deploy OS' and 'Step 2 of 5: Select an Operating System'. It instructs the user to 'Choose one of the supported boot modes for Operating System installation.' Under 'Boot Mode', 'BIOS' is selected with a radio button. Under 'Secure Boot', 'Disabled' is selected. The 'Secure Boot Policy' is set to 'Standard'. The 'Available Operating Systems' dropdown menu shows 'Microsoft Windows Server 2012'. An information box at the bottom states: 'The Secure Boot protocol applies to the UEFI boot mode. This feature will check for digitally signed OS drivers on every boot. UEFI secure boot mode supports certain Operating Systems versions.' The footer displays 'PowerEdge M630' and 'Service Tag: S123456' along with 'Cancel', 'Back', and 'Next' buttons.

- **Secure Boot** — Allows you to enable or disable the **Secure Boot** option. Click **Enabled** to secure the boot process if the drivers are signed with an authorized digital signature. This option is available only for the UEFI boot mode. For more information on Secure Boot, see "Enabling Secure Boot on Dell PowerEdge Servers" white paper.
- **Secure Boot Policy** — Displays the current setting of the policy in the BIOS.
  - You can change the **Secure Boot Policy** setting only in BIOS. To enter BIOS in the system setup, press **<F2>** during POST.
  - The **Secure Boot** and **Secure Boot Policy** options are available only on the Dell 13th generation PowerEdge servers and later.

- **Available Operating Systems** — Displays the list of operating systems depending on the boot mode selected. Select the operating system to install on the server.

**Note:**

- If you select **Any Other Operating System**, make sure that you prepare the drivers required for installing the operating system as no drivers are extracted from the internal memory.
- The list of Dell-supported OS changes based on the driver packs updated on the system. To update to a latest driver pack, see the [Updating Driver Pack](#) section.
- For Citrix and ESXi operating systems, it is recommended to use Dell-customized OS images.
- The software RAID controller supports installation of Windows operating system only.

6. Click **Next**. After clicking **Next**, the OS drivers for the selected OS are copied to a temporary drive (from which the OS installer picks up the drivers for auto installation). This process takes a few minutes to complete based on the drivers and their size.

Dell Lifecycle Controller

Help | About | Exit

Select Deployment path ✓

Select an Operating System

Select Installation Mode

Insert OS Media

Reboot the System

### OS Deployment: Deploy OS

#### Step 2 of 5: Select an Operating System

Choose one of the supported boot modes for Operating System installation.

**Boot Mode**

☐ BIOS ☒ UEFI

**Secure Boot**

☐ Enabled ☒ Disabled

Secure Boot Policy ..... Standard

**Available Operating Systems**

Red Hat Enterprise Linux 7.0 x64

**Note:** The Secure Boot protocol applies to the UEFI boot mode. This feature will check for digitally signed OS drivers on every boot. UEFI secure boot mode supports certain Operating Systems versions.

PowerEdge M630  
Service Tag: S123456

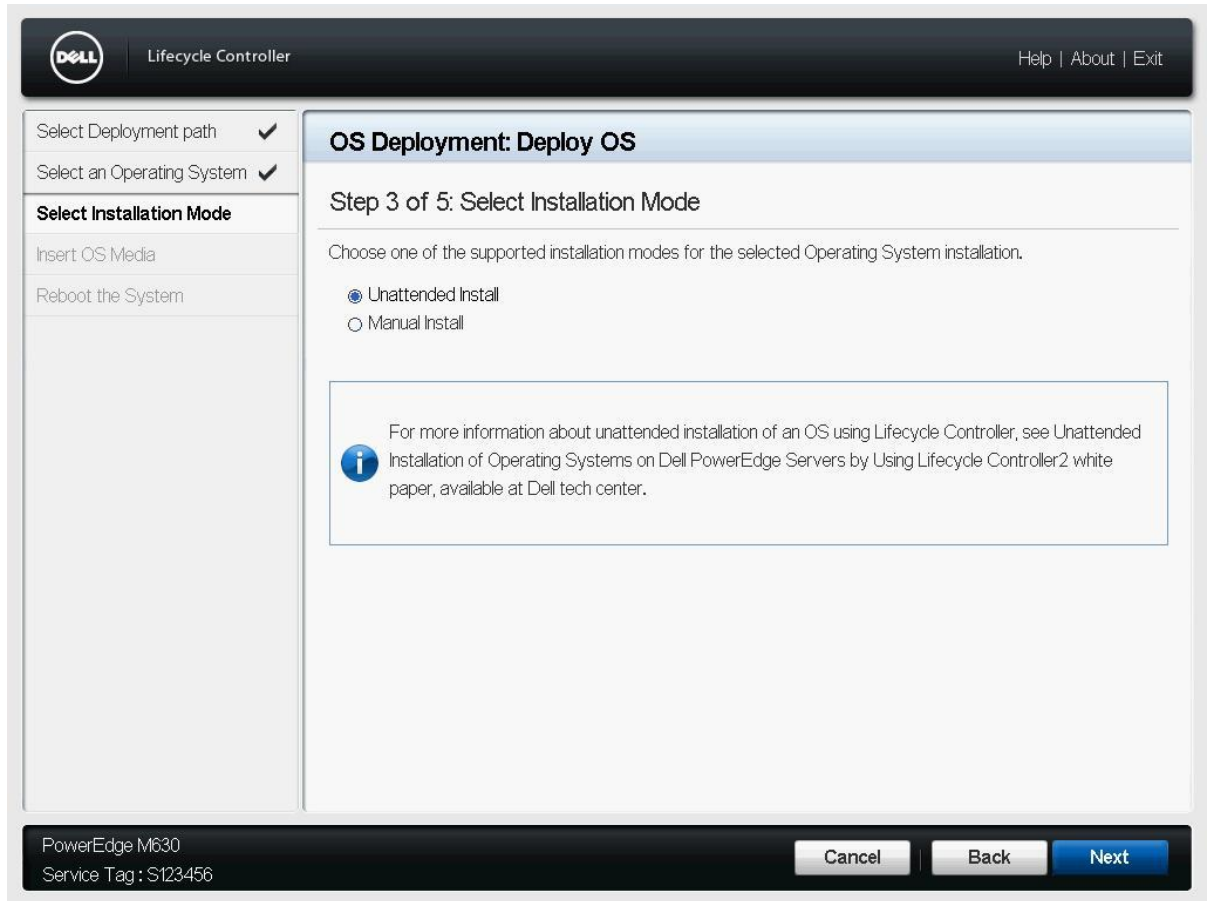
Cancel Back Next

7. On the **Select Installation Mode** page, select one of the supported installation modes for the selected OS Installation.

**Note:**

The **Unattended Install** option is enabled only if the operating system is compatible for an unattended installation. If the operating system is not compatible, the option is grayed out. Currently, Lifecycle Controller is limited to supporting unattended OS installation only for the Windows and Red Hat Enterprise Linux 7 operating system.





8. On the **Select Installation Mode** page, select either **USB drive** or **Network Share** to import the OS configuration file, and then click **Next**.

**Prerequisite:**

- a) OS configurations file (**ks.cfg** for RedHat 7) is created. To create Operating system configurations file, refer to the [Annexure](#) section.
- b) OS configurations file is copied to a USB drive or a Network share (CIFS/ NFS) for Lifecycle Controller to import.



After you click **Next**, a message is displayed as shown in the screen shot below. The OS configuration file is verified and copied to a temporary drive. The OS loader picks up the OS configuration file for an unattended OS installation from the temporary partition. If different versions of OS configuration files are stored in any of the attached USBs, the system may pick an incorrect file. To avoid incorrect selection of OS configuration file, ensure that you remove the incorrect configuration files or all the USB drives that are connected to the system.



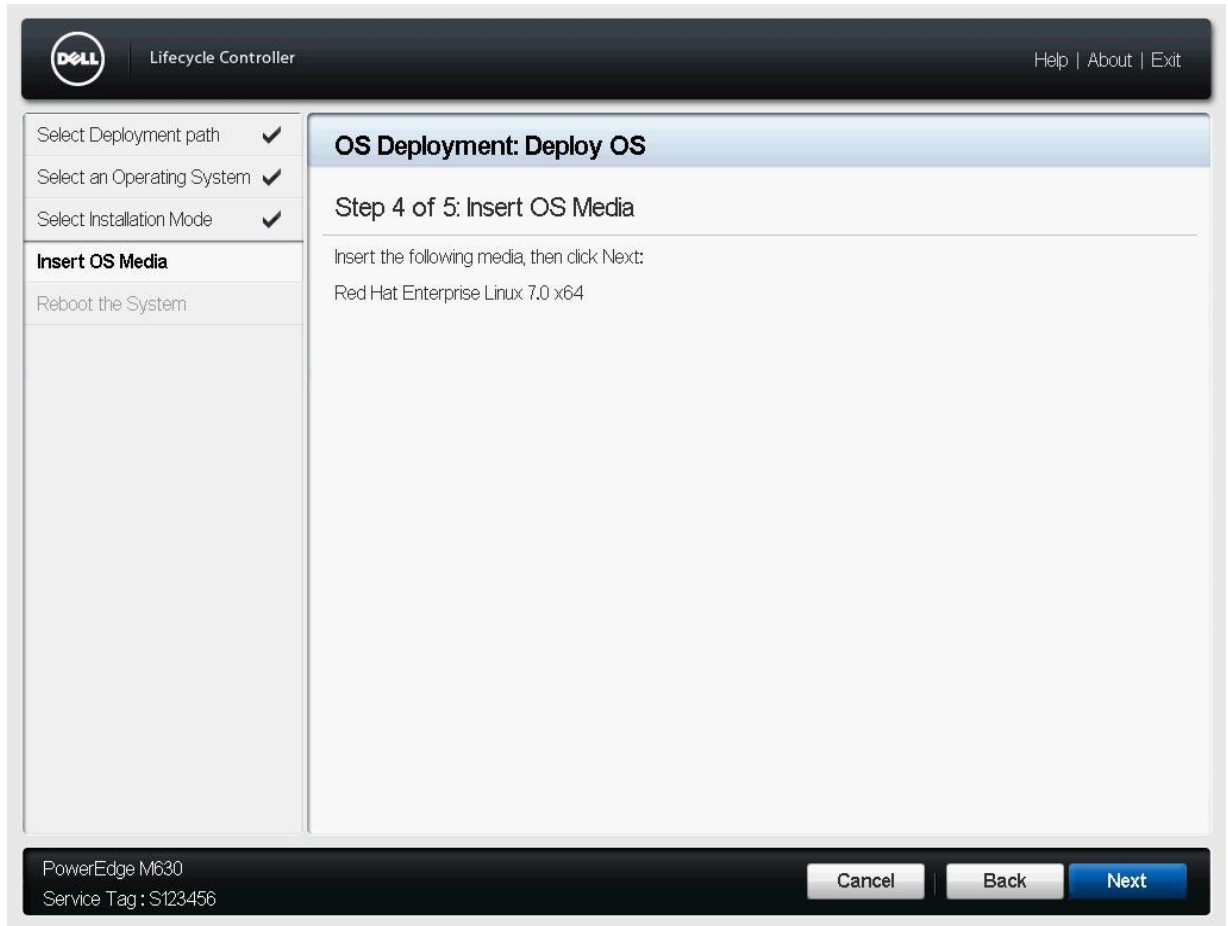
If an incorrect file path is entered, or if the file does not exist at the specified location, an error message is displayed.



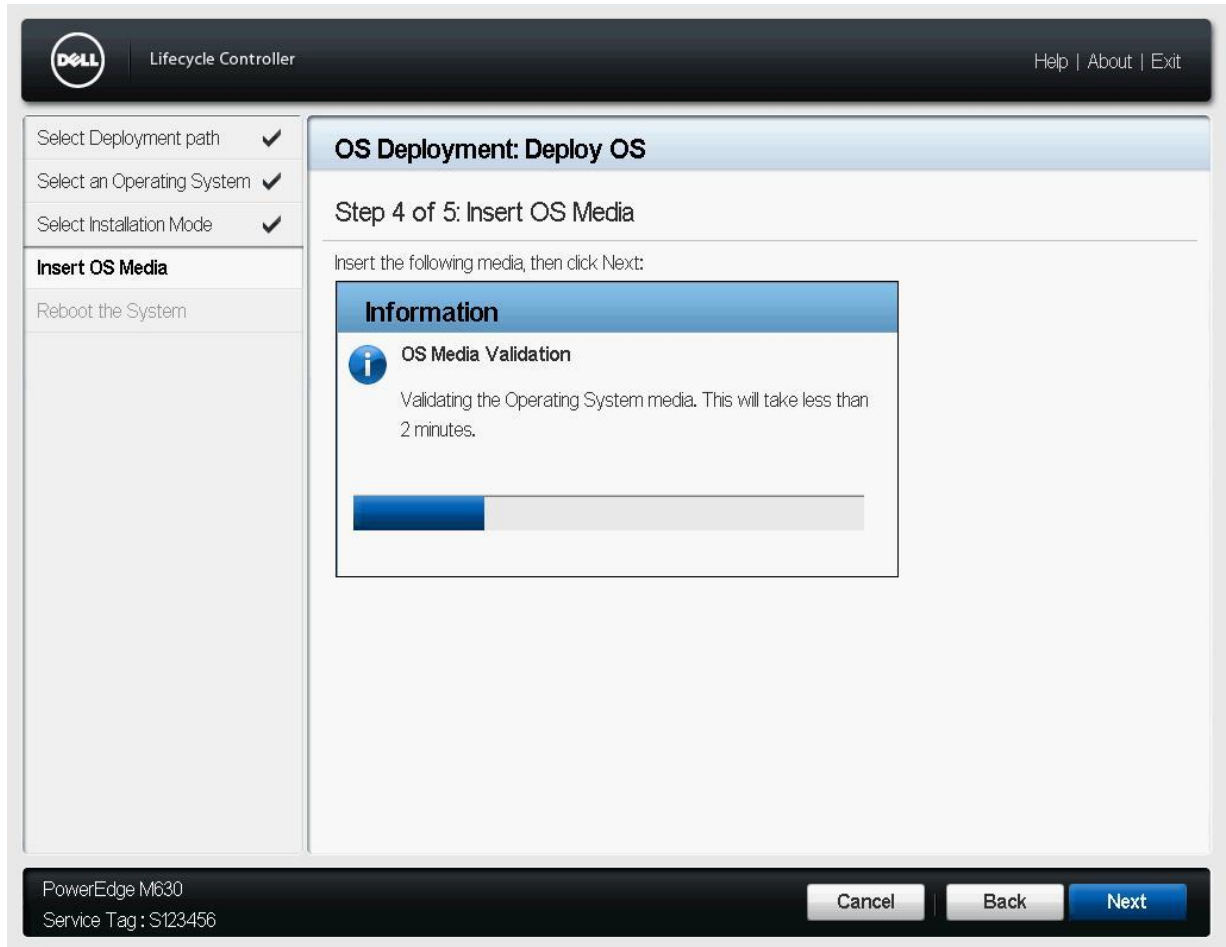
If an invalid OS configuration file is detected, a warning message is displayed. Make sure that the OS configuration file is valid and named as "ks.cfg".



9. On the **Insert OS Media** page, insert the operating system media, and then click **Next**.







If the inserted media is not compatible with the selected OS, the following warning message appears:

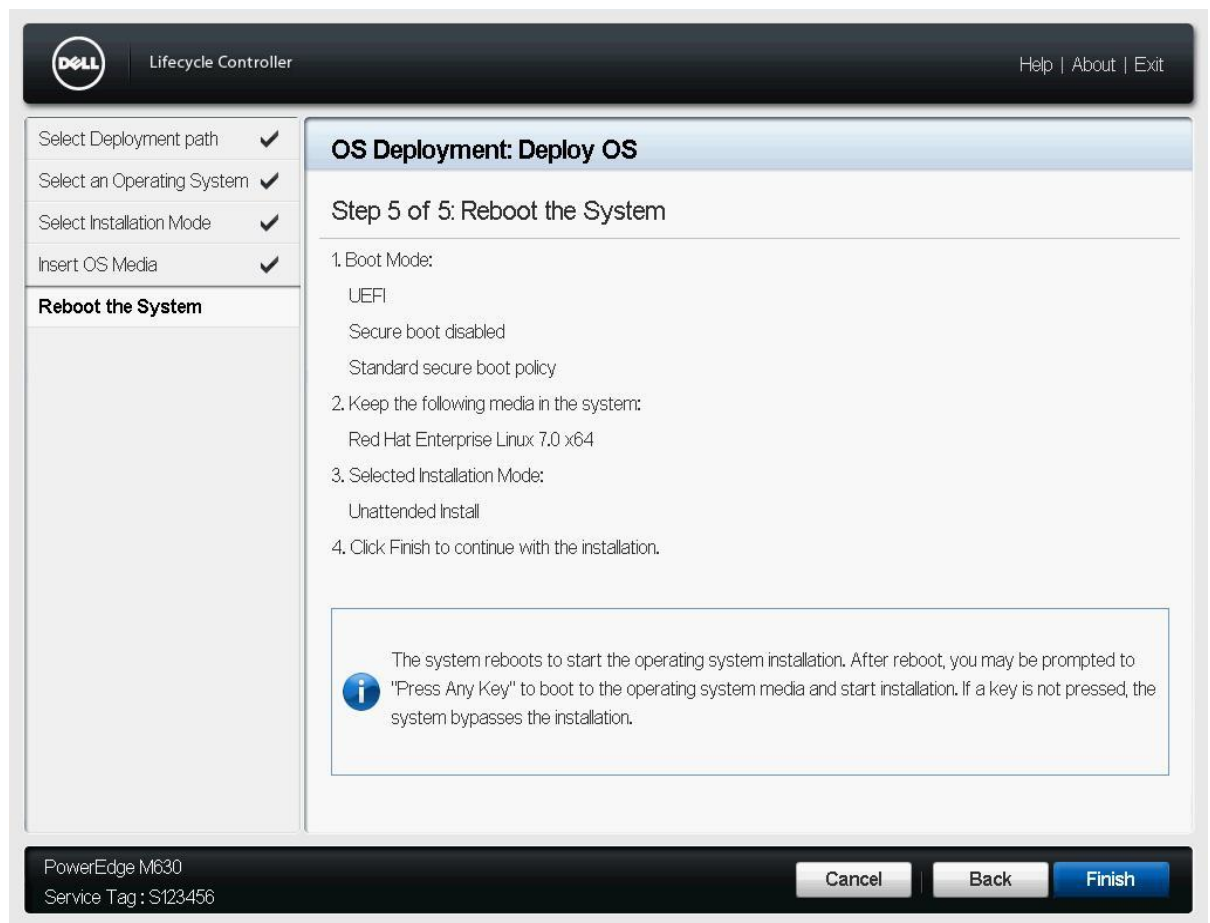


If the media is not present, the following warning message appears





10. On the **Reboot the System** page, click **Finish** to begin the unattended OS installation process. You must reboot the server for this process to begin.

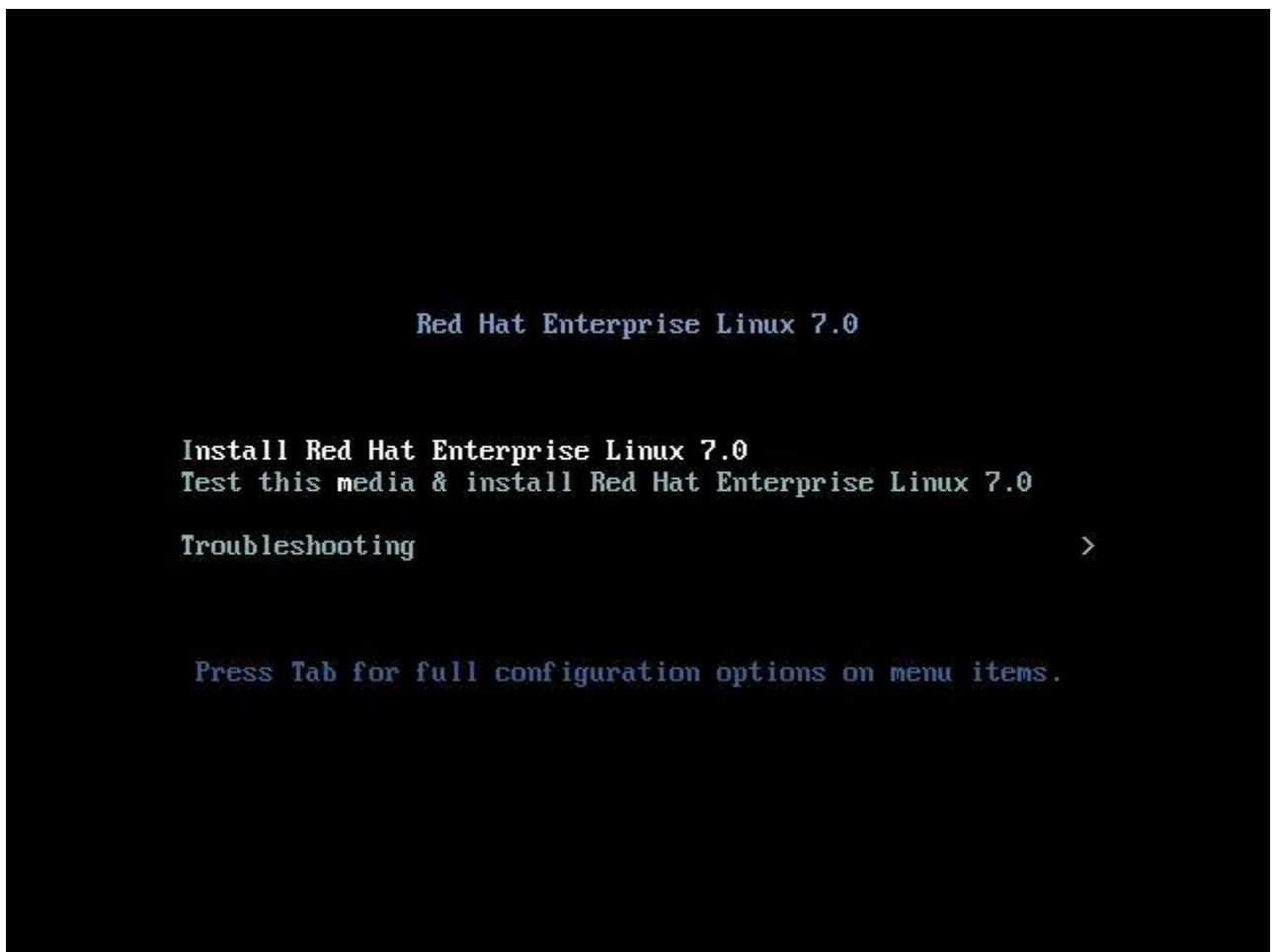


### 3 Provide OS configuration file path by editing the configuration option

Red Hat Enterprise Linux 7 does not support an auto pickup of the OS configuration file from OEMDRV. Hence, you must modify the command line configuration options to provide the OS configuration file path. The following sub sections provide details of the command line options which you must edit to install the Red Hat Enterprise Linux 7 operating system in UEFI or BIOS mode using the unattended install method.

#### 3.1 BIOS mode unattended OS installation

1. After clicking **Finish** on the **Reboot the System** page, the system reboots and directs you to the following screen. Press "Tab" to view the full configuration options.



2. In the screen that appears, delete `quiet`.



```
Red Hat Enterprise Linux 7.0

Install Red Hat Enterprise Linux 7.0
Test this media & install Red Hat Enterprise Linux 7.0
Troubleshooting >

> vmlinuz initrd=initrd.img inst.stage2=hd:LABEL=RHEL-7.0\x20Server.x86_64 qui
et_
```

3. Add `usbcore.autosuspend=-1` to the command.

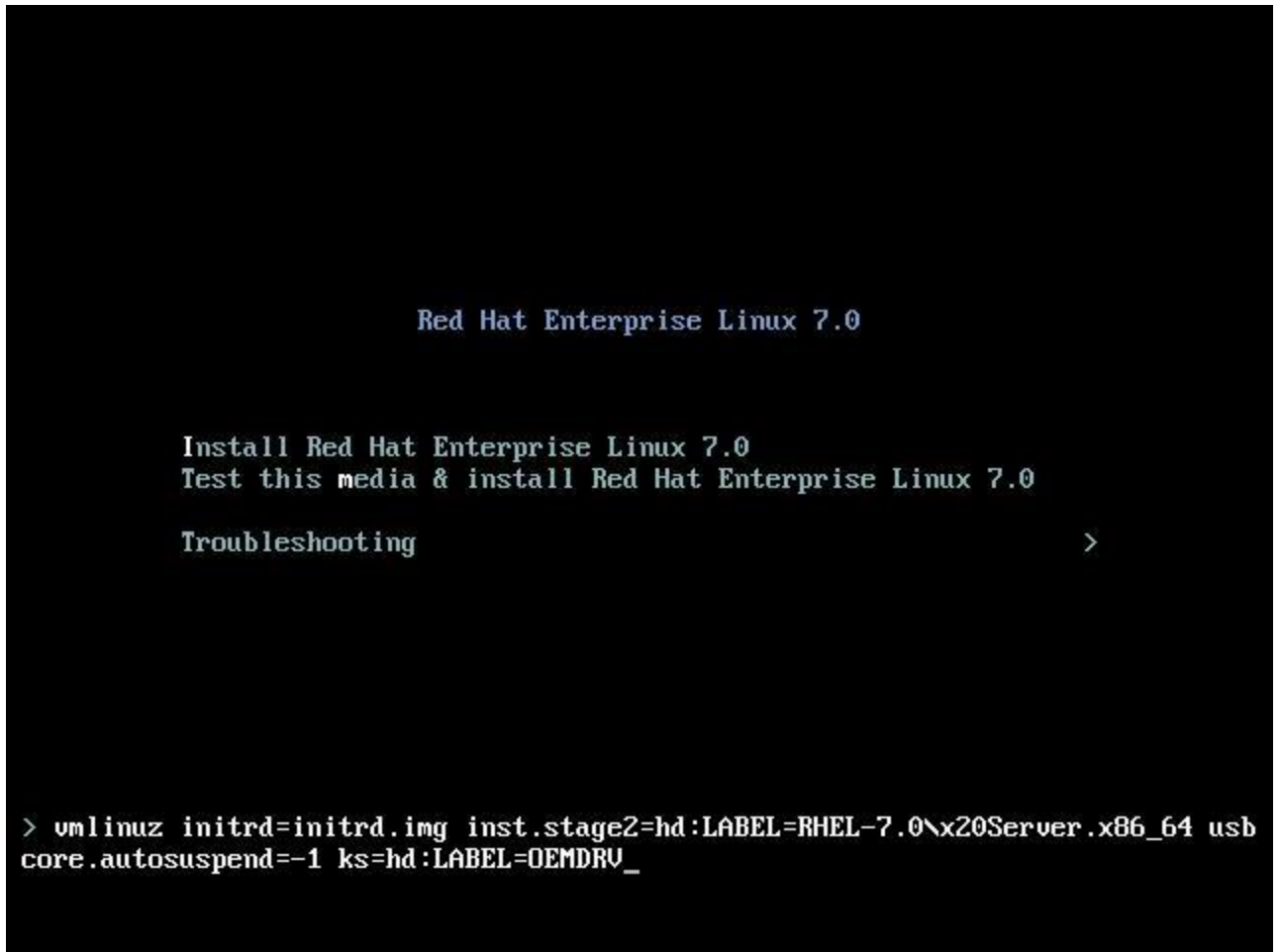
**Note:** You must add this command only if you are using the iDRAC virtual console.





4. Add `ks=hd:LABEL=OEMDRV` to the command.



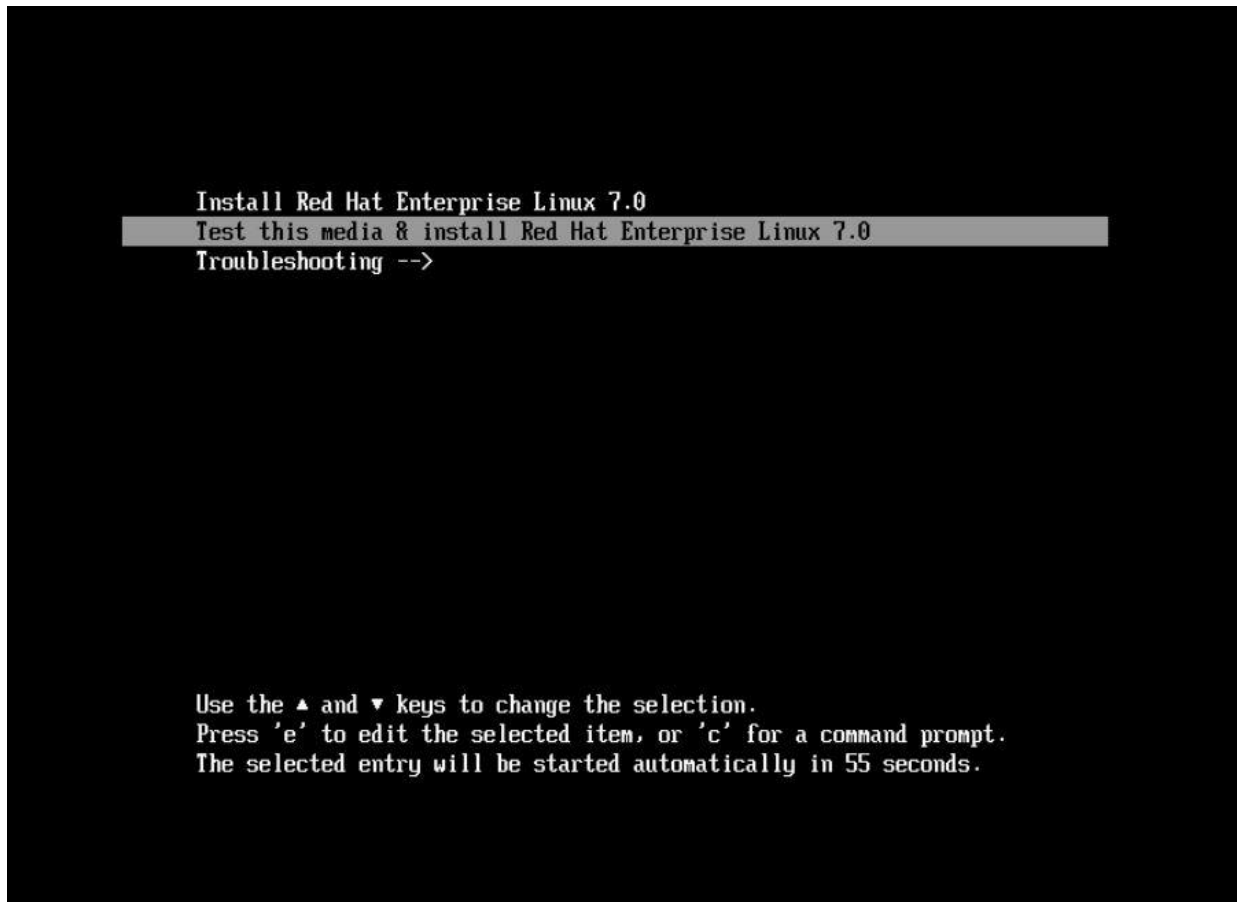


5. Press **Enter** to start the unattended OS installation process.



## 3.2 UEFI mode unattended OS installation

1. After clicking **Finish** on the **Reboot the System** page of LC-UI, the system reboots and directs you to the following screen. Press **e** to view the full configuration options.



2. In the screen that appears, delete `quiet` and `rhgb` (if available).



```
setparams 'Test this media & install Red Hat Enterprise Linux 7.0'

linuxefi /images/pxeboot/vmlinuz inst.stage2=hd:LABEL=RHEL-7.0\x20Serv\
er.x86_64 rd.live.check _
initrdefi /images/pxeboot/initrd.img
```

Press Ctrl-x to start, Ctrl-c for a command prompt or Escape to  
discard edits and return to the menu. Pressing Tab lists  
possible completions.





3. "usbcore.autosuspend=-1" (Required only if you are doing this over iDRAC virtual console). Append "ks=hd:LABEL=OEMDRV" (Always required).

```
setparams 'Test this media & install Red Hat Enterprise Linux 7.0'

linuxefi /images/pxeboot/vmlinuz inst.stage2=hd:LABEL=RHEL-7.0\x20Serv\
er.x86_64 rd.live.check usbcore.autosuspend=-1 ks=hd:LABEL=OEMDRV_
initrdefi /images/pxeboot/initrd.img
```

Press Ctrl-x to start, Ctrl-c for a command prompt or Escape to discard edits and return to the menu. Pressing Tab lists possible completions.

4. Press **F10** or **Ctrl X** to start the unattended OS installation. color of the text is blue.



## 4 Supported operating systems

Lifecycle Controller supports all the popular operating systems in the industry. The list of the supported operating systems depend on the driver pack installed on the server. To get the latest supported OS list, update the latest Lifecycle Controller OS driver packs using the **Firmware Update** feature of Lifecycle Controller.

When installing an OS using Lifecycle Controller, OS Deployment extracts the OS drivers of the selected OS from the driver pack and copies them to a temporary folder location on the server. OS loader gets the drivers from this temporary location while installing the OS. This temporary location is deleted:

- After an 18-hour period
- When Lifecycle Controller is started
- When an AC power cycle is performed

**Note:** Lifecycle Controller has embedded drivers that are factory-installed. To get the latest supported OS list or latest Lifecycle Controller OS driver packs, update the latest Lifecycle Controller OS driver packs using the Firmware Update feature of Lifecycle Controller. The latest Lifecycle Controller driver packs are available on [dell.com/support](http://dell.com/support).

### 4.1 Configuring RAID

To configure a RAID:

1. In the left pane of Lifecycle Controller, click **OS Deployment**.
2. Click **Deploy OS** in the right pane.
3. Select the **Configure RAID First** option and click **Next**. The RAID Configuration page is launched and displays the available storage controllers for configuration.
4. Select a storage controller and click **Next**. The supported RAID levels are displayed on the basis of hard drives available and the capability of the selected RAID controller.
5. Select the appropriate RAID level, click **Next** to complete RAID configuration wizard. After the RAID configuration is applied to the hard disk drives, the OS list page (**Step 2 of 6: Select an Operating System**) is displayed after the RAID is created. For more information about RAID configuration, refer white paper "Creating RAID Using Lifecycle Controller".

### 4.2 Updating Driver Pack

To update the driver pack:

1. On the Lifecycle Controller home page, click **Settings-> Network Settings**.
2. Set the appropriate network properties, and then click **Finish**.

To get the latest driver packs, update the Lifecycle Controller OS driver packs using the Firmware Update feature of Lifecycle Controller. The latest driver packs are available on [ftp.dell.com](http://ftp.dell.com) or [dell.com/support](http://dell.com/support).



For more information about updating a driver pack, see Lifecycle Controller User's Guide available at [dell.com/support/home](http://dell.com/support/home), or the *Lifecycle Controller Platform Update in Dell PowerEdge 12th Generation Servers* white paper at the Dell TechCenter.

## 4.3 Selecting an operating system not available in the List

To install an operating system that is not available in the list:

1. Start Lifecycle Controller. on the **Step 2 of 5: Select an Operating System** page, select the option **Any Other Operating System** and click **Next**.
2. Provide the required drivers for installing an OS, because the drivers are not extracted from the embedded driver pack.
3. Insert the OS installation media, and then click **Next**.

**NOTE:** Lifecycle Controller does not validate the media if **Any Other Operating System** option is selected.

4. Click **Finish** to reboot the system.

## 4.4 Attaching virtual media

To attach a virtual media:

1. Start virtual console from the iDRAC GUI and attach the virtual media.
2. To add an ISO image, click **Add Image**, and then select the image file from the management station. The ISO image is displayed as an available device.
3. To add a folder that has the ISO image, click **Add Folder as Image**.

**Note:** For more information about attaching a virtual media, see the *iDRAC User's Guide* available at [dell.com/support/home](http://dell.com/support/home).

## Conclusion

Using the unattended OS deployment feature in Lifecycle Controller you can install an OS with minimal manual intervention which results in reducing the number of errors that may occur during an OS installation process.



## Annexure

The Red Hat Kickstart installation method is used primarily (but not exclusively) by the Red Hat Enterprise Linux operating system to automatically perform unattended operating system installation and configuration. Kickstart is normally used to allow easy installation and consistent configuration of new computer systems.

Kickstart configuration files can be built-in three ways:

- . Manual creation of ks.cfg file.
- . By using the GUI system-config-kickstart tool.
- . By using the standard Red Hat installation program Anaconda.

**Note:** The following description of creating an OS configurations files (ks.cfg) is derived from the information available on the Internet. The details provided below covers only one of the use-cases to create an OS configurations files and does not cover all the configuration parameters.



## 5 Creating an OS configuration file

Kickstart configuration files can be built in three ways.

### 5.1 Manual creation of OS configuration file

The following is an example of the kickstart option. You can get more detailed information on available options from Reference 2 & Reference 3.

#### a. Installation Option Section:

The first part of a Kickstart file defines the installation options and their associated values, and it defines how to configure the system storage, for example:

```
#platform=x86, AMD64, or Intel EM64T
#version=DEVEL
# Firewall configuration
firewall --enabled --service=ssh
# Install OS instead of upgrade
install
# Use CDROM installation media
cdrom
repo --name="Oracle Linux Server" --baseurl=cdrom:sr0 --cost=100
# System authorization information
auth --useshadow --passalgo=sha512
# Root password
rootpw --iscrypted SHA512_password_hash
# Use graphical install
graphical
firstboot --disable
# System keyboard
keyboard us
# System language
lang en_US
# SELinux configuration
selinux --enforcing
# Installation logging level
logging --level=info
# System timezone
timezone America/Los_Angeles
# Network information
network --bootproto=dhcp --device=eth0 --onboot=on
# System bootloader configuration
bootloader --append="rhgb crashkernel=auto quiet" --location=mbr --driveorder="sda"
# Non-administrative user
user --name=user --homedir=/home/user --password=SHA512_password_hash --iscrypted
# Partition information
clearpart --all --drives=sda
part /boot --fstype=ext4 --size=500
part pv.008002 --grow --size=1
volgroup vg_hostname --pesize=4096 pv.008002
logvol / --fstype=ext4 --name=lv_root --vgname=vg_hostname --grow --size=1024 --maxsize=51200
logvol swap --name=lv_swap --vgname=vg_hostname --grow --size=2016 --maxsize=4032
```

#### b. Package Section:



The %packages section defines the packages to be installed on the system, for example:

```
%packages
@base
@client-mgmt-tools
@core
@debugging
@basic-desktop
@desktop-debugging
@desktop-platform
@directory-client
@general-desktop
@graphical-admin-tools
@identity-management-server
@input-methods
@internet-browser
@java-platform
@legacy-x
@network-file-system-client
@network-tools
@perl-runtime
@print-client
@remote-desktop-clients
@security-tools
@server-platform
@server-policy
@system-admin-tools
@x11
mttools
pax
python-dmidecode
oddjob
wodim
sgpio
genisoimage
device-mapper-persistent-data
abrt-gui
samba-winbind
certmonger
openldap-clients
pam_krb5
krb5-workstation
ldapjdk
slapi-nis
libXmu
perl-DBD-SQLite
perl-Mozilla-LDAP
%end
```

## 5.2 Using the GUI system-config-kickstart tool

Kickstart Configurator allows you to create or modify a kickstart file using a graphical user interface, so that you do not have to remember the correct syntax of the file. To install Kickstart Configurator run `su - yum install system-config-kickstart` or use your graphical package manager to install the software.

To launch Kickstart Configurator, boot your system into a graphical environment, then run `system-config-kickstart`, or click **Applications** → **System Tools** → **Kickstart** on the GNOME desktop or Kickoff Application



**Launcher+Applications** → **System** → **Kickstart** on the KDE desktop. As you are creating a kickstart file, you can click **File** → **Preview** at any time to review your current selections. To start with an existing kickstart file, select **File** → **Open** and select the existing file.

To get the detailed information on how to use Kickstart Configurator, see Reference 5 to Reference 16.

## 5.3 By using the standard Red Hat installation program Anaconda

Anaconda will produce an `anaconda-ks.cfg` configuration file at the end of any manual installation. This file can be used to automatically reproduce the same installation or edited (manually or with `system-config-kickstart`). File can be found in `/root` directory or `/root/Anaconda` directory.



## Further references

1. Unattended Kickstart (Linux): [http://en.wikipedia.org/wiki/Kickstart\\_\(Linux\)](http://en.wikipedia.org/wiki/Kickstart_(Linux))
2. Creating a Kickstart File: [http://docs.oracle.com/cd/E37670\\_01/E41137/html/ch03s01.html](http://docs.oracle.com/cd/E37670_01/E41137/html/ch03s01.html)
3. Kickstart Options: [https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-kickstart2-options.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-kickstart2-options.html)
4. Starting a Kickstart Installation: [https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-kickstart2-startinginstall.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-kickstart2-startinginstall.html)
5. Kickstart Configurator (Basic Configuration): [https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/ch-redhat-config-kickstart.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/ch-redhat-config-kickstart.html)
6. Kickstart Configurator (Installation Method):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-install.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-install.html)
7. Kickstart Configurator (Boot Loader Options): [https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-bootloader.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-bootloader.html)
8. Kickstart Configurator (Partition Information):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-partitions.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-partitions.html)
9. Kickstart Configurator (Network Configuration):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-network.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-network.html)
10. Kickstart Configurator (Authentication):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-auth.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-auth.html)
11. Kickstart Configurator (Firewall Configuration):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-firewall.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-firewall.html)
12. Kickstart Configurator (Display Configuration):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-xconfig.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-xconfig.html)
13. Kickstart Configurator (Package Selection):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-pkgs.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-pkgs.html)
14. Kickstart Configurator (Pre-Installation Script):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-prescript.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-prescript.html)
15. Kickstart Configurator (Post-Installation Script):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-postinstall.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-postinstall.html)
16. Kickstart Configurator (Saving the File):  
[https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Installation\\_Guide/s1-redhat-config-kickstart-savefile.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Installation_Guide/s1-redhat-config-kickstart-savefile.html)

