

# Instalación de RHEL en un servidor UCS C240 M5 independiente.

## Contenido

[Introducción](#)

[Configuración utilizada](#)

[Prerequisites](#)

[Procedimiento](#)

### Introducción

En este artículo se describe el procedimiento para instalar RHEL en la configuración RAID local en un servidor UCSC C240 M5 independiente.

### Configuración utilizada

UCSC-C240-M5L  
Controlador RAID: HBA SAS 12G de Cisco (UCSC-SAS-M5)  
4000 HDD del sector  
CIMC: 3.1(3 bis)  
OS: RHEL 7.3

### Prerequisites

1. Descargue RHEL ISO y Controller Driver ISO:

RHEL: rhel-server-7.3-x86\_64-boot.iso

ISO del controlador: [ucs-cxxx-drivers-linux.3.1.3.iso](#)

(En la norma ISO, vaya a Almacenamiento -> LS -> UCSC-SAS-M5 -> RHEL -> RHEL7.3 -> mpt3sas-23.00.00.00\_el7.3-1.x86\_64.iso.gz )

2. Si extrae el archivo mpt3sas-23.00.00.00\_el7.3-1.x86\_64.iso.gz, obtendrá el controlador ISO -> mpt3sas-23.00.00.00\_el7.3-1.x86\_64.iso

3. Del mismo modo, si utiliza un controlador UCSC-RAID-M5 en el servidor, puede desplazarse hasta el controlador correspondiente.

### Procedimiento

Paso 1. Dado que el servidor cuenta con 400 unidades de sector, haremos un arranque UEFI. El orden de arranque debe verse de la siguiente manera:

Cisco Integrated Management Controller

Compute / BIOS

BIOS Remote Management Troubleshooting Power Policies PID Catalog

Enter BIOS Setup | Clear BIOS CMOS | Restore Manufacturing Custom Settings | Restore Defaults

Configure BIOS Configure Boot Order **Configure BIOS Profile**

BIOS Properties

Running Version C240M5.3.1.3d.0.0312180914

UEFI Secure Boot

Actual Boot Mode Uefi

Configured Boot Mode UEFI

Last Configured Boot Order Source CIMC

Configured One time boot device

Save Changes

Configured Boot Devices

- Basic
- Advanced
  - localCD
  - UEFI

Actual Boot Devices

- UEFI: Built-in EFI Shell (UEFI)
- UEFI: PXE IP4 Intel(R) Ethernet Controller X550 (NonPolicyTarget)
- UEFI: PXE IP4 Intel(R) Ethernet Controller X550 (NonPolicyTarget)
- UEFI: Cisco vKVM-Mapped vDVD1.24 (NonPolicyTarget)

Paso 2. Abra el KVM y mapee el RHEL ISO:

Cisco Virtual KVM Console

File View Macros Tools Power Boot Device **Virtual Media** Help

- Create Image
- Activate Virtual Devices
- rhel-server-7.3-x86\_64-boot.iso Mapped to CD/DVD
- Map Removable Disk ...
- Map Floppy ...

Please select boot device:

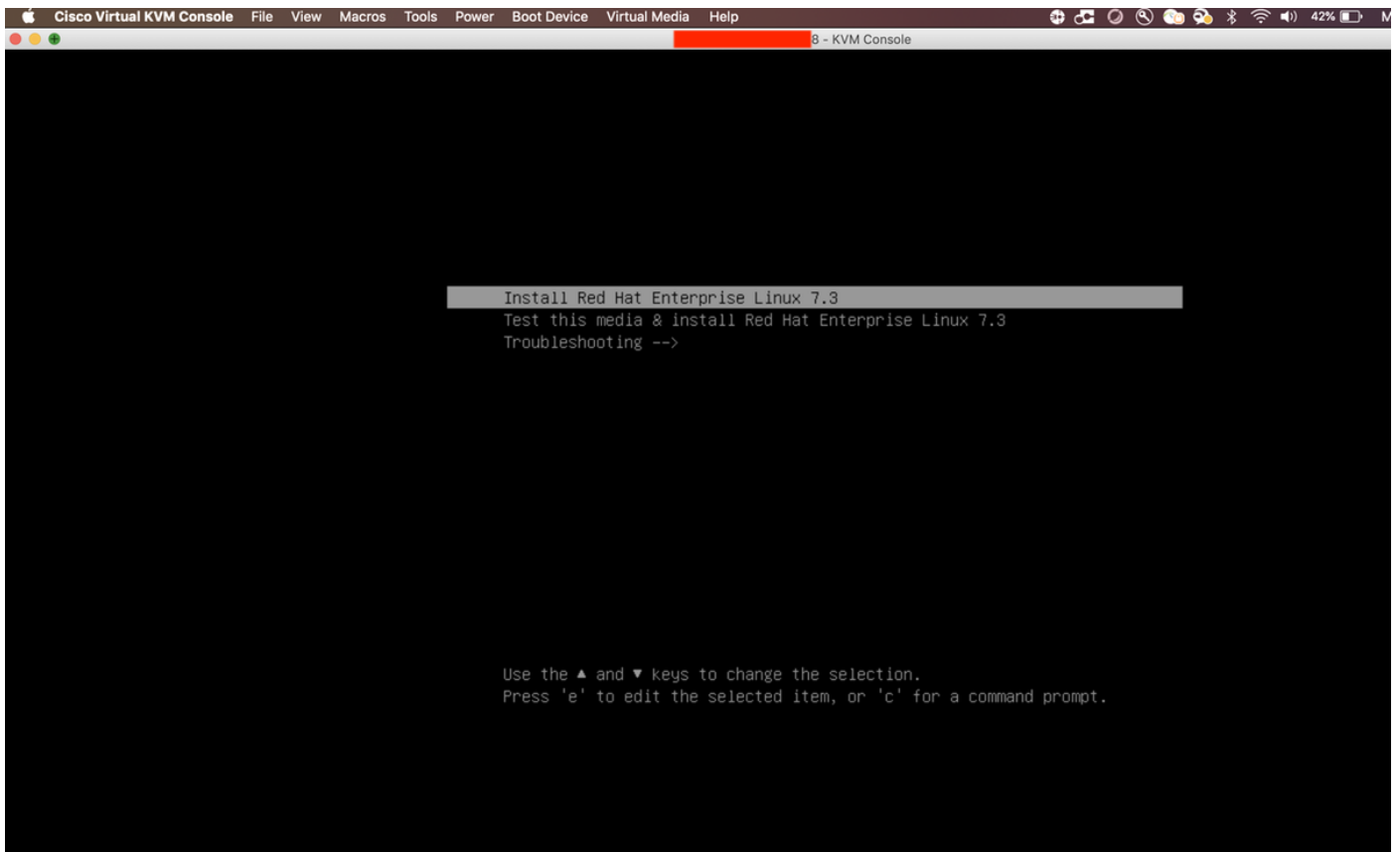
```

UEFI: Built-in EFI Shell
UEFI: PXE IP4 Intel(R) Ethernet Controller X550
UEFI: PXE IP4 Intel(R) Ethernet Controller X550
UEFI: Cisco vKVM-Mapped vDVD1.24
Enter Setup
  
```

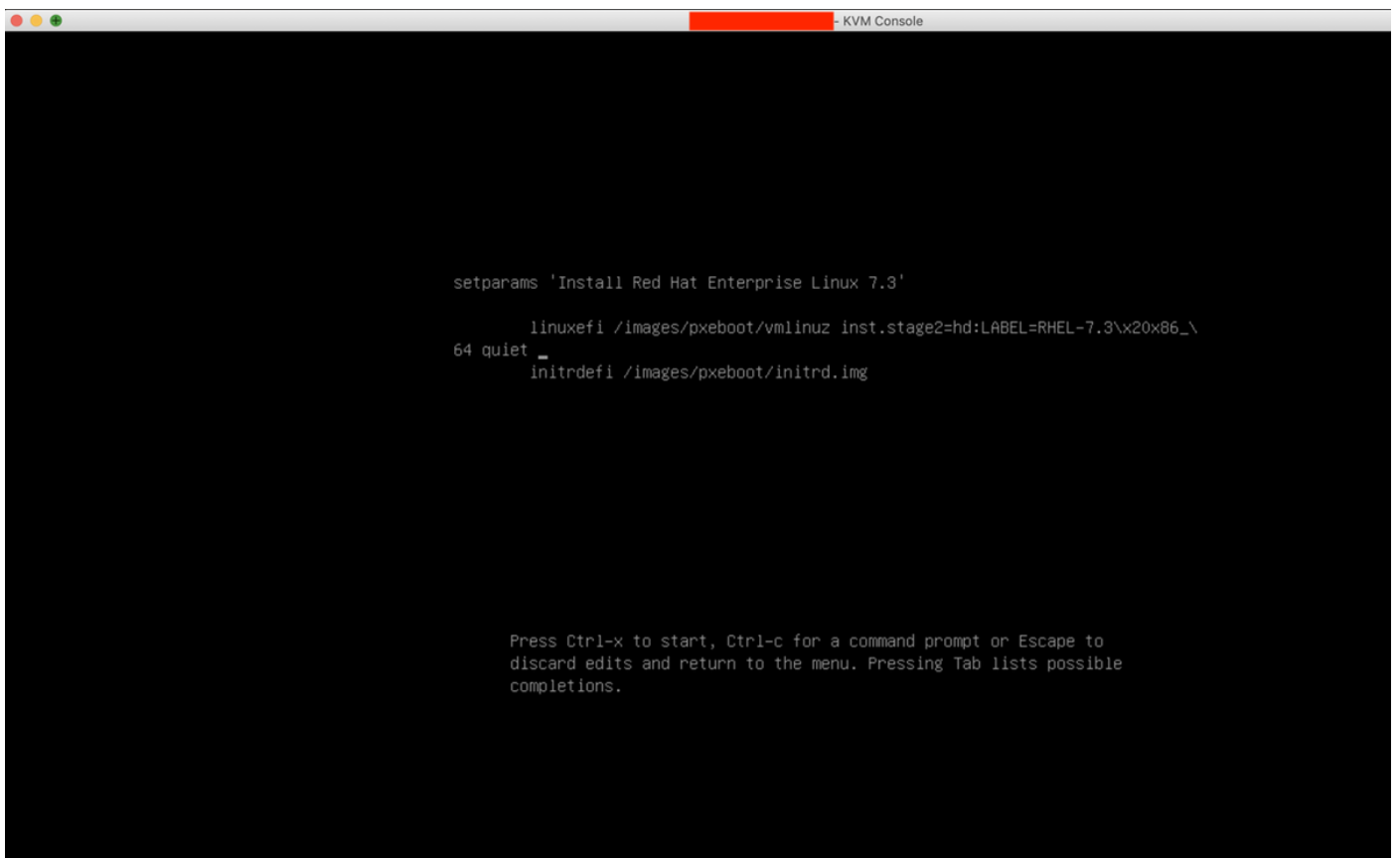
↑ and ↓ to move selection  
 ENTER to select boot device  
 ESC to boot using defaults

Paso 3. Presione F6 y arranque desde la UEFI: vDVD1.24 asignado por Cisco vKVM

Paso 4. Seleccione la opción "Instalar Red Hat Enterprise Linux 7.3" y pulse 'e'



Paso 5. Verá la siguiente pantalla:



Paso 6. Ingrese el comando "linux dd" y haga una Ctrl + x

```
setparams 'Install Red Hat Enterprise Linux 7.3'

linuxefi /images/pxeboot/vmlinuz inst.stage2=hd:LABEL=RHEL-7.3\x20x86_\
64 quiet linux dd_
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.
```

Paso 7. El comando anterior iniciará el modo interactivo:

```
[ 18.162151] i8042: Can't read CTR while initializing i8042
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
Starting Open-iscsi...
[ OK ] Started Open-iscsi.
Starting dracut initqueue hook...
[ 22.750254] nouveau 0000:60:00.0: priv: HUB0: 10ecc0 ffffffff (1e40822c)
[ 22.824043] nouveau 0000:60:00.0: DRM: Pointer to TMD5 table invalid
[ 22.824060] nouveau 0000:60:00.0: DRM: Pointer to flat panel table invalid
[ 23.399372] nouveau 0000:61:00.0: priv: HUB0: 10ecc0 ffffffff (1e40822c)
[ 23.463012] nouveau 0000:61:00.0: DRM: Pointer to TMD5 table invalid
[ 23.463029] nouveau 0000:61:00.0: DRM: Pointer to flat panel table invalid
[ 24.037598] nouveau 0000:62:00.0: priv: HUB0: 10ecc0 ffffffff (1e40822c)
[ 24.101383] nouveau 0000:62:00.0: DRM: Pointer to TMD5 table invalid
[ 24.101400] nouveau 0000:62:00.0: DRM: Pointer to flat panel table invalid
[ 24.676850] nouveau 0000:63:00.0: priv: HUB0: 10ecc0 ffffffff (1e40822c)
[ 24.740881] nouveau 0000:63:00.0: DRM: Pointer to TMD5 table invalid
[ 24.740897] nouveau 0000:63:00.0: DRM: Pointer to flat panel table invalid
[ OK ] Created slice system-driver\x2dupdates.slice.
Starting Driver Update Disk UI on tty1...
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
Starting Open-iscsi...
[ OK ] Started Open-iscsi.
Starting dracut initqueue hook...
[ OK ] Created slice system-driver\x2dupdates.slice.
Starting Driver Update Disk UI on tty1...
DD: starting interactive mode

(Page 1 of 1) Driver disk device selection
#DEVICE TYPE LABEL UUID
1) sda1 ufat ESXi 591C-E3E2
2) sda2 ufat 4C6C-A2D4
3) sda3 UMFS uol 5aa6e18d-304835ba-1711-4c776d996e2c
4) sda5 ufat 4C6C-A2CA
5) sda6 ufat 4C6C-A2CD
6) sda8 ufat 4C6C-A2C8
7) sr0 iso9660 RHEL-7.3\x20x86_64 2016-10-19-17-41-40-00
# to select, 'r'-refresh, or 'c'-continue:
```

Paso 8. Desmapee el RHEL ISO y mapee el controlador ISO:

```
Cisco Virtual KVM Console File View Macros Tools Power Boot Device Virtual Media Help
Create Image
  Activate Virtual Devices
  mpt3sas-23.00.00.00_el7.3-1.x86_64.iso Mapped to CD/DVD
  Map Removable Disk ...
  Map Floppy ...

[ 18.162151] i8042: Can't read CTRL whi
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
      Starting Open-iSCSI...
[ OK ] Started Open-iSCSI.
      Starting dracut initqueue hook...
[ 22.750254] nouveau 0000:60:00.0: priv: HUB0: 10ecc0 ffffffff (1e40822c)
[ 22.824043] nouveau 0000:60:00.0: DRM: Pointer to TMDS table invalid
[ 22.824060] nouveau 0000:60:00.0: DRM: Pointer to flat panel table invalid
[ 23.399872] nouveau 0000:61:00.0: priv: HUB0: 10ecc0 ffffffff (1a40822c)
[ 23.463012] nouveau 0000:61:00.0: DRM: Pointer to TMDS table invalid
[ 23.463029] nouveau 0000:61:00.0: DRM: Pointer to flat panel table invalid
[ 24.037598] nouveau 0000:62:00.0: priv: HUB0: 10ecc0 ffffffff (1d40822c)
[ 24.101383] nouveau 0000:62:00.0: DRM: Pointer to TMDS table invalid
[ 24.101400] nouveau 0000:62:00.0: DRM: Pointer to flat panel table invalid
[ 24.676850] nouveau 0000:63:00.0: priv: HUB0: 10ecc0 ffffffff (1c40822c)
[ 24.740881] nouveau 0000:63:00.0: DRM: Pointer to TMDS table invalid
[ 24.740897] nouveau 0000:63:00.0: DRM: Pointer to flat panel table invalid
[ OK ] Created slice system-driver\x2dupdates.slice.
      Starting Driver Update Disk UI on tty1...
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
      Starting Open-iSCSI...
[ OK ] Started Open-iSCSI.
      Starting dracut initqueue hook...
[ OK ] Created slice system-driver\x2dupdates.slice.
      Starting Driver Update Disk UI on tty1...
DD: starting interactive mode

(Page 1 of 1) Driver disk device selection
#DEVICE TYPE LABEL UUID
1) sda1 vfat ESXi 591C-E3E2
2) sda2 vfat 4C6C-A2D4
3) sda3 UMF5_vol 5aa6e18d-304835ba-1711-4c776d996e2e
4) sda5 vfat 4C6C-A2CA
5) sda6 vfat 4C6C-A2CD
6) sda8 vfat 4C6C-A2CB
7) sr0 iso9660 RHEL-7.3\x20x86_64 2016-10-19-17-41-40-00
# to select, 'r'-refresh, or 'c'-continue:
```

Paso 9. Escriba "r" para actualizar la lista de discos del controlador:

```
Cisco Virtual KVM Console File View Macros Tools Power Boot Device Virtual Media Help - KVM Console
[ OK ] Started Open-iSCSI.
Starting dracut initqueue hook...
[ 22.750254] nouveau 0000:60:00.0: priv: HUB0: 10ecc0 ffffffff (1e40822c)
[ 22.824043] nouveau 0000:60:00.0: DRM: Pointer to TMDS table invalid
[ 22.824060] nouveau 0000:60:00.0: DRM: Pointer to flat panel table invalid
[ 23.399872] nouveau 0000:61:00.0: priv: HUB0: 10ecc0 ffffffff (1a40822c)
[ 23.463012] nouveau 0000:61:00.0: DRM: Pointer to TMDS table invalid
[ 23.463029] nouveau 0000:61:00.0: DRM: Pointer to flat panel table invalid
[ 24.037598] nouveau 0000:62:00.0: priv: HUB0: 10ecc0 ffffffff (1d40822c)
[ 24.101383] nouveau 0000:62:00.0: DRM: Pointer to TMDS table invalid
[ 24.101400] nouveau 0000:62:00.0: DRM: Pointer to flat panel table invalid
[ 24.676850] nouveau 0000:63:00.0: priv: HUB0: 10ecc0 ffffffff (1c40822c)
[ 24.740881] nouveau 0000:63:00.0: DRM: Pointer to TMDS table invalid
[ 24.740897] nouveau 0000:63:00.0: DRM: Pointer to flat panel table invalid
[ OK ] Created slice system-driver\x2dupdates.slice.
Starting Driver Update Disk UI on tty1...
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
Starting Open-iSCSI...
[ OK ] Started Open-iSCSI.
Starting dracut initqueue hook...
[ OK ] Created slice system-driver\x2dupdates.slice.
Starting Driver Update Disk UI on tty1...
DD: starting interactive mode

(Page 1 of 1) Driver disk device selection
  /DEVICE  TYPE    LABEL                                UUID
  1) sda1   ufat    ESXi                                  591C-E3E2
  2) sda2   ufat                                        4C6C-A2D4
  3) sda3   UMFS_vol                                     5aa6e18d-304835ba-1711-4c776d996e2e
  4) sda5   ufat                                        4C6C-A2CA
  5) sda6   ufat                                        4C6C-A2CD
  6) sda8   ufat                                        4C6C-A2C8
  7) sr0    iso9660 RHEL-7.3\x20x86_64 2016-10-19-17-41-40-00
# to select, 'r'-refresh, or 'c'-continue: r

(Page 1 of 1) Driver disk device selection
  /DEVICE  TYPE    LABEL                                UUID
  1) sda1   ufat    ESXi                                  591C-E3E2
  2) sda2   ufat                                        4C6C-A2D4
  3) sda3   UMFS_vol                                     5aa6e18d-304835ba-1711-4c776d996e2e
  4) sda5   ufat                                        4C6C-A2CA
  5) sda6   ufat                                        4C6C-A2CD
  6) sda8   ufat                                        4C6C-A2C8
  7) sr0    iso9660 CDROM 2017-05-26-05-44-09-00
# to select, 'r'-refresh, or 'c'-continue:
```

Paso 10. Ahora verá la ISO del controlador en la lista. Escriba "7" y realice la selección:

```
3 - KVM Console
[ 23.463012] nouveau 0000:61:00.0: DRM: Pointer to TMDS table invalid
[ 23.463029] nouveau 0000:61:00.0: DRM: Pointer to flat panel table invalid
[ 24.037598] nouveau 0000:62:00.0: priv: HUB0: 10ecc0 ffffffff (1d40822c)
[ 24.101383] nouveau 0000:62:00.0: DRM: Pointer to TMDS table invalid
[ 24.101400] nouveau 0000:62:00.0: DRM: Pointer to flat panel table invalid
[ 24.676850] nouveau 0000:63:00.0: priv: HUB0: 10ecc0 ffffffff (1c40822c)
[ 24.740881] nouveau 0000:63:00.0: DRM: Pointer to TMDS table invalid
[ 24.740897] nouveau 0000:63:00.0: DRM: Pointer to flat panel table invalid
[ OK ] Created slice system-driver\x2dupdates.slice.
      Starting Driver Update Disk UI on tty1...
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
      Starting Open-iSCSI...
[ OK ] Started Open-iSCSI.
      Starting dracut initqueue hook...
[ OK ] Created slice system-driver\x2dupdates.slice.
      Starting Driver Update Disk UI on tty1...
DD: starting interactive mode

(Page 1 of 1) Driver disk device selection
  /DEVICE  TYPE  LABEL  UUID
  1) sda1   ufat  ESXi   591C-E3E2
  2) sda2   ufat                4C6C-A2D4
  3) sda3   UMFS_vol 5aa6e18d-304835ba-1711-4c776d996e2e
  4) sda5   ufat                4C6C-A2CA
  5) sda6   ufat                4C6C-A2CD
  6) sda8   ufat                4C6C-A2CB
  7) sr0    iso9660  RHEL-7.3\x20x86_64 2016-10-19-17-41-40-00
# to select, 'r'-refresh, or 'c'-continue: r

(Page 1 of 1) Driver disk device selection
  /DEVICE  TYPE  LABEL  UUID
  1) sda1   ufat  ESXi   591C-E3E2
  2) sda2   ufat                4C6C-A2D4
  3) sda3   UMFS_vol 5aa6e18d-304835ba-1711-4c776d996e2e
  4) sda5   ufat                4C6C-A2CA
  5) sda6   ufat                4C6C-A2CD
  6) sda8   ufat                4C6C-A2CB
  7) sr0    iso9660  CDROM  2017-05-26-05-44-09-00
# to select, 'r'-refresh, or 'c'-continue: 7
DD: Examining /dev/sr0
mount: /dev/sr0 is write-protected, mounting read-only

(Page 1 of 1) Select drivers to install
  1) [ l /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue: _
```

Paso 11. Introduzca "1" y, a continuación, "c" para continuar:

```
KVM Console
[ 24.101400] nouveau 0000:62:00.0: DRM: Pointer to flat panel table invalid
[ 24.676850] nouveau 0000:63:00.0: priv: HUB0: 10ecc0 ffffffff (1c40822c)
[ 24.740881] nouveau 0000:63:00.0: DRM: Pointer to TMDS table invalid
[ 24.740897] nouveau 0000:63:00.0: DRM: Pointer to flat panel table invalid
[ OK ] Created slice system-driver\x2dupdates.slice.
Starting Driver Update Disk UI on tty1...
[ OK ] Started Show Plymouth Boot Screen.
[ OK ] Reached target Paths.
[ OK ] Reached target Basic System.
[ OK ] Started Device-Mapper Multipath Device Controller.
Starting Open-iSCSI...
[ OK ] Started Open-iSCSI.
Starting dracut initqueue hook...
[ OK ] Created slice system-driver\x2dupdates.slice.
Starting Driver Update Disk UI on tty1...
DD: starting interactive mode

(Page 1 of 1) Driver disk device selection
  /DEVICE  TYPE      LABEL          UUID
1) sda1    ufat      ESXi           591C-E3E2
2) sda2    ufat      ESXi           4C6C-A2D4
3) sda3    UMFS_vol  5aa6e18d-304835ba-1711-4c776d996e2e
4) sda5    ufat      4C6C-A2CA
5) sda6    ufat      4C6C-A2CD
6) sda8    ufat      4C6C-A2CB
7) sr0     iso9660   RHEL-7.3\x20x86_64 2016-10-19-17-41-40-00
# to select, 'r'-refresh, or 'c'-continue: r

(Page 1 of 1) Driver disk device selection
  /DEVICE  TYPE      LABEL          UUID
1) sda1    ufat      ESXi           591C-E3E2
2) sda2    ufat      ESXi           4C6C-A2D4
3) sda3    UMFS_vol  5aa6e18d-304835ba-1711-4c776d996e2e
4) sda5    ufat      4C6C-A2CA
5) sda6    ufat      4C6C-A2CD
6) sda8    ufat      4C6C-A2CB
7) sr0     iso9660   CDROM          2017-05-26-05-44-09-00
# to select, 'r'-refresh, or 'c'-continue: 7
DD: Examining /dev/sr0
mount: /dev/sr0 is write-protected, mounting read-only

(Page 1 of 1) Select drivers to install
1) [ ] /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue: 1

(Page 1 of 1) Select drivers to install
1) [x] /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue:
```

Paso 12. El controlador .rpm está dentro del archivo .iso. Es posible que reciba una advertencia de que "DD repo contenido no un archivo", pero es sólo una advertencia: el controlador se habría instalado.

Paso 13. Debe volver a estar en el menú "Driver disk device select" (Selección del dispositivo de disco del controlador). Desmapee la ISO del controlador y vuelva a asignar la ISO RHEL. Pulse "r" para actualizar y, a continuación, pulse "c" para continuar con la instalación de RHEL. El instalador debería poder reconocer el controlador RAID y los discos administrados por él.



```
Cisco Virtual KVM Console File View Macros Tools Power Boot Device Virtual Media Help
Create Image
Activate Virtual Devices
rhel-server-7.3-x86_64-boot.iso Mapped to CD/DVD
Map Removable Disk ...
Map Floppy ...

3) sda3  UMFS_vo1
4) sda5  ufat
5) sda6  ufat
6) sda8  ufat
7) sr0   iso9660  RHEL-7.3\x20x86_64
# to select, 'r'-refresh, or 'c'-continue:

(Page 1 of 1) Driver disk device selection
/DEVICE TYPE LABEL UUID
1) sda1  ufat ESXi 591C-E3E2
2) sda2  ufat 4C6C-A2D4
3) sda3  UMFS_vo1 5aa6e18d-304835ba-1711-4c776d996e2e
4) sda5  ufat 4C6C-A2CA
5) sda6  ufat 4C6C-A2CD
6) sda8  ufat 4C6C-A2C8
7) sr0   iso9660 CDROM 2017-05-26-05-44-09-00
# to select, 'r'-refresh, or 'c'-continue: ?
DD: Examining /dev/sr0
mount: /dev/sr0 is write-protected, mounting read-only

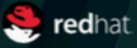
(Page 1 of 1) Select drivers to install
1) [ ] /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue: 1

(Page 1 of 1) Select drivers to install
1) [x] /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue: 1

(Page 1 of 1) Select drivers to install
1) [ ] /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue: 1

(Page 1 of 1) Select drivers to install
1) [x] /media/DD-1/rpms/x86_64/kmod-mpt3sas-23.00.00.00_e17.3-1.x86_64.rpm
# to toggle selection, or 'c'-continue: c
DD: Extracting: kmod-mpt3sas
DD: WARNING: DD repo content not a file: /media/DD-1/rpms/x86_64/repoata

(Page 1 of 1) Driver disk device selection
/DEVICE TYPE LABEL UUID
1) sda1  ufat ESXi 591C-E3E2
2) sda2  ufat 4C6C-A2D4
3) sda3  UMFS_vo1 5aa6e18d-304835ba-1711-4c776d996e2e
4) sda5  ufat 4C6C-A2CA
5) sda6  ufat 4C6C-A2CD
6) sda8  ufat 4C6C-A2C8
7) sr0   iso9660 CDROM 2017-05-26-05-44-09-00
# to select, 'r'-refresh, or 'c'-continue:
```



# INSTALLATION SUMMARY

RED HAT ENTERPRISE LINUX 7.3 INSTALLATION

us

Help!

## LOCALIZATION



**DATE & TIME**  
*Americas/New York timezone*



**KEYBOARD**  
*English (US)*



**LANGUAGE SUPPORT**  
*English (United States)*

## SOFTWARE



**INSTALLATION SOURCE**  
*Setting up installation source...*



**SOFTWARE SELECTION**  
*Installation source not set up*

## SYSTEM



**INSTALLATION DESTINATION**  
*No disks selected*



**KDUMP**  
*Kdump is enabled*



**NETWORK & HOST NAME**  
*Not connected*



**SECURITY POLICY**  
*Not ready*

Quit

Begin Installation

*We won't touch your disks until you click 'Begin Installation'.*

Please complete items marked with this icon before continuing to the next step.

Done

us

Help!


Device Selection

Select the device(s) you'd like to install to. They will be left untouched until you click on the main menu's "Begin Installation" button.

Local Standard Disks

223.57 GiB  ATA Mircon_5100_MTFD sda / 79 KiB free	5589.03 GiB  TOSHIBA MGO4SCA60EA sdf / 5589.03 GiB free	5589.03 GiB  TOSHIBA MGO4SCA60EA sdg / 5589.03 GiB free	5589.03 GiB  TOSHIBA MGO4SCA60EA sdh / 5589.03 GiB free	TO sc
--	---	---	---	----------

Specialized & Network Disks

 Add a disk...

Other Storage Options

Partitioning

Automatically configure partitioning.  I will configure partitioning.

I would like to make additional space available.

Encryption

Encrypt my data. You'll set a passphrase next.

0 disks selected; 0 B capacity; 0 B free [Refresh...](#)

 No disks selected; please select at least one disk to install to.