

PlateSpin Forge® 11.3

Field Rebuild Guide

July 2018

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About This Guide

This *Field Rebuild Guide* provides information about rebuilding and reconfiguring the PlateSpin Forge disaster recovery appliance by using the *PlateSpin Forge 11.3.0 Upgrade/Rebuild Kit*.

Intended Audience

This document is intended for IT staff who maintain the PlateSpin Forge Appliance.

Additional Documentation

For the most recent version of this guide and other PlateSpin Forge documentation resources for this release, visit the [PlateSpin Forge Documentation website \(https://www.netiq.com/documentation/platespin-forge-11-3/\)](https://www.netiq.com/documentation/platespin-forge-11-3/).

In addition to English, online documentation is available in these national languages: Chinese Simplified, Chinese Traditional, French, German, Japanese, and Spanish.

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- ♦ Product documentation, Knowledge Base articles, and videos: <https://www.microfocus.com/support-and-services/>
- ♦ The [Micro Focus Communities](#) pages for High Availability and Disaster Recovery: <https://forums.novell.com/forumdisplay.php/1870-HIGH-AVAILABILITY-DISASTER-RECOVERY>

1 Planning Your Forge Rebuild

The PlateSpin Forge 11.3 Appliance 4 Field Upgrade/Rebuild Kit provides the resources you need to rebuild your PlateSpin Forge 11.3 Appliance 4 to factory settings. You can also use the kit to rebuild and upgrade the software components on supported older models to PlateSpin Forge 11.3 Appliance 4.

Use the rebuild instructions in this guide only when Factory Reset is not working or is not applicable. For example:

- ♦ A major hardware failure prevents Factory Reset from working.
- ♦ You need to upgrade a supported older model of the appliance to use the latest software components.

NOTE: If you need only to revert the appliance to its factory default state, use the Factory Reset feature that the appliance ships with Forge Appliance. See [“Resetting the Forge Appliance to Factory Defaults”](#) in the *PlateSpin Forge User Guide*.

If you need only to upgrade the PlateSpin Forge software from version 11.2 to 11.3 on your existing PlateSpin Forge 11.2 Appliance 3, see the [PlateSpin Forge 11.3 Upgrade Guide](#).

- ♦ [Section 1.1, “About Appliance Version 4,” on page 7](#)
- ♦ [Section 1.2, “Supported Forge Models,” on page 8](#)
- ♦ [Section 1.3, “About the Forge Appliance Rebuild Process,” on page 8](#)
- ♦ [Section 1.4, “What You Need,” on page 9](#)

1.1 About Appliance Version 4

[Table 1-1](#) compares the Forge components in Appliance Version 3 and Appliance Version 4. Version 4 uses VMware ESXi 6.5 U1 as the virtualization host, which enables you to protect Windows Server 2016 standalone and cluster workloads. VMware 6.5 uses the VMware vSphere Web Client for virtual host management instead of the VMware Client.

Table 1-1 Comparison of Appliance Versions as Shipped

Forge Component	Forge 11.2 Appliance Version 3	Forge 11.3 Appliance Version 4
Dell PowerEdge	R730xd R720	R740xd R730xd
VMware host and VM protection container	VMware ESXi 5.5	VMware ESXi 6.5 U1 NOTE: Required for support for Windows Server 2016 as a guest OS.
VMware management	VMware Client	VMware vSphere Web Client
PlateSpin Forge	Version 11.2	Version 11.3

Forge Component	Forge 11.2 Appliance Version 3	Forge 11.3 Appliance Version 4
VM Guest OS	Microsoft Windows Server 2012	Microsoft Windows Server 2012
PlateSpin database	Microsoft SQL Server 2014	Microsoft SQL Server 2014

1.2 Supported Forge Models

You can use the PlateSpin Forge 11.3 Appliance 4 Field Upgrade/Rebuild Kit to rebuild your Forge Appliance 4 or to upgrade your existing Forge Appliance 3 hardware and software to PlateSpin Forge 11.3 Appliance 4. [Table 1-2](#) identifies the PlateSpin Forge hardware models that are supported for rebuild or for upgrade through rebuild.

Table 1-2 Supported Forge Models for Upgrade or Rebuild

Forge Series	Dell PowerEdge
Forge 700	R740xd R730xd R720
Forge 500	R720 R620

1.3 About the Forge Appliance Rebuild Process

At a high level, the rebuild process for PlateSpin Forge 11.3 Appliance Version 4 consists of the following major tasks:

1. (Conditional) Re-create the RAID array on the appliance.

If you are upgrading your Forge Appliance from a previous appliance version, configure the RAID controller for the RAID level appropriate for your hardware. See [Table 2-1, “RAID Configuration for Forge Appliances,” on page 11](#).

WARNING: Rebuilding the RAID array erases all data stored on local storage on the Forge Appliance.

2. Set up the System BIOS.
3. Install the VMware hypervisor.
4. Deploy Forge software, including the Forge Management VM and the Forge Appliance Configuration Console (Forge ACC or FACC).
5. Reapply licenses for all components.

1.4 What You Need

Before you start rebuilding Forge, ensure that you have the following prerequisites:

<p>A <i>Forge Appliance Rebuild Kit</i>, containing:</p> <ul style="list-style-type: none">◆ Forge Appliance installation program <code>forge-esx6.5-11.3.0.xxx-provider.iso</code>◆ Forge Management VM files<ul style="list-style-type: none">◆ The template files for the VM: <code>PLATESPINFORGE01.ovf</code> <code>PLATESPINFORGE01.mf</code> <code>PLATESPINFORGE01-file1.flp</code>◆ The <code>.vmdk</code> files needed by the VM: <code>PLATESPINFORGE01-disk1.vmdk</code> <code>PLATESPINFORGE01-disk2.vmdk</code>◆ This <i>Forge Field Rebuild</i> guide.	<p>The files for the PlateSpin Forge Appliance Rebuild Kit are available for download on Micro Focus Patch Finder. Expand PlateSpin Forge 11.3, then select the patch listed as PlateSpin Forge 11.3 Appliance Rebuild Kit. When you are prompted for your Customer Care user identity, log in with user account that has the email address associated with the product purchase.</p> <p>NOTE: Download the files to a USB drive that you can mount as needed on different computers.</p> <p>You will burn the ISO file to a blank unformatted recordable CD or DVD disc by using software and an optical drive that are designed for the task. The size is about 350 MB.</p>
VMware ESXi 6.5 license for the Forge hypervisor	<p>Contact Customer Care for help to retrieve your VMware 6.5 license.</p> <p>For upgrades, this license replaces your VMware 5.5 license that you use with your Forge Appliance 3.</p>
Microsoft Windows Server 2012 R2 license for the Forge Management VM	<p>A Certificate of Authority (CoA) sticker with a product key for Windows Server 2012 R2 is attached to every PlateSpin Forge Appliance and is located on the bottom cover of the appliance.</p> <p>For upgrades, your will reuse the Windows Server 2012 R2 license for your existing appliance.</p>
Microsoft SQL Server 2014 license for the Forge Management VM	<p>A Windows Product Key sticker is attached to every PlateSpin Forge Appliance and is located on the top cover of the appliance. Contact Customer Care if the sticker is missing.</p> <p>For upgrades, your will reuse the SQL Server license for your existing appliance.</p>
PlateSpin Forge license	<p>After the rebuild, you must have a valid Forge license to unlock the product's business functionality.</p> <p>For upgrades, your will reuse the Forge license for your existing appliance.</p> <p>After the rebuild, you must reactivate the license. See "Activating Your Product License" in the PlateSpin Forge User Guide.</p>
Supported Dell PowerEdge server hardware	<p>See Table 1-2, "Supported Forge Models for Upgrade or Rebuild," on page 8.</p>
Ability to configure the server	<p>You must connect a keyboard and a monitor to the server hardware to configure the hardware and device settings.</p>

Ability to burn the ISO image file to a CD or DVD disc	<p>You must have an independent Windows computer with ISO burning software, an optical drive capable of burning a bootable CD or DVD disc, and a blank unformatted recordable disc (CD-R or DVD-R).</p> <p>See “Creating the Forge 11.3 Installation Disc” on page 35.</p>
Ability to play the Installation disc	<p>The Dell PowerEdge R730xd and R740xd hardware does not have an internal CD/DVD drive. During the installation process, you must attach an external CD or DVD drive that is capable of playing the PlateSpin Forge 11.3 Installation disc. Use any available USB port on the hardware.</p> <p>See “Installing VMware ESXi 6.5 U1 to the Appliance” on page 36.</p>
Administrative computer	<p>To install and configure required PlateSpin Forge components, you must connect directly to the Forge hardware appliance through another computer, the <i>PlateSpin administrative computer</i>. You should consider using a Windows laptop for this purpose because of its flexibility and mobility. You must configure the administrative computer with a static IP address in the same subnet as Forge, then connect it to the Forge Appliance.</p> <p>See “Preparing a PlateSpin Administrative Computer” on page 39.</p>
TLS Protocol	<p>PlateSpin Forge requires Transport Layer Security (TLS) 1.0 and higher to be enabled on the Forge VM.</p>

2 Reconfiguring the RAID Controller (Conditional)

You must reconfigure the RAID controller on the PlateSpin Forge Appliance Hardware if you are adding or replacing hard disks in your Forge Appliance as part of the product rebuild. Otherwise, reconfiguring the RAID for the appliance is optional.

- ♦ [Section 2.1, “About Your RAID Configuration,” on page 11](#)
- ♦ [Section 2.2, “Configuring RAID 6 for Dell PowerEdge R740xd,” on page 11](#)
- ♦ [Section 2.3, “Configuring the RAID for Dell PowerEdge R730xd and Earlier Models,” on page 19](#)

2.1 About Your RAID Configuration

[Table 2-1](#) provides information that can help you identify the RAID configuration that applies to the Forge Appliance that you purchased. For additional technical specifications, see the [PlateSpin Forge Technical Specifications web page](#).

Table 2-1 RAID Configuration for Forge Appliances

Forge Series	Dell PowerEdge	RAM (Base)	HDD (Base)	RAID Type
Forge 700	R740xd	128 GB	14 x 2 TB	RAID 6
	R730xd	128 GB	14 x 2 TB	RAID 6
	R720	128 GB	8 x 4 TB	RAID 6
Forge 500	R720	32 GB	6 x 1 TB	RAID 5
	R620	32 GB	2 x 500 GB	RAID 1

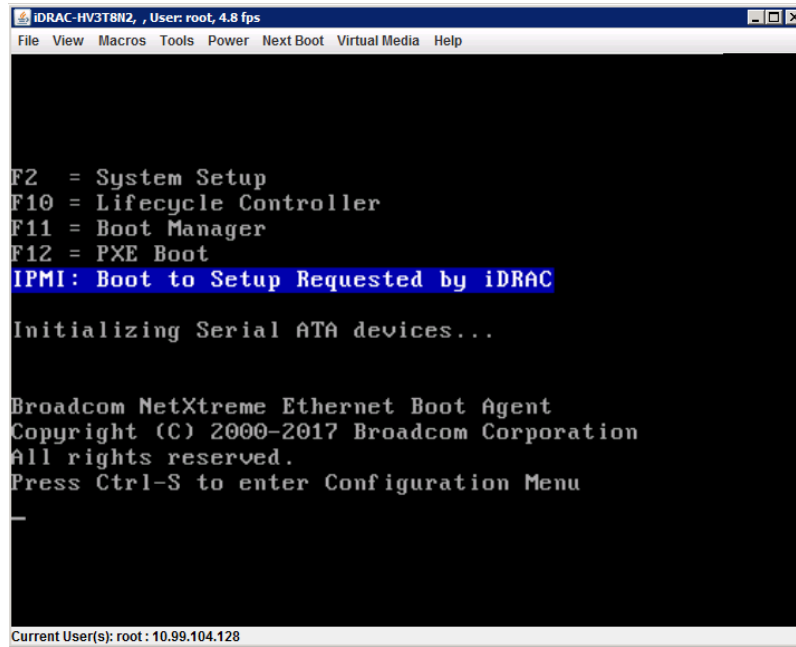
2.2 Configuring RAID 6 for Dell PowerEdge R740xd

On first boot of the PlateSpin Forge R740xd hardware, use the Dell PowerEdge Expandable RAID Controller (PERC) BIOS Configuration Utility to configure the RAID controller for the RAID 6 configuration.

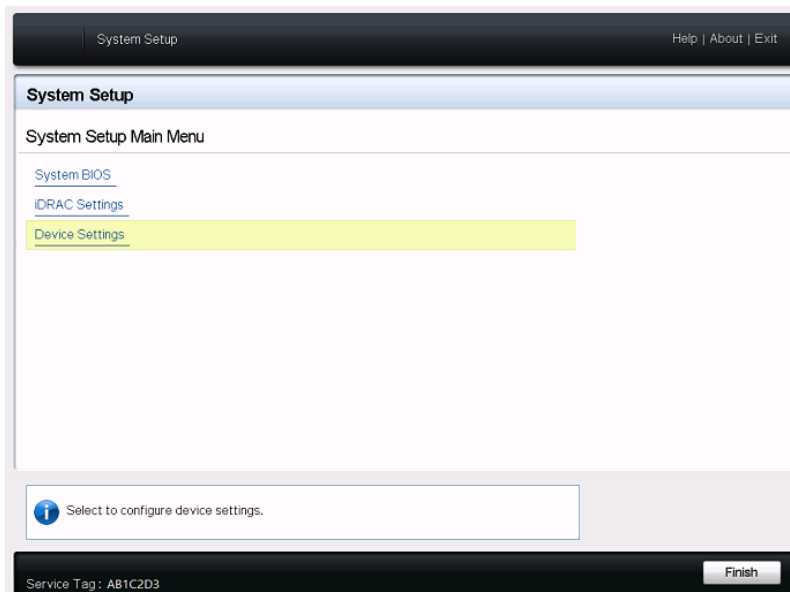
To configure the RAID controller for RAID 6:

- 1 Boot the server hardware.

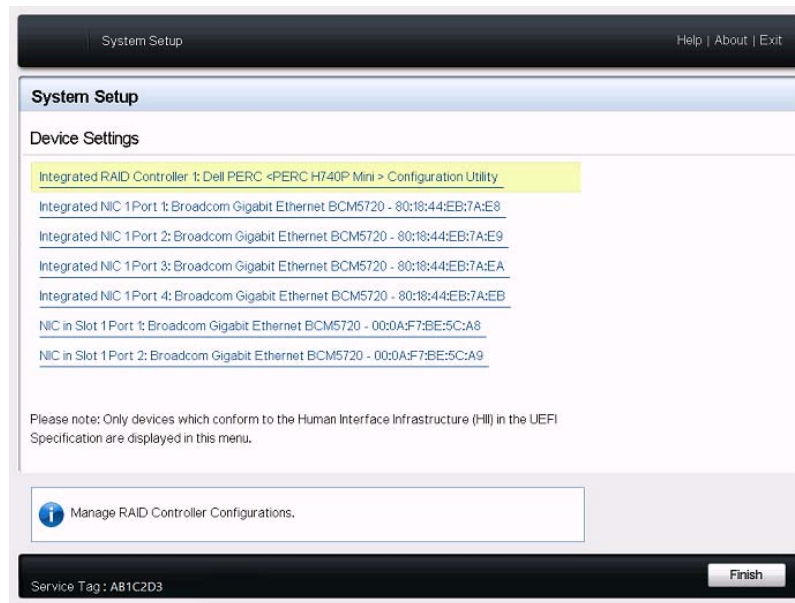
- 2 During the boot sequence, press F2 to boot to the System Setup Utility.



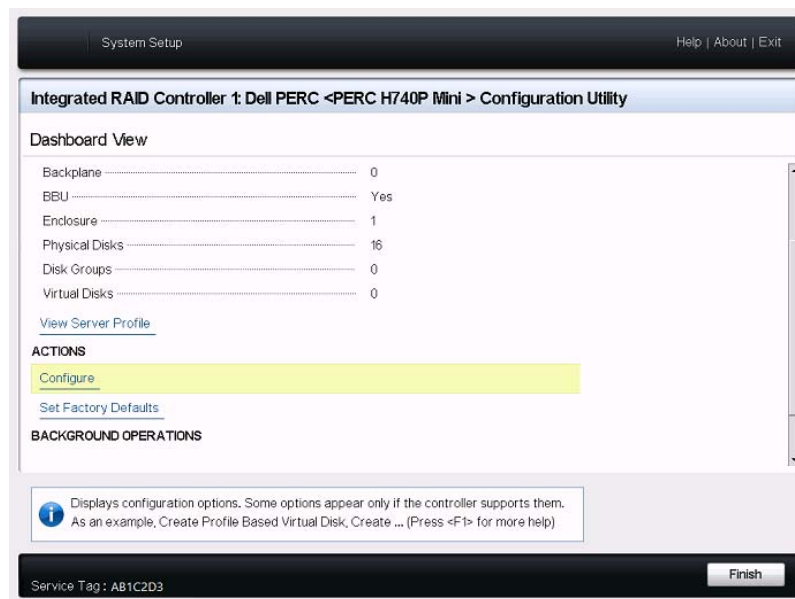
- 3 In System Setup Main Menu, select **Device Settings**.



- 4 In Device Settings, select **Integrated RAID Controller 1: Dell PERC <PERC H740P Mini> Configuration Utility**.



- 5 In the PERC Configuration Utility Dashboard View under **Actions**, click **Configure**.



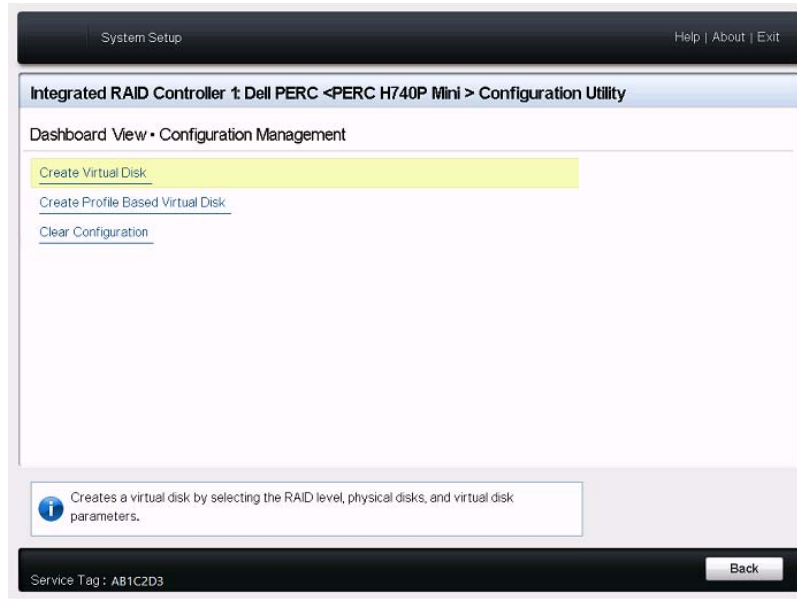
- 6 In PERC Configuration Management, click **Clear Configuration** and confirm to delete existing disk groups and any data on that disk group.

WARNING: Deleting a disk group also deletes the data on that disk group.

- 7 In PERC Configuration Management, configure the PERC RAID controller with multiple logical disks in a single RAID 6 array that spans all physical SATA disks:

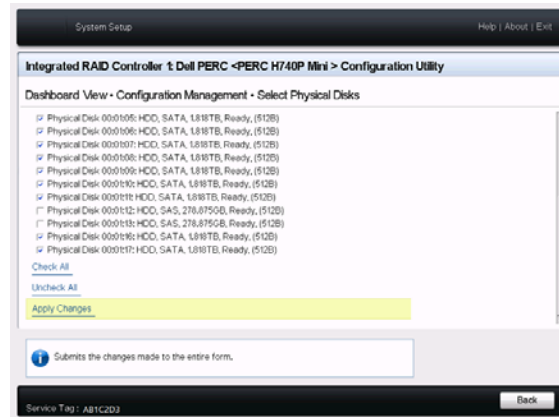
7a Create a virtual disk for the Forge System:

7a1 In the PERC Configuration Management menu, click **Create Virtual Disk**.



7a2 On the Create Virtual Disk page, define the RAID:

Parameter	Description
Select RAID Level	Select RAID6.
Select Physical Disks From	Select Unconfigured Capacity.
Select Physical Disks	<ol style="list-style-type: none"> 1. Click Select Physical Disks. 2. On the Select Physical Disks page, select all available physical SATA disks. Each SATA disk is about 2 TB in size. Do not select the two small SAS hard disks.



3. At the bottom of the page, click **Apply Changes**.

System Setup
Help | About | Exit

Integrated RAID Controller 1: Dell PERC <PERC H740P Mini > Configuration Utility

Dashboard View • Configuration Management • Create Virtual Disk

Create Virtual Disk

Select RAID Level: RAID6

☐ Secure Virtual Disk

Select Physical Disks From: ☒ Unconfigured Capacity ☐ Free Capacity

Select Physical Disks

CONFIGURE VIRTUAL DISK PARAMETERS:

Virtual Disk Name:

Virtual Disk Size:

Virtual Disk Size Unit: ☐ MB ☒ GB ☐ TB

Strip Element Size: 256 KB

Read Policy: ☐ No Read Ahead ☒ Read Ahead

Write Policy: ☐ Write Through ☒ Write Back ☐ Force Write Back

Dynamically updates to display as Select Physical Disks or Select Disk Group based on the selection made in Select Physical Disks From.

Service Tag : AB1C2D3
Back

7a3 After you select the physical disks, configure the following Virtual Disk Parameters:

Parameter	Description
Virtual Disk Name	Type ForgeSystem. The virtual disk name is case sensitive.
Virtual Disk Size	Specify 300 as the size for the Forge system disk. The recommended size is 300 GB.
Virtual Disk Size Unit	Specify GB.
Strip Element Size	Select 256 KB.
Read Policy	Select Read Ahead.
Write Policy	Select Write Back.
Disk Cache	Select Default.
Default Initialization	Select Fast.

System Setup Help | About | Exit

Integrated RAID Controller 1: Dell PERC <PERC H740P Mini > Configuration Utility

Dashboard View • Configuration Management • Create Virtual Disk

Select Physical Disks From ☒ Unconfigured Capacity ☐ Free Capacity

[Select Physical Disks](#)

CONFIGURE VIRTUAL DISK PARAMETERS:

Virtual Disk Name

Virtual Disk Size

Virtual Disk Size Unit ☐ MB ☒ GB ☐ TB

Strip Element Size

Read Policy ☐ No Read Ahead ☒ Read Ahead

Write Policy ☐ Write Through ☒ Write Back ☐ Force Write Back

Disk Cache ☒ Default ☐ Enable ☐ Disable

Default Initialization ☐ No ☒ Fast ☐ Full

[Create Virtual Disk](#)

Submits the changes made to the entire form and creates a virtual disk with the specified parameters.

Service Tag : AB1C2D3 [Back](#)

7a4 At the bottom of the page, click **Create Virtual Disk**.

7a5 Click **OK** to dismiss the confirmation for the creation of the virtual disk.

7b Create a new virtual disk for the Forge Failover VMs:

7b1 In the PERC Configuration Management menu, click **Create Virtual Disk**.

System Setup Help | About | Exit

Integrated RAID Controller 1: Dell PERC <PERC H740P Mini > Configuration Utility

Dashboard View • Configuration Management

[Create Virtual Disk](#)

[Create Profile Based Virtual Disk](#)

[View Disk Group Properties](#)

[Clear Configuration](#)

Creates a virtual disk by selecting the RAID level, physical disks, and virtual disk parameters.

Service Tag : AB1C2D3 [Back](#)

7b2 On the Create Virtual Disk page, define the RAID:

Parameter	Description
Select RAID Level	Select RAID6.
Select Physical Disks From	Select Free Capacity.
Select Disk Groups	<ol style="list-style-type: none"> 1. Click Select Disk Groups. 2. On the Select Disk Groups page, select Disk Group #0. 3. At the bottom of the page, click Apply Changes.

7b3 After you select Disk Group #0, configure the following Virtual Disk Parameters:

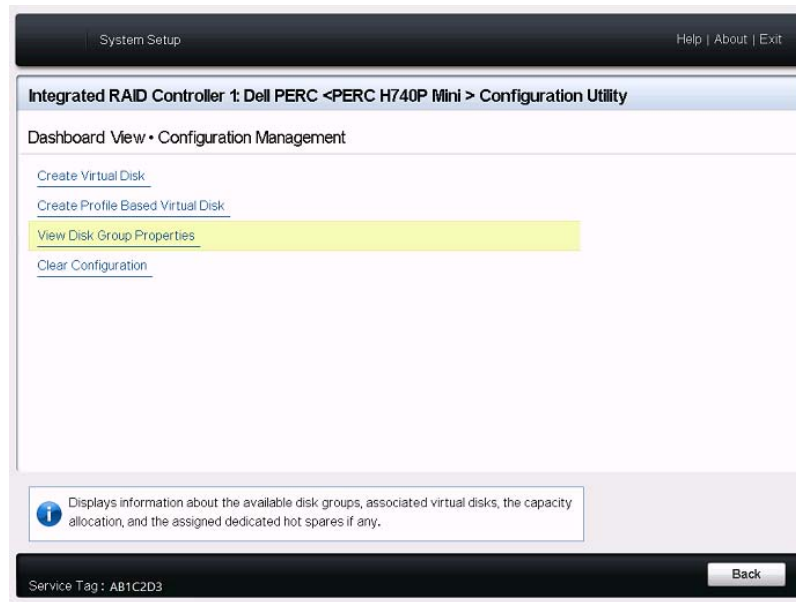
Parameter	Description
Virtual Disk Name	Type FailoverVMs. The virtual disk name is case sensitive.
Virtual Disk Size	Use the default maximum size for the remainder of the RAID disk (such as 21533 GB)
Virtual Disk Size Unit	Specify GB or TB as appropriate to the size you specified.
Strip Element Size	Select 256 KB.
Read Policy	Select Read Ahead.
Write Policy	Select Write Back.
Disk Cache	Select Default.
Default Initialization	Select Fast.

7b4 At the bottom of the page, click **Create Virtual Disk**.

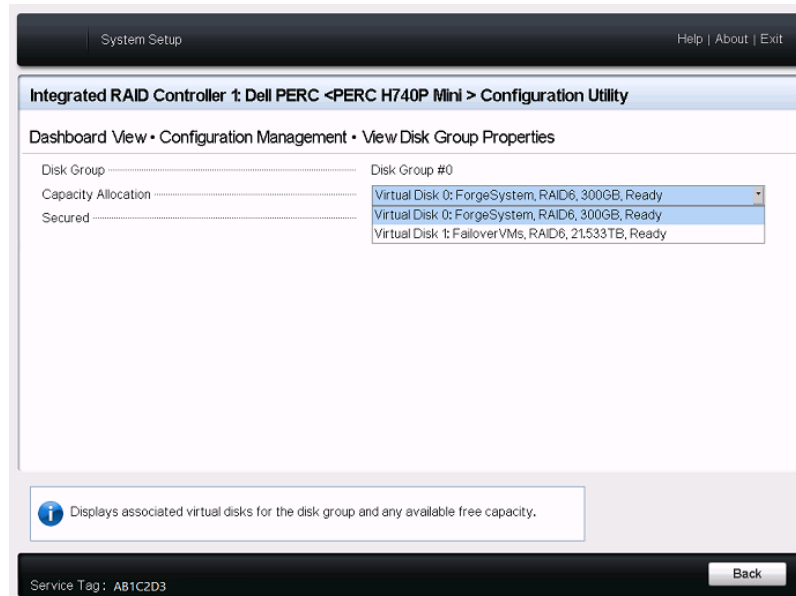
7b5 Click **OK** to dismiss the confirmation for the creation of the virtual disk.

8 View the disks you created on Disk Group #0.

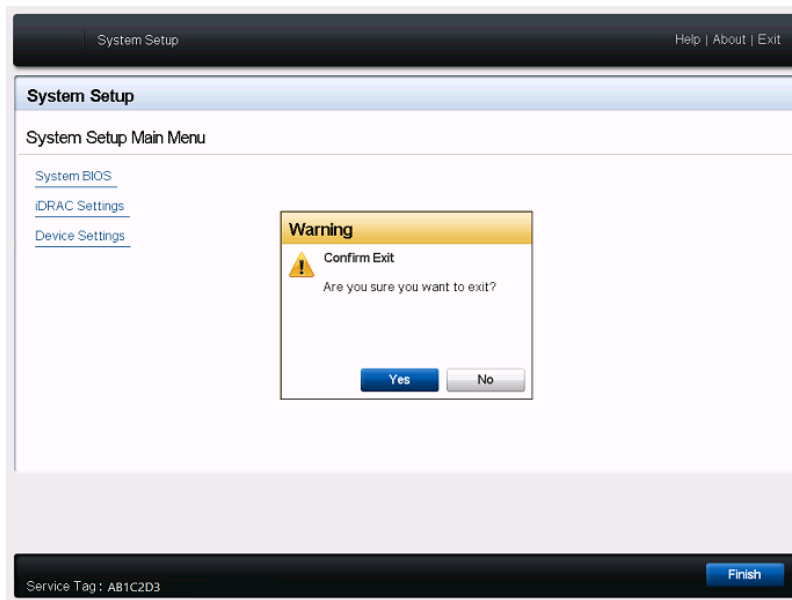
8a In the PERC Configuration Management menu, click **View Disk Group Properties**.



8b On the View Disk Groups Properties page, select **Capacity Allocation** to view the capacity for the ForgeSystem disk and FailoverVMs disk.



9 Return to the System Setup Main Menu, then click **Finish** in the lower right corner to exit the System Setup Utility, then click **Yes** to confirm.



10 (Conditional) Press Ctrl+Alt+Del if you are prompted.

The server reboots with the new settings.

2.3 Configuring the RAID for Dell PowerEdge R730xd and Earlier Models

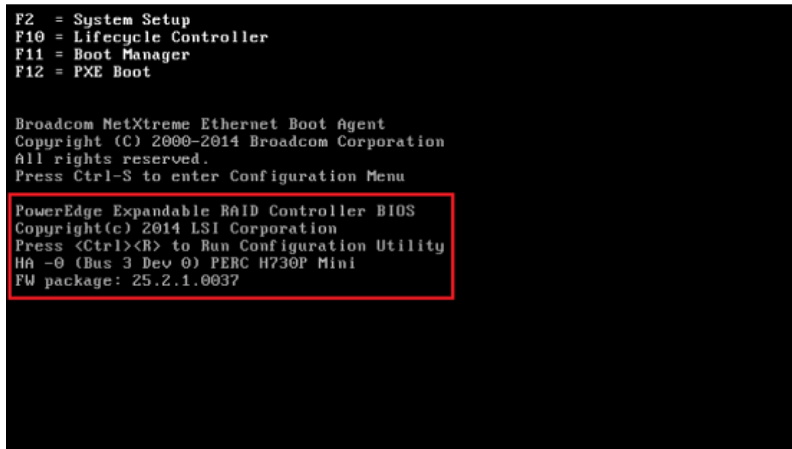
The PlateSpin Forge Appliance requires a RAID storage array to provide storage fault tolerance. On first boot of the PlateSpin Forge Appliance Hardware, use the Dell PowerEdge Expandable RAID Controller (PERC) BIOS Configuration Utility to configure the appropriate RAID type for your system. See [Table 2-1, "RAID Configuration for Forge Appliances," on page 11](#).

NOTE: To perform this task, you must connect a keyboard and a monitor to the server hardware being used for the appliance.

Do not use the Dell Enhanced Multimedia USB Keyboard – Model: SK-8135. It is known to cause USB conflicts.

To configure the RAID controller:

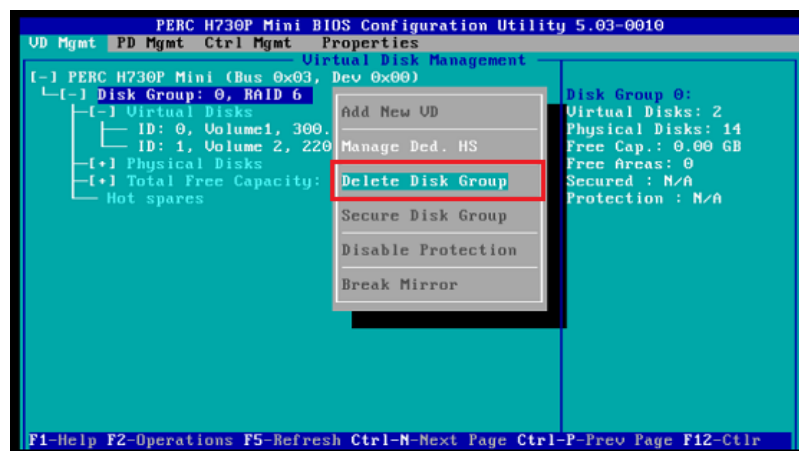
- 1 Boot the server hardware.
- 2 During the boot sequence, wait approximately 24 seconds for the PowerEdge Expandable RAID Controller BIOS screen, then press Ctrl+R to launch the PERC Configuration Utility.



- 3 Configure the PERC RAID controller to have multiple logical disks over a single RAID array (that is, a RAID 6, a RAID 5, or a RAID 1, [based on the appropriate RAID type for your hardware](#)):
 - 3a Delete any existing disk groups:

WARNING: Deleting a disk group also deletes the data on that disk group.

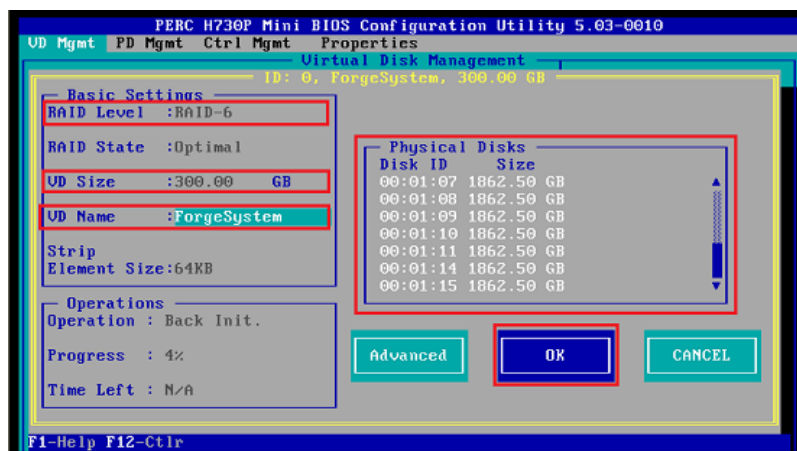
- 3a1 On the Virtual Disk Management page, select an existing disk group, then press F2.
- 3a2 In the Operations dialog, select **Delete Disk Group**.



- 3a3 Repeat [Step 3a1](#) and [Step 3a2](#) for all existing disk groups.
- 3b Create a new disk group for the Forge system:
 - 3b1 On the Virtual Disk Management page, select the RAID controller at the root of the tree view, then press F2.
 - 3b2 In the Operations menu, select **Create New VD**.

- 3b3 On the Create New VD page, configure the new virtual disk by setting values for the following parameters:

Parameter	Description
RAID Level	Select the RAID configuration that you need for your storage array. Select RAID-6, RAID-5, or RAID-1 based on your Forge model. See Table 2-1, "RAID Configuration for Forge Appliances," on page 11 .
Physical Disks	Select all available physical disks to be members of the RAID array. To select a disk, highlight the disk item and press the Spacebar. Disk sizes might vary with your Forge model.
VD Size	Specify the size for the Forge system disk. The recommended size is 300 GB. Type 300 if the PERC Controller displays the disk size in GB. Type 307200 if the disk size is displayed in MB.
VD Name	Type ForgeSystem. The virtual disk name is case sensitive.

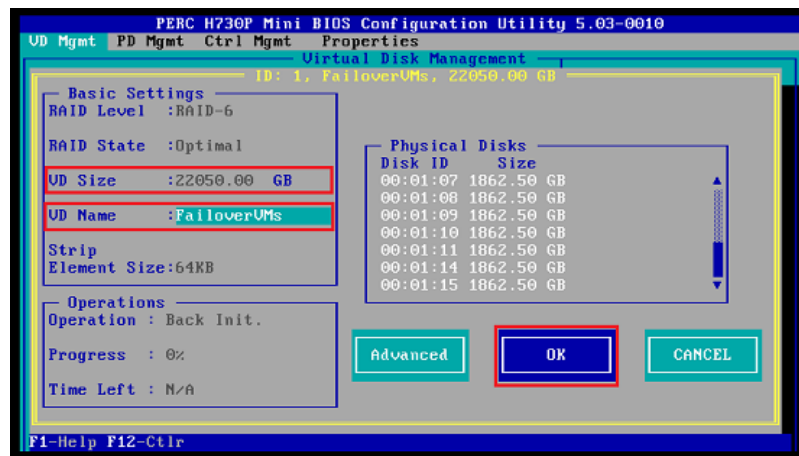


- 3b4 Select **OK** and press Enter.

- 3c Create a new disk group for the Forge failover VMs:

- 3c1 On the Virtual Disk Management page tree view, select **Disk Group: 0, RAID_** (see [Step 3b3](#)) and press F2.
- 3c2 In the Operations menu, select **Add New VD**.
- 3c3 On the Add VD in Disk Group 0 page, configure the new virtual disk for the failover VMs by setting values for the following parameters:

Parameter	Description
VD Size	Depending on the appliance model you have, use the remaining disk space value as your default backup storage, such as 22050 GB.
VD Name	Type FailoverVMs. The virtual disk name is case sensitive.



3c4 Select **OK** and press Enter.

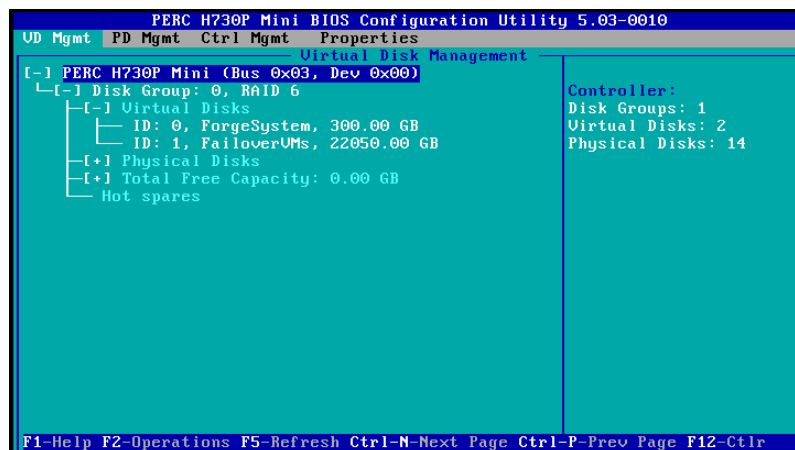
3d For each virtual disk, configure the disk to fast initialize:

3d1 On the Virtual Disk Management page under **Virtual Disks**, select the disk name, then press F2.

3d2 In the Operations menus, select **Initialization > Fast Init > OK**.

3d3 Repeat [Step 3d1](#) and [Step 3d2](#) for each virtual disk.

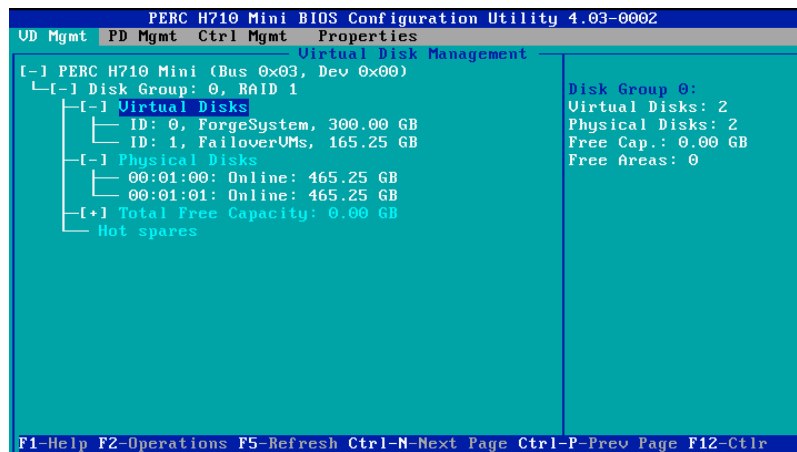
The final configuration screen for RAID 6 should look like this:



The final configuration screen for RAID 5 should look like this:



The final configuration screen for RAID 1 should look like this:



- 4 Press Esc to exit the PERC Configuration Utility.
- 5 Press Ctrl+Alt+Del if you are prompted. The server reboots with the new settings.

3 Configuring System BIOS Settings

The PlateSpin Forge Appliance requires particular settings for SATA storage and virtualization in the System BIOS. Use the System Setup utility to configure the settings.

NOTE: To perform this task, you must connect a keyboard and a monitor to the server hardware being used for the appliance.

Do not use the Dell Enhanced Multimedia USB Keyboard – Model: SK-8135. It is known to cause USB conflicts.

- ♦ [Section 3.1, “Accessing the System Setup Utility,” on page 25](#)
- ♦ [Section 3.2, “Configuring the Required SATA Setting,” on page 26](#)
- ♦ [Section 3.3, “Configuring the Required Virtualization Technology Setting,” on page 28](#)
- ♦ [Section 3.4, “Exiting the System Setup Utility,” on page 30](#)

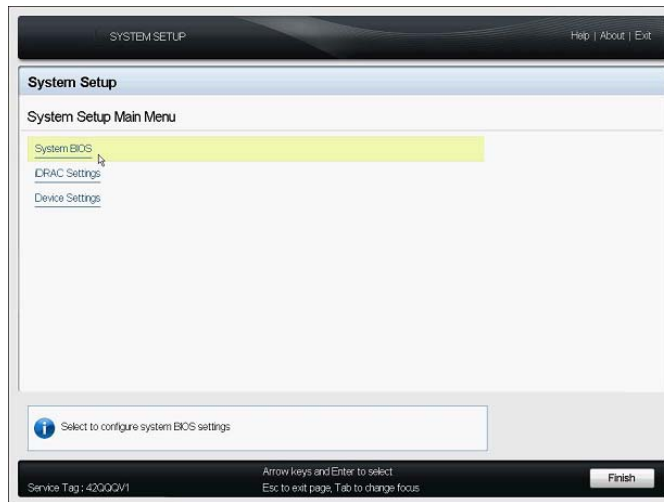
3.1 Accessing the System Setup Utility

- 1 Boot the Forge Appliance hardware (the server).
- 2 During the POST, press F2 to enter the **System Setup** utility.

Wait for the System Setup window to open. It might take up to 30 seconds.



- 3 From the System Setup Main Menu, you can access options for embedded settings for the System BIOS, the Dell iDRAC, and the device.

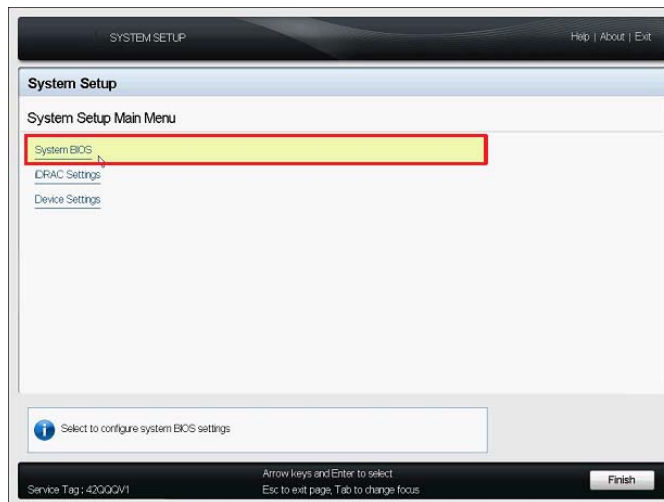


3.2 Configuring the Required SATA Setting

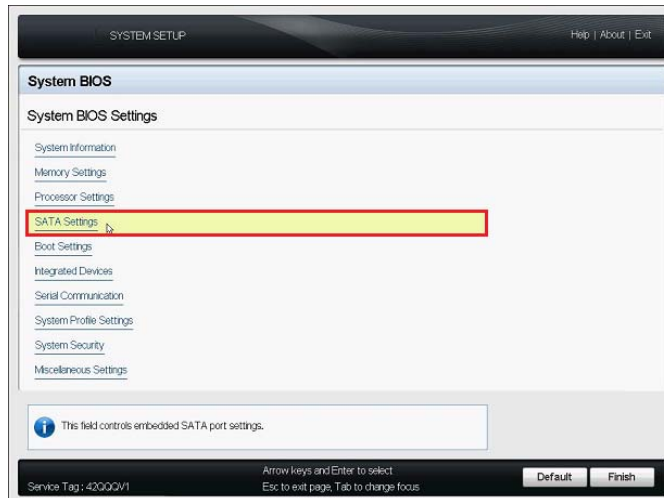
PlateSpin Forge requires an **Embedded SATA** setting of **ATA Mode** in the System BIOS.

To configure the Embedded SATA setting:

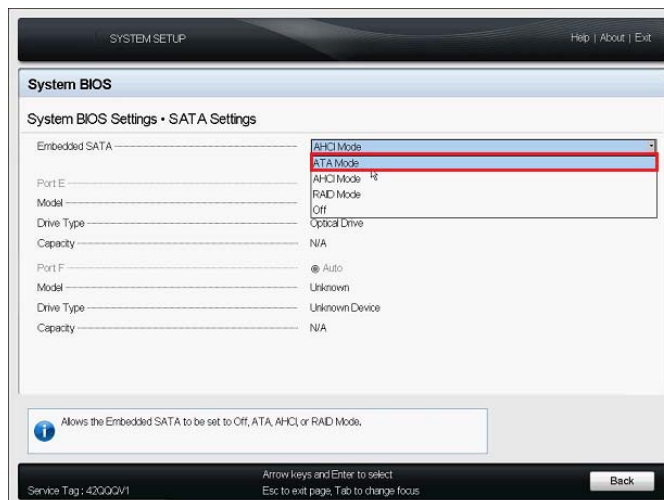
- 1 Access the System Setup utility.
See [Section 3.1, “Accessing the System Setup Utility,”](#) on page 25.
- 2 In the System Setup Main Menu, select **System BIOS**.



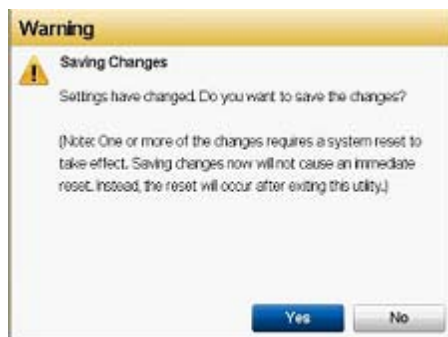
- 3 On the System BIOS Settings page, select **SATA Settings**.



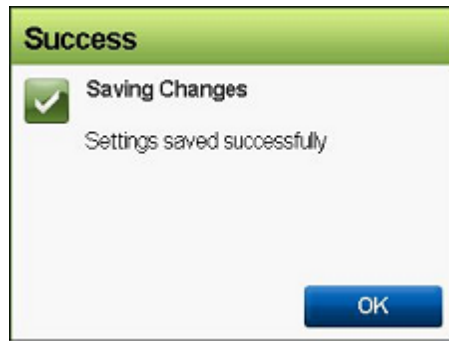
- 4 On the SATA Settings page, change the **Embedded SATA** setting to **ATA Mode**.



- 5 Press Esc twice to return to the System Setup Main Menu.
- 6 (Conditional) If you are prompted to save the changes made to the BIOS, click **Yes**.



You should see a message indicating that the changes were saved successfully. Click **OK** to dismiss the confirmation.



7 Exit the System Setup utility.

See [Section 3.4, “Exiting the System Setup Utility,”](#) on page 30.

3.3 Configuring the Required Virtualization Technology Setting

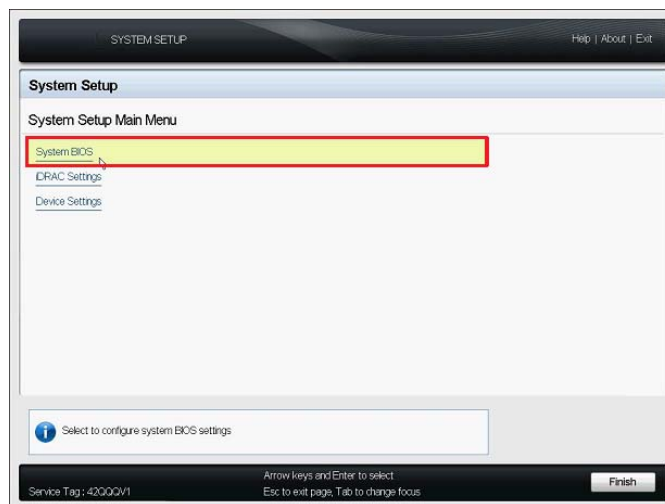
PlateSpin Forge requires an **Virtualization Technology** setting of **Enabled** in the System BIOS.

To configure the Virtualization Technology setting:

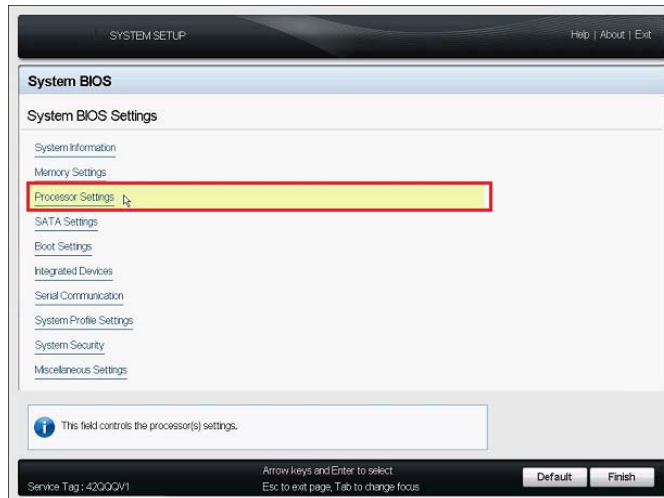
1 Access the System Setup utility.

See [Section 3.1, “Accessing the System Setup Utility,”](#) on page 25.

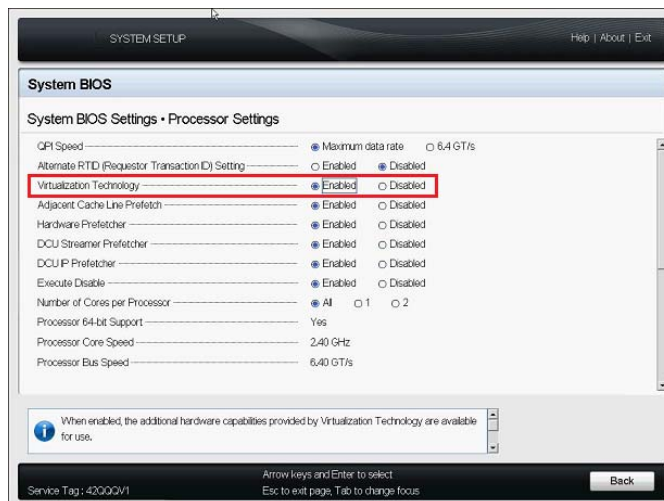
2 In the System Setup Main Menu, select **System BIOS**.



- 3 On the System BIOS Settings page, select **Processor Settings**.



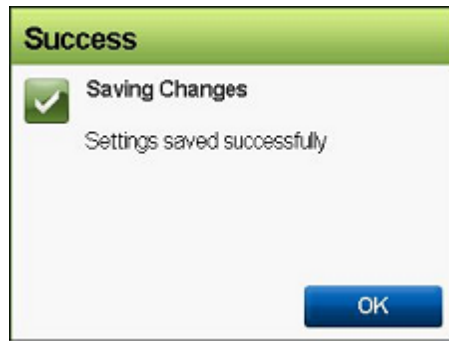
- 4 On the Processor Settings page, ensure that the **Virtualization Technology** setting is set to **Enabled**.



- 5 Press Esc twice to exit the Processor Settings and return to the System Setup Main Menu.
- 6 (Conditional) If you are prompted to save the changes made to the BIOS, click **Yes**.



You should see a message indicating that the changes were saved successfully. Click **OK** to dismiss the confirmation.



- 7 Exit the System Setup utility.

See [Section 3.4, “Exiting the System Setup Utility,”](#) on page 30.

3.4 Exiting the System Setup Utility

- 1 On the System Setup Main Menu, press Esc to exit the System Setup utility and reboot the PlateSpin Forge hardware.
- 2 If you are prompted to confirm the exit and reboot, click **Yes** to confirm.



4 Configuring LCD Screen Settings

The Dell PowerEdge R720 and older hardware have a small LCD screen on the front panel that displays the PlateSpin Forge brand name.

NOTE: The LCD screen is not available on Dell PowerEdge R730xd and R740xd hardware. Ignore this section.

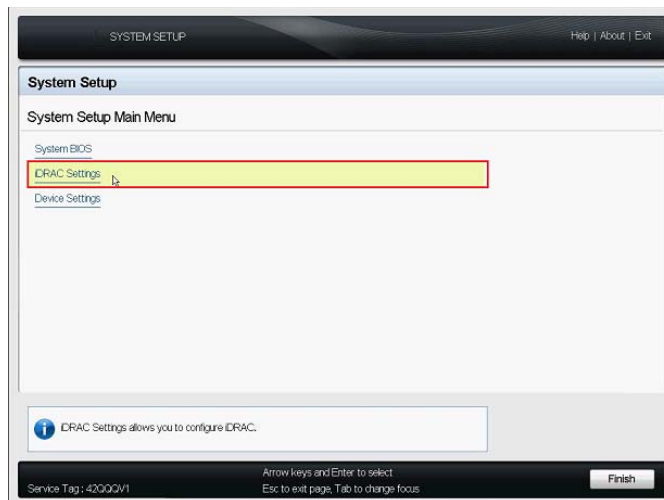
- ♦ [Section 4.1, “Configuring the Required LCD Display Name,” on page 31](#)

4.1 Configuring the Required LCD Display Name

PlateSpin Forge requires a display name for the LCD for hardware that provides an LCD screen on the front panel.

To configure the LCD display for Forge:

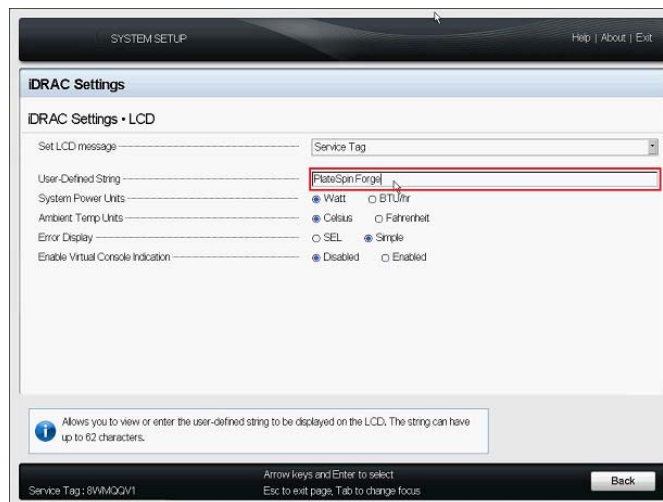
- 1 Access the System Setup utility.
See [Section 3.1, “Accessing the System Setup Utility,” on page 25](#).
- 2 In the System Setup Main Menu, select **iDRAC Settings**.



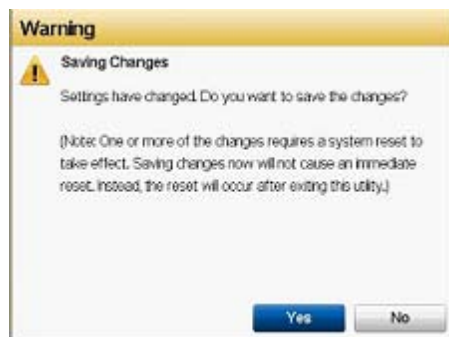
- 3 On the System iDRAC Settings page, select **LCD**.



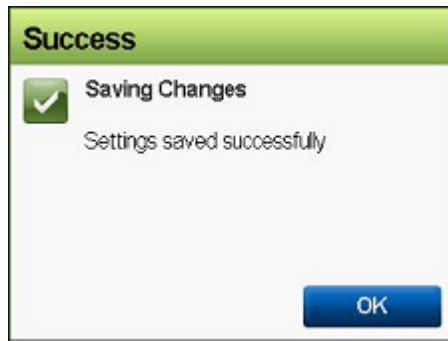
- 4 On the LCD page, type PlateSpin Forge as the value for **User-Defined String**.



- 5 Press Esc three times to return to the System Setup Main Menu.
- 6 (Conditional) If you are prompted to save the changes made to the iDRAC settings, click **Yes**.



You should see a message indicating that the changes were saved successfully. Click **OK** to dismiss the confirmation.



- 7 Exit the System Setup utility.

See [Section 3.4, "Exiting the System Setup Utility,"](#) on page 30.

5 Installing Software Components Required by Forge

This section includes information about installing and configuring the software components required by PlateSpin Forge.

- [Section 5.1, “Creating the Forge 11.3 Installation Disc,” on page 35](#)
- [Section 5.2, “Installing VMware ESXi 6.5 U1 to the Appliance,” on page 36](#)
- [Section 5.3, “Importing the Forge Appliance Virtual Machine,” on page 39](#)
- [Section 5.4, “Installing VMware Updates \(VIB Files\),” on page 46](#)
- [Section 5.5, “Licensing Microsoft Products on the Forge Management VM,” on page 47](#)
- [Section 5.6, “Licensing the VMware ESXi Hypervisor,” on page 50](#)
- [Section 5.7, “Running the Forge Appliance Configurator,” on page 51](#)
- [Section 5.8, “Backing Up the Forge Management VM,” on page 51](#)
- [Section 5.9, “Shutting Down VMware ESXi Host,” on page 52](#)
- [Section 5.10, “Restarting the Appliance,” on page 52](#)

IMPORTANT: Prior to installing the software listed in this section, check your keyboard model. Do not use the Dell Enhanced Multimedia USB Keyboard, Model SK-8135. This keyboard is known to cause USB conflicts.

5.1 Creating the Forge 11.3 Installation Disc

The PlateSpin Forge 11.3 installation program requires a bootable CD or DVD disc. Burn the disc from the ISO image included on the *PlateSpin Forge 11.3 Appliance Rebuild Kit*. The size is about 350 MB.

NOTE: You must have an independent Windows computer with ISO burning software, an optical drive capable of burning a bootable CD or DVD disc, and a blank recordable disc (CD-R or DVD-R).

To create a Forge installation CD or DVD from the PlateSpin Forge 11.3 Appliance Rebuild Kit:

- 1 At an independent, running Windows computer, insert a blank unformatted recordable CD or DVD disc in an optical drive capable of burning a CD or DVD disc from an ISO file.
- 2 At this same computer, mount the USB drive that contains the downloaded files for the *PlateSpin Forge 11.3 Appliance Rebuild Kit*.
- 3 At the Windows desktop, open Windows File Explorer.
- 4 Navigate to the `forge-esx6.5-11.3.0.xxx-provider.iso` image file.
- 5 Use the built-in Windows Disc Image Burner software to burn the disc:
 - 5a In Windows File Explorer, right-click the ISO image file and select **Burn disc image**.
 - 5b In the Windows Burn Disc Image dialog, select the CD/DVD drive that contains the blank disc from the **Disc Burner** list.

- 5c (Optional) Select the **Verify disc after burning** check box if you want Windows to verify the disc image after burning the disc. Leave this option deselected if you want to skip the verification.
- 5d Click **Burn** to start burning the disc.
- 5e When it finishes burning the disc image to disc, click **Close**.
- 6 Eject the disc and label it *PlateSpin Forge 11.3.0 Installation*.
- 7 Continue with [Section 5.2, “Installing VMware ESXi 6.5 U1 to the Appliance,” on page 36](#).

5.2 Installing VMware ESXi 6.5 U1 to the Appliance

PlateSpin Forge requires VMware ESXi 6.5 U1 to host the Forge Management VM. Ensure that you have the [PlateSpin Forge 11.3.0 Installation disc](#) before you proceed with the installation.

NOTE: The PlateSpin Forge hardware does not have an internal CD/DVD drive. During the Forge installation process, you must attach an external optical drive that is capable of playing the [PlateSpin Forge 11.3.0 Installation disc](#). Use any available USB port on the hardware.

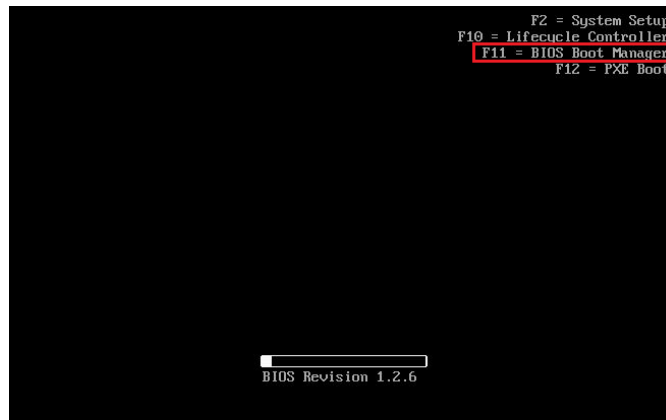
If you encounter problems during the VMware ESXi installation, see [Section A.2, “Errors Occurring During ESXi Installation,” on page 59](#).

To install VMware ESXi to the Forge Appliance:

- 1 Connect a keyboard, a monitor, and an external CD/DVD drive to the server hardware being used for the appliance.

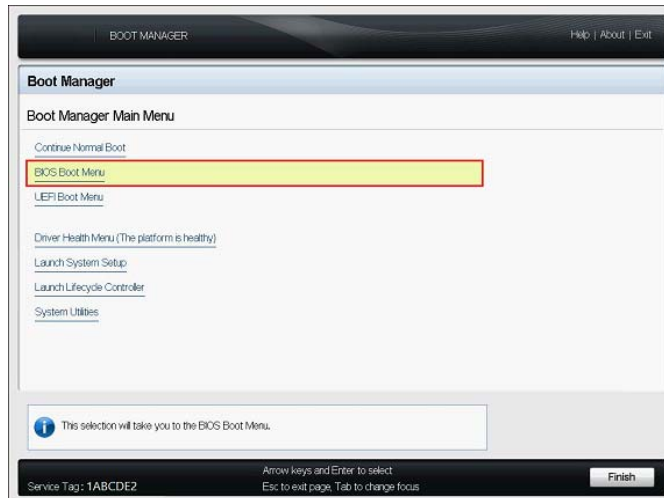
NOTE: Do not use the Dell Enhanced Multimedia USB Keyboard – Model: SK-8135. It is known to cause USB conflicts.

- 2 Power on the appliance and press F11 at the boot prompt.



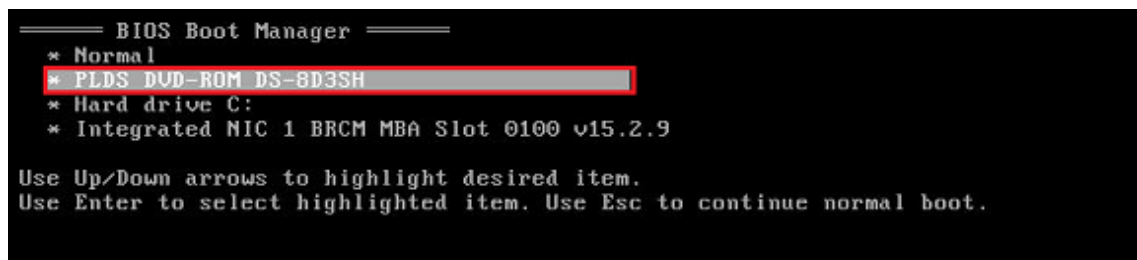
- 3 While at the boot prompt, insert the [PlateSpin Forge 11.3.0 Installation disc](#) in the CD/DVD drive. It might take some time for the Boot Manager utility to be displayed.

- 4 In the Boot Manager Main Menu, select **BIOS Boot Menu** to launch the BIOS Boot Manager.

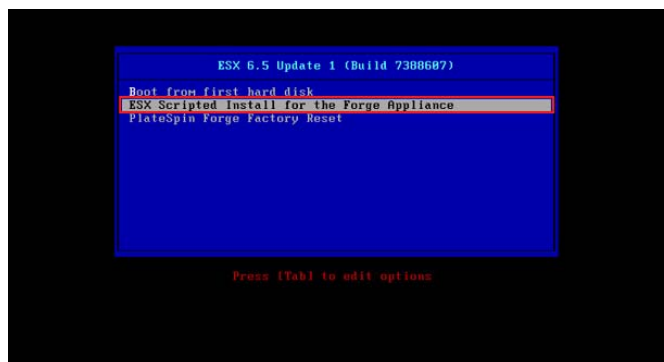


- 5 In the BIOS Boot Manager utility, use the Up arrow and Down arrow to navigate to the option that lets you boot from an optical device (for example, a SATA optical drive), then press Enter.

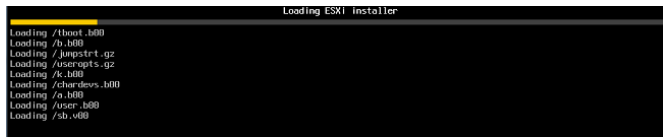
NOTE: The name of the optical device will vary, depending on the device you attached to the appliance.



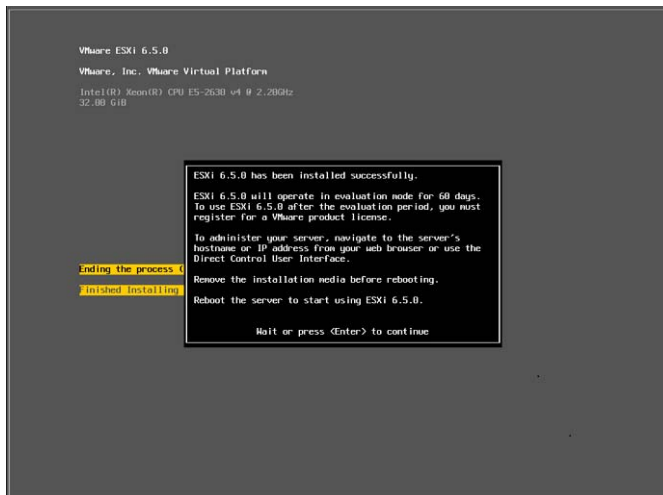
- 6 On the ESX 6.5 Update 1 build installation menu, select **ESX Scripted Install for the Forge Appliance**, then press Enter to load the ESXi 6.5 U1 installer.



- 7 Wait while the script executes the VMware installation. The installation progress updates on the screen and moves through several stages.



- 8 When the VMware installation process is completed, the confirmation dialog displays prior to the system reboot.



- 9 Remove the installation media, then press Enter to reboot the system (or let the system reboot itself).

NOTE: If you choose not to attend the installation, the system reboots on its own.

- 10 After the system has rebooted, continue with the instructions in [Section 5.3, “Importing the Forge Appliance Virtual Machine,”](#) on page 39.

5.3 Importing the Forge Appliance Virtual Machine

After you install VMware on the PlateSpin Forge hardware, you are ready to import the Forge Management VM using an OVF file.

- ♦ [Section 5.3.1, “Preparing a PlateSpin Administrative Computer,” on page 39](#)
- ♦ [Section 5.3.2, “Establishing a Physical Connection to the Appliance,” on page 40](#)
- ♦ [Section 5.3.3, “Establishing a Management Connection through VMware vSphere Web Client,” on page 41](#)
- ♦ [Section 5.3.4, “Deploying the Forge Management VM from an OVF File,” on page 42](#)
- ♦ [Section 5.3.5, “Renaming the Forge Management VM,” on page 45](#)

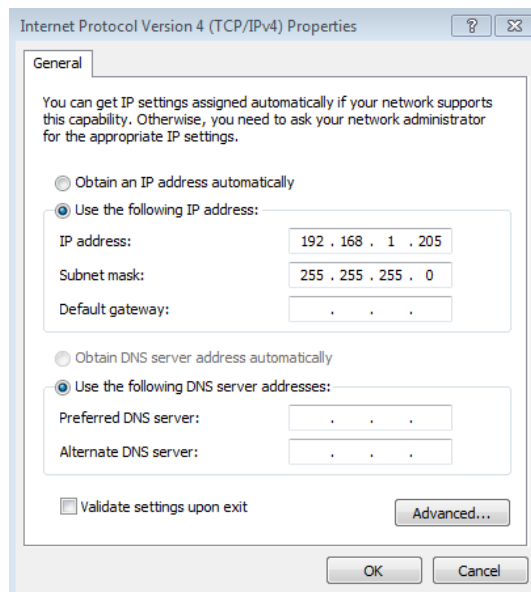
5.3.1 Preparing a PlateSpin Administrative Computer

To continue with the installation and configuration of the PlateSpin Forge components, you must connect directly to the Forge hardware appliance through another computer, the *PlateSpin administrative computer*. You should consider using a Windows laptop for this purpose because of its flexibility and mobility. You must configure the administrative computer with a static IP address in the same subnet as Forge, then connect it to the Forge Appliance.

To prepare the administrative computer:

- 1 Ensure that the administrative computer has a wired connection to the network.
- 2 Log in to the administrative computer as the local Administrator user.
- 3 Access the TCP/IPv4 properties of the administrative computer's wired LAN adapter.

In the Network and Sharing Center, select the wired network adapter and open its **Ethernet Properties** dialog. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



- 4 On the General tab, select **Use the following IP address**, then assign the following values:
 - ♦ **IP address:** 192.168.1.205
 - ♦ **Subnet mask:** 255.255.255.0

NOTE: Do not use the following IP addresses:

- ♦ 192.168.1.200 - used by the hypervisor
 - ♦ 192.168.1.210 - used by the Forge Management VM (assigned by an automatic appliance configuration utility).
-

5 Click **OK** and close the dialog.

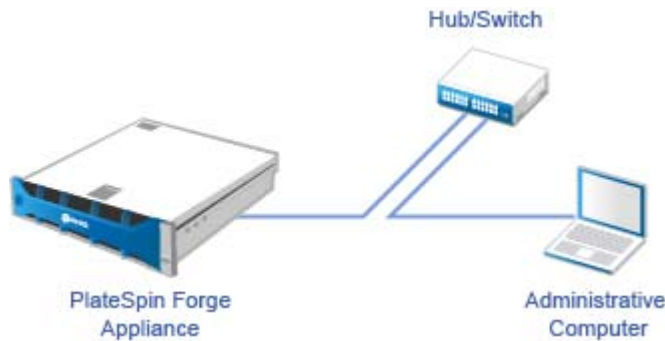
6 Continue with [Section 5.3.2, “Establishing a Physical Connection to the Appliance,”](#) on page 40.

5.3.2 Establishing a Physical Connection to the Appliance

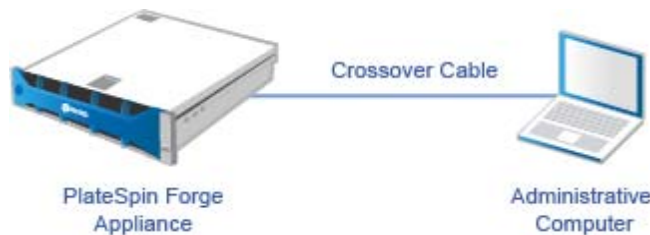
To establish a physical connection between the administrative computer and the Forge Appliance:

- 1 Connect the administrative computer to the Forge Appliance using either of the following methods. Ensure that you connect to NIC0 port on the Forge Appliance. Typically, the NIC0 port is labeled GB1 on the Dell PowerEdge.

Connection through a Network Switch: Connect both units to an Ethernet network switch or a hub through an Ethernet network cable.



Direct Connection: Connect your PlateSpin Forge Appliance and the computer directly through an Ethernet crossover cable.



- 2 Ensure that the Forge Appliance is powered on. Wait at least 10 minutes for the system to fully start before you try to connect.
- 3 Continue with [“Establishing a Management Connection through VMware vSphere Web Client”](#) on page 41.

5.3.3 Establishing a Management Connection through VMware vSphere Web Client

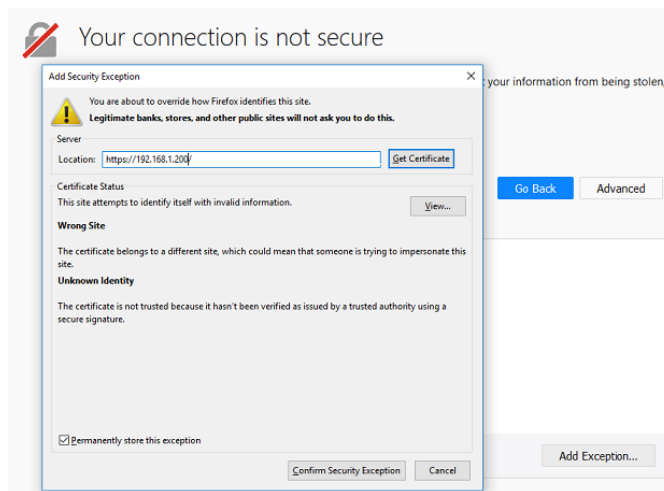
After the administrative computer has been connected physically, you need to establish the management connection between the administrative computer and the ESXi hypervisor. Use a web browser on the administrative computer to connect to the VMware vSphere Web Client.

NOTE: VMware supports the vSphere Web Client on the latest version of Google Chrome, Mozilla Firefox, and Internet Explorer 11. See the VMware Knowledgebase article [vSphere Client \(HTML5\) and vSphere Web Client 6.5 FAQ \(2147929\)](#).

You will use the vSphere Web Client to import the Forge Management VM to the VMware host and configure aspects of the Forge Appliance software. After you import the VM, you will use the vSphere Web Client to manage the ESXi host, to power on and off the Forge Management VM, and to access the Console for the Forge Management VM.

To access the VMware vSphere Web Client:

- 1 On the administrative computer, launch Mozilla Firefox (58.0.1 (64-bit) or later) web browser.
- 2 Specify the ESXi hypervisor URL to open the VMware vSphere Web Client on the Forge Appliance:
`https://192.168.1.200`
- 3 When you are prompted, add the security exception for the VMware ESXi server on the Forge Appliance. Click **Add Exception**, review the Certificate information, then click **Confirm Security Exception**.



- 4 Log in to the VMware vSphere Web Client using the default credentials:

User name: root

Password: Password1



- 5 If you are prompted in browser pop-up dialog to save credentials, do not select to save credentials.
- 6 In the Help Us Improve the VMware Host Client dialog, deselect the check box to **Join the VMware Customer Experience Improvement Program**, then click **OK**.



- 7 Continue with [“Deploying the Forge Management VM from an OVF File”](#) on page 42.

5.3.4 Deploying the Forge Management VM from an OVF File

Included in the *PlateSpin Forge 11.3 Appliance Rebuild Kit* files is the VM .ovf file used in the PlateSpin Forge 11.3.0 release build. You will access this .ovf file during the installation process to import the Forge Management VM into VMware ESXi.

NOTE: Before you begin, mount the USB drive with the downloaded *PlateSpin Forge 11.3 Appliance Rebuild Kit* files on the PlateSpin administrative computer.

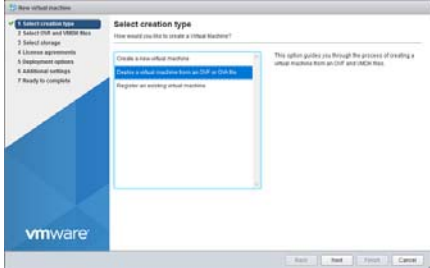
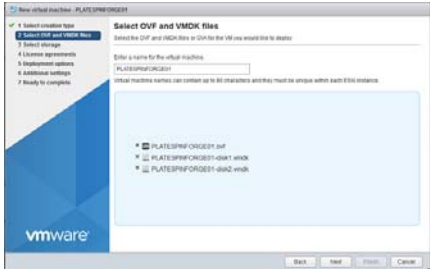
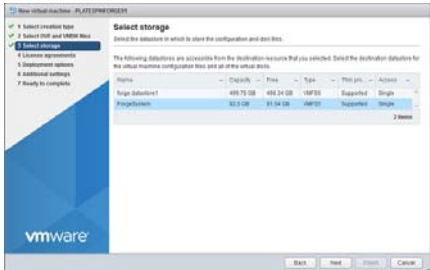
You can use the VMware vSphere Web Client or the VMware OVF Tool utility to deploy the Forge Management VM.

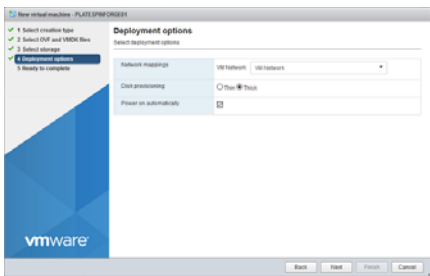
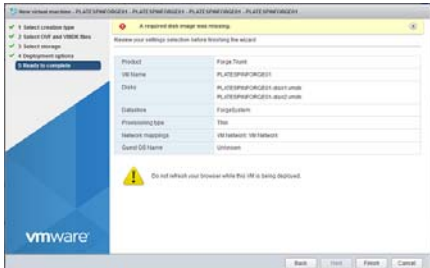
- ♦ [“Deploying the VM with vSphere Web Client”](#) on page 43
- ♦ [“Deploying the VM with VMware OVF Tool”](#) on page 44

Deploying the VM with vSphere Web Client

To deploy the Forge Management VM by using vSphere Web Client:

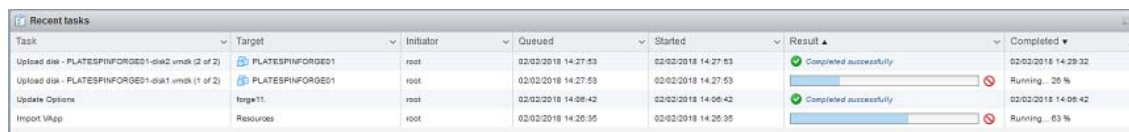
- 1 On the PlateSpin administrative computer, log in with the default credentials to the vSphere Web Client.
See “Establishing a Management Connection through VMware vSphere Web Client”.
- 2 In the vSphere Web Client, select **Virtual Machines** in the left Navigator pane, and then select **Create/Register VM**.
- 3 In the New Virtual Machine wizard, complete the following information:

New Virtual Machine Wizard	Action
<p>1. Select creation type.</p> 	<ol style="list-style-type: none"> 1. Select Deploy a virtual machine from an OVF or OVA file. 2. Click Next.
<p>2. Select OVF and VMDK files.</p> 	<ol style="list-style-type: none"> 1. Browse to the path on your administrative computer where you copied down the OVF template and corresponding data files. 2. Select the OVF file and corresponding .vmdk files from your local path. 3. Specify PLATESPINFORGE01 as the name of the virtual machine. 4. Click Next.
<p>3. Select storage.</p> 	<ol style="list-style-type: none"> 1. Select the ForgeSystem datastore as the destination storage location for virtual machine files. 2. Click Next.

New Virtual Machine Wizard	Action
<p>4. Deployment options.</p> 	<ol style="list-style-type: none"> For Disk provisioning, select Thick. For Power on automatically, do one of the following: <ul style="list-style-type: none"> ♦ No VMware updates needed: Select the check box. The VM is powered on automatically after the VM setup. ♦ VMware updates needed: Deselect the check box. After the VM setup completes, you will install VMware updates in before you manually power on the VM. Click Next.
<p>5. Ready to complete.</p> 	<ol style="list-style-type: none"> Ignore the alert message: A required disk image was missing. Click Finish.

- 4 On the vSphere Web Client, view the progress messages for the OVF import in the **Recent Tasks** panel.

The VM deployment takes about 30 minutes.



Task	Target	Initiator	Queued	Started	Result	Completed
Upload disk - PLATESPINFORGED1-disk2.vmdk (2 of 2)	PLATESPINFORGED1	root	02/02/2018 14:27:53	02/02/2018 14:27:53	Completed successfully	02/02/2018 14:28:32
Upload disk - PLATESPINFORGED1-disk1.vmdk (1 of 2)	PLATESPINFORGED1	root	02/02/2018 14:27:53	02/02/2018 14:27:53	Running... 20 %	
Update Options	forge11	root	02/02/2018 14:06:42	02/02/2018 14:06:42	Completed successfully	02/02/2018 14:06:42
Import VApp	Resources	root	02/02/2018 14:26:35	02/02/2018 14:26:35	Running... 63 %	

- 5 Continue with [Section 5.3.5, “Renaming the Forge Management VM,”](#) on page 45.

Deploying the VM with VMware OVF Tool

If the import of the PlateSpin OVF file fails using the vSphere Web Client, it might be necessary to use the VMware OVF Tool CLI (`ovftool`) to deploy the Forge Management VM.

IMPORTANT: Internet access is required to download the VMware OVF Tool.

To deploy the Forge Management VM by using VMware OVF Tool CLI:

- On the PlateSpin administrative computer, use a web browser to download the latest version of the VMware OVF Tool to the administrative computer.
To download VMware OVF Tool 4.2.0, see [Download VMware Open Virtualization Format Tool 4.2.0](#).
- Install the VMware OVF Tool, according to the VMware instructions.

For information about installing and using the tool, refer to the [VMware OVF Tool Documentation](#).

- 3 On the administrative computer, launch a Command Prompt, then navigate to the VMware OVF Tool default installation directory. Enter

```
cd C:\Program Files\VMware\VMware OVF Tool
```

- 4 Enter

```
ovftool.exe --name=PLATESPINFORGE01 --datastore=ForgeSystem --network="VM Network" --allowExtraConfig <Windows path to OVF file>\PLATESPINFORGE01.ovf vi://root@<ip address of ESXi host>
```

For example, if you mounted the USB drive with the *PlateSpin Forge 11.3 Appliance Rebuild Kit* files to drive letter F:, the path to the OVF file is F:\PLATESPINFORGE01.ovf. The IP address of the ESXi host is 192.168.1.200. You would enter:

```
ovftool -name=PLATESPINFORGE01 -datastore=ForgeSystem -network="VM Network" -allowExtraConfig F:\PLATESPINFORGE01.ovf vi://root@192.168.1.200
```

- 5 When you are prompted to log in to the VMware host, provide the default credentials.

User name: root

Password: Password1

- 6 Wait until the deployment is complete.

The VM deployment takes about 30 minutes.

- 7 Continue with [Section 5.3.5, “Renaming the Forge Management VM,”](#) on page 45.

5.3.5 Renaming the Forge Management VM

After you deploy the Forge Management VM, you must rename the Forge Management VM from PLATESPINFORGE01 to PlateSpin Forge Management VM.

- 1 On the PlateSpin administrative computer, log in with the default credentials to the vSphere Web Client for the Forge Management VMware host.
- 2 Rename the Forge Management VM:
 - 2a In the vSphere Web Client, right-click the Forge Management VM (PLATESPINFORGE01), then select **Rename**.
 - 2b In the **New Name** field, remove the PLATESPINFORGE01 name and type PlateSpin Forge Management VM.
 - 2c Click **Rename**.
- 3 Continue with one of the following:
 - ♦ **VMware updates:** If you need to apply VMware updates, continue with [Section 5.4, “Installing VMware Updates \(VIB Files\),”](#) on page 46 before you license products for the Forge Management VM.
 - ♦ **No VMware updates:** If there are no VMware updates to apply, go directly to [Section 5.5, “Licensing Microsoft Products on the Forge Management VM,”](#) on page 47.

5.4 Installing VMware Updates (VIB Files)

VMware might have some security vulnerability that needs patching. You must install the vSphere Installation Bundle (VIB) files manually by using the ESX Command-Line Interface (`esxcli`) commands.

For more information about potential VMware security vulnerabilities, see [VMware Security Advisories](https://www.vmware.com/us/security/advisories/) (<https://www.vmware.com/us/security/advisories/>).

To install VIB files:

- 1 If the Forge Management VM is running, power down the Forge Management VM gracefully. In the Virtual Machines view in the vSphere Web Client, right-click the Forge Management VM, then select **Power** > **Power Off**.

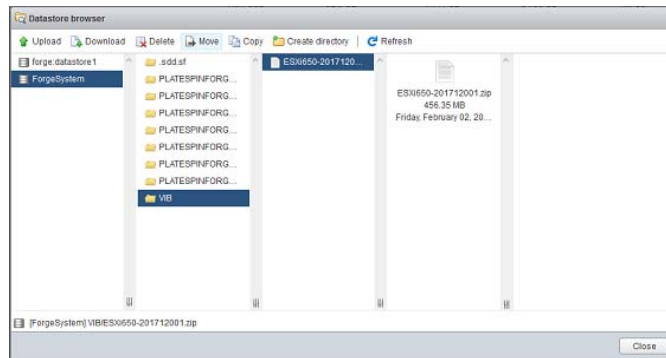
- 2 Download the appropriate VIB files.

We recommend that you upload the patch files to the `ForgeSystem` datastore:

- 2a In the vSphere Web Client, select **Storage** > **Datastore browser**.

- 2b Select `ForgeSystem` datastore, then click **Create directory**, and create a directory call `VIB`.

- 2c Select the newly created `VIB` directory, then click **Upload** and upload the VIB files.



- 3 Go to the ESX Console.

- 4 Install the VIB.

- 4a Begin maintenance mode for the VMware host. In the ESX Console, enter:

```
vim-cmd hostsvc/maintenance_mode_enter
```

- 4b Navigate to the `VIB` folder in the `ForgeSystem` datastore:

```
cd /vmfs/volumes/ForgeSystem/VIB
```

- 4c Unzip the VIB file.

For example, if the VIB file is named `ESXi650-201712001.zip`, enter

```
unzip ESXi650-201712001.zip
```

- 4d Install the update. Enter

```
esxcli software vib update -v /vmfs/volumes/{GUID of ForgeSystem}/VIB -f
```

NOTE: The `esxcli` software update does not work using the sym link `ForgeSystem`. Ensure that you use the GUID that represents the `ForgeSystem` datastore in the above path.

To get the sym link from the ForgeSystem link, run:

```
ls -al /vmfs/volumes
```

For example:

```
[root@forge11:~] ls /vmfs/volumes -al
total 3876
drwxr-xr-x 1 root root      512 Feb  5 17:27 .
drwxr-xr-x 1 root root      512 Feb  2 22:29 ..
drwxr-xr-x 1 root root 14680574-d3cf3364-35d2-580cfe5b8352
drwxr-xr-x 1 root root      8 Jan  1 1970 5a74bb44-94924bd9-0fc7-005056973169
drwxr-xr-t 1 root root    2380 Feb  2 23:10 5a74bb44-94924bd9-0fc7-005056973169
drwxr-xr-x 1 root root      8 Jan  1 1970 5a74bb44-a2420675-4dfe-005056973169
drwxr-xr-t 1 root root    73720 Feb  2 22:12 5a74bc50-c52220e9-a79d-005056973169
lrwxr-xr-x 1 root root      35 Feb  5 17:27 ForgeSystem -> 5a74bb44-94924bd9-0fc7-005056973169
drwxr-xr-x 1 root root      8 Jan  1 1970 b15b4a74-56713201-e710-43870cfd4723
lrwxr-xr-x 1 root root      35 Feb  5 17:27 forge:datastore1 -> 5a74bc50-c52220e9-a79d-005056973169
```

The GUID is 5a74bb44-94924bd9-0fc7-005056973169, in this particular case.

- 4e Repeat [Step 4c](#) and [Step 4d](#) for each VIB that you need to apply.
- 5 Reboot the Forge Appliance.
- 6 After the system comes back up again, exit maintenance mode by entering the following in the ESX Console:


```
vim-cmd hostsvc/maintenance_mode_exit
```
- 7 Power on the Forge Management VM.
- 8 Continue with [Section 5.5, “Licensing Microsoft Products on the Forge Management VM,”](#) on [page 47](#).

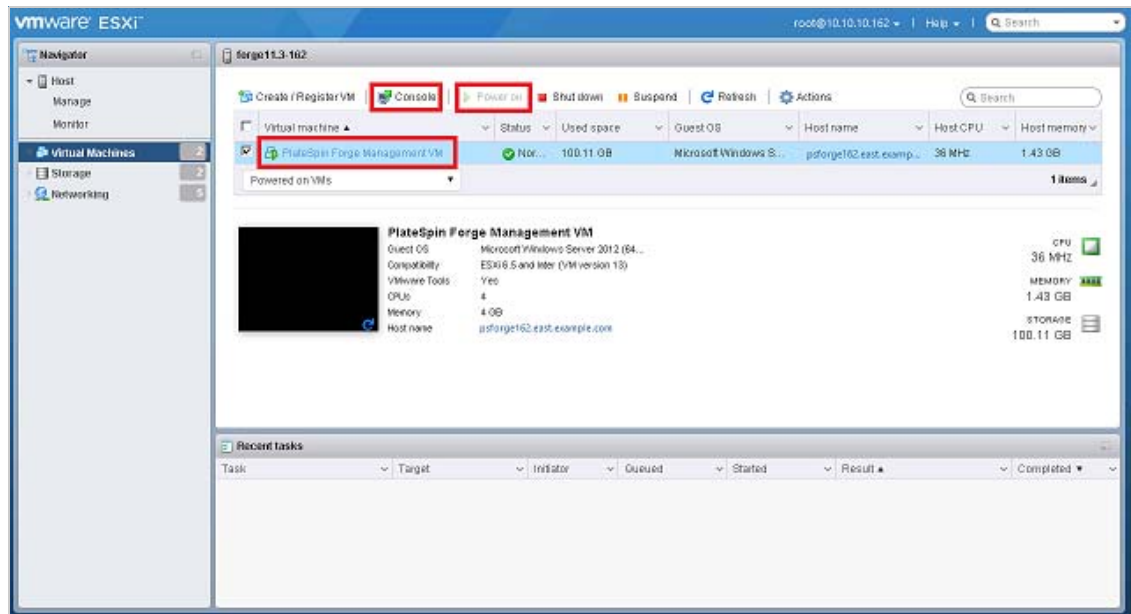
5.5 Licensing Microsoft Products on the Forge Management VM

PlateSpin Forge ships with licenses for Microsoft software installed on the Forge Management VM. You must activate the licenses as you rebuild your Forge Appliance.

- ♦ **Microsoft Windows Server 2012 R2:** A Certificate of Authority (CoA) sticker with a product key for Windows Server 2012 R2 was attached to the bottom cover of the appliance. Use this license during the rebuild.
- ♦ **Microsoft SQL Server 2014 Standard Edition:** A Windows Product Key sticker for SQL Server was attached to the top cover of the appliance. Use this license during the rebuild.
- ♦ [Section 5.5.1, “Accessing the Console for the Forge Management VM,”](#) on [page 47](#)
- ♦ [Section 5.5.2, “Setting the Windows Administrator User Password,”](#) on [page 48](#)
- ♦ [Section 5.5.3, “Licensing Windows Server 2012,”](#) on [page 49](#)
- ♦ [Section 5.5.4, “Licensing the SQL Server 2014,”](#) on [page 49](#)

5.5.1 Accessing the Console for the Forge Management VM

- 1 On the PlateSpin administrative computer, log in with the default credentials to the vSphere Web Client.
- 2 In the inventory panel at the left, locate and select the **PlateSpin Forge Management VM**.
- 3 If the VM is not running, power on the PlateSpin Forge Management VM. In the program tree view, select the **PlateSpin Forge Management VM**, then click the green **Play** button to power it on.

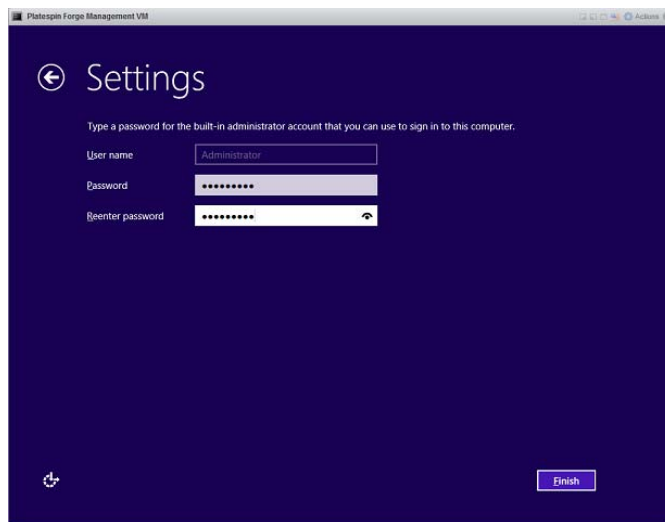


- 4 Click the **Console** tab, then click inside the remote console window.

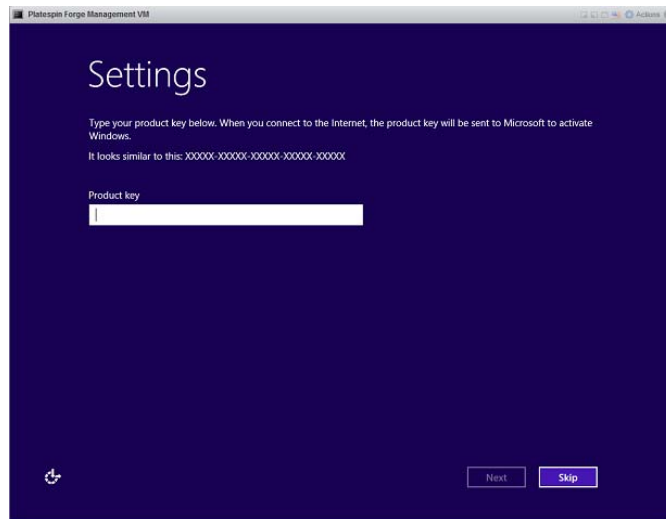
5.5.2 Setting the Windows Administrator User Password

To log in to Windows for the first time and set the Administrator user's password:

- 1 In the vSphere Web Client, access the Forge Management VM console window.
- 2 On the Settings page, type the **Product Key**, then click **Next**.



- 3 After Windows has started, set the password for the Administrator user to `Password1`.



- 4 Click **Finish**.
- 5 Continue with [Section 5.5.3, “Licensing Windows Server 2012,” on page 49](#).

5.5.3 Licensing Windows Server 2012

To activate the license for Windows Server 2012 for the Forge Management VM:

- 1 In the vSphere Web Client, access the Forge Management VM console window.
- 2 On the Windows Server 2012 desktop, start the Windows Activation wizard.
Right-click **Start**, then select **Command Prompt (Admin)** to open the command line interface with Administrator privileges.
- 3 Launch the Software Licensing User Interface wizard. Enter
`slui 4`
The SLUI wizard is used for calling Microsoft for manual license activation.
- 4 Select your country or region, then call the toll-free number provided by Microsoft.
- 5 Write down the confirmation ID provided by the Microsoft automated phone system or customer representative, then click **Enter confirmation ID**.
- 6 In the Enter your confirmation ID page, enter the confirmation ID you obtained from Microsoft, then click **Activate Windows**.
- 7 Continue with [Section 5.5.4, “Licensing the SQL Server 2014,” on page 49](#).

5.5.4 Licensing the SQL Server 2014

To license Microsoft SQL Server 2014 for the Forge Management VM:

- 1 In the vSphere Web Client, access the Forge Management VM console window.
- 2 On the Windows desktop, click **Start**, then select the Apps arrow located at the lower-left corner of the Start screen.
- 3 In the **Apps** tiles array, expand the list, then scroll right to find **SQL Server 2014 Installation Center (64-bit)**.

IMPORTANT: Do NOT select the SQL Server Installation Center app listed in the **Microsoft SQL Server 2008** category.

- 4 In the SQL Server 2014 Installation Center, click **Maintenance > Edition Upgrade**.
- 5 On the Edition Upgrade dialog, select **Enter the product key**, enter the product key to activate the SQL Server 2014 Standard Edition license on the Forge Management VM, then click **Next**.
- 6 Read and accept the license terms, then click **Next**.
- 7 Verify that the database instance of SQL Server is `PLATESPINDB`, then click **Next**.
- 8 On the Ready to Upgrade Edition page, click **Upgrade**.
- 9 After the SQL Server upgrade is complete, close the Installation Center.
- 10 Continue with [Section 5.6, “Licensing the VMware ESXi Hypervisor,”](#) on page 50

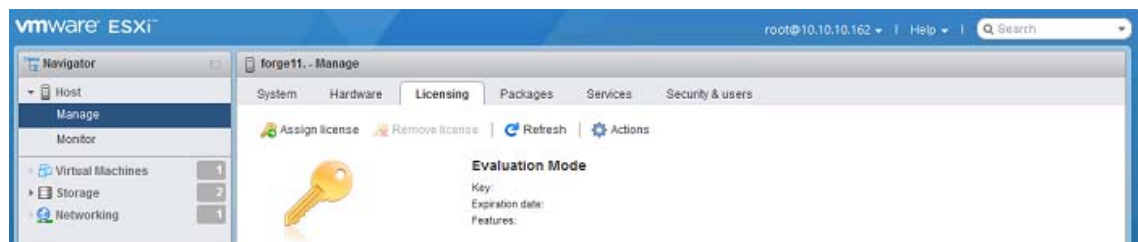
5.6 Licensing the VMware ESXi Hypervisor

PlateSpin Forge ships with a license for the version of VMware installed on the Forge Management VM. You must activate a VMware 6.5 license as you rebuild your Forge Appliance to version 4.

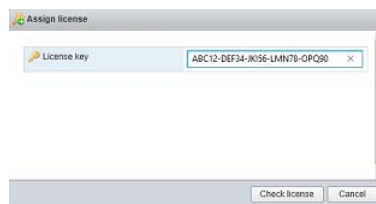
NOTE: If you are upgrading from Appliance version 3, your VMware license is for VMware 5.5. Contact [Customer Care](#) for help to get a replacement VMware license for VMware 6.5.

To activate the ESXi 6.5 license for the Forge Management VM:

- 1 On the PlateSpin administrative computer, log in with the default credentials to the vSphere Web Client.
- 2 In the vSphere Web Client, select **Host** in the Navigator.
- 3 Expand the contents under Host to reveal options, then click **Manage**.
- 4 Select the Licensing tab.



- 5 Click **Assign License**.
- 6 In the Assign License dialog, specify the license key.



- 7 Click **Check License**.
- 8 After the license key is validated with a green check mark icon, click **Assign License**.

The license information appears on the Licensing tab.

- 9 Continue with [Section 5.7, “Running the Forge Appliance Configurator,”](#) on page 51.

5.7 Running the Forge Appliance Configurator

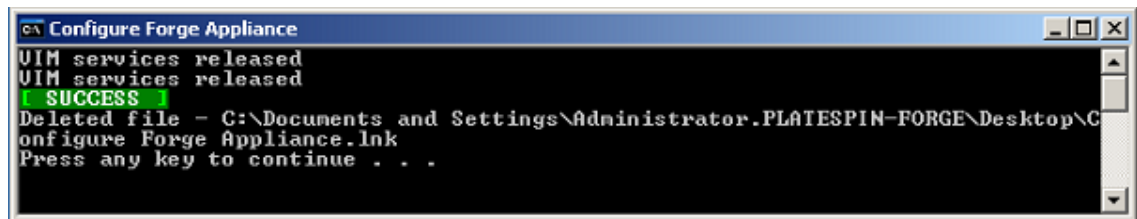
After its components are installed, the Forge Appliance is ready for default configuration.

To configure the Forge Appliance after installation:

- 1 In the vSphere Web Client, access the Forge Management VM console window.
- 2 On the Windows desktop of the Forge Management VM, double-click the **Configure Forge Appliance** shortcut.



The tool runs for about two minutes. The configuration is complete when the system console displays a **SUCCESS** message at the command prompt.



- 3 Shut down the Forge Management VM by using the Shut Down option in Windows. (**Settings > Power > Shut down**).
- 4 When you are prompted, select **Operating system reconfiguration (planned)**.
- 5 After the Forge Management VM has shut down gracefully, continue with [Section 5.8, “Backing Up the Forge Management VM,”](#) on page 51.

5.8 Backing Up the Forge Management VM

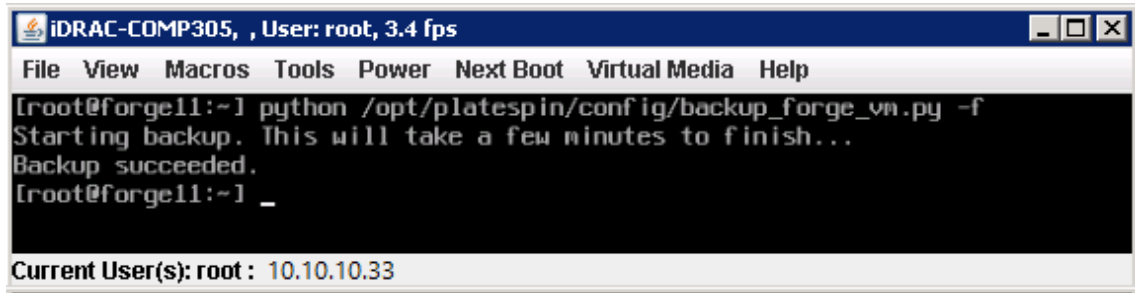
As a precaution after the installation and configuration, you need to back up the Forge Management VM (a.k.a. the “Factory VM”) on the Forge Appliance. The Factory VM will be used if you ever need to perform a Factory Reset operation on the appliance.

To back up the Factory VM:

- 1 At the local console of the Forge Appliance, press Alt+F1.
- 2 Log in as `root` (password: `Password1`).
- 3 At the console prompt, enter the following command:

```
python /opt/platespin/config/backup_forge_vm.py -f
```

Wait for the Python script to complete the factory backup process. It takes about 30 minutes.



- 4 After the Factory VM backup has completed, continue with [Section 5.9, “Shutting Down VMware ESXi Host,”](#) on page 52.

5.9 Shutting Down VMware ESXi Host

After you have backed up the Forge Management VM by creating the Factory VM, power down the VMware ESXi host.

To shut down the ESXi host by using the VMware console:

- 1 At the local console of the Forge Appliance, press Alt+F2 to open the VMware console.
- 2 Enter `halt` at the console prompt, or press F12 to initiate the shutdown sequence.
The shutdown sequence will switch screens, hiding the VMware shutdown process. Press Alt+F2 to return to the screen that displays the shutdown sequence.
The `System halted` message is displayed on the console when the shutdown is complete.
- 3 After the VMware host is halted, continue with [Section 5.10, “Restarting the Appliance,”](#) on page 52.

5.10 Restarting the Appliance

Some aspects of the appliance configuration do not take effect until the next boot. You must reboot the appliance to complete the rebuild process.

To restart the Forge Appliance software:

- 1 Remove the Forge 11.3.0 Installation CD from the CD-ROM drive.
- 2 At the console prompt, enter the `reboot` command and press Enter.
The shutdown sequence switches screens, hiding the shutdown process.
- 3 Press Alt+F2 to return to the screen displaying the shutdown sequence.

Forge is now rebuilt and is in the same state as it was when it left the factory.

- 4 Continue with [Chapter 6, "Reconfiguring the Appliance,"](#) on page 55.

6 Reconfiguring the Appliance

After you rebuild your appliance to PlateSpin Forge 11.3 Appliance 4, you must reconfigure the appliance settings.

- ♦ [Section 6.1, “Configuring the Appliance for Immediate Use,” on page 55](#)
- ♦ [Section 6.2, “Launching the PlateSpin Forge Web Interface,” on page 55](#)
- ♦ [Section 6.3, “Licensing the Forge Product,” on page 56](#)
- ♦ [Section 6.4, “Post-Setup Tasks,” on page 57](#)

6.1 Configuring the Appliance for Immediate Use

To begin the configuration of the appliance, reconnect your administrative computer and use the browser-based Forge Appliance Configuration Console (Forge ACC) utility.

To configure the appliance:

- 1 Power on the appliance hardware.
- 2 Configure Forge by following the instructions in the “[Appliance Configuration Procedure](#)” section of the [PlateSpin Forge Getting Started Guide](#).

6.2 Launching the PlateSpin Forge Web Interface

Most of your interaction with the appliance takes place through the browser-based PlateSpin Forge Web Interface.

The supported browsers are:

- ♦ *Google Chrome*, version 34.0 and later
- ♦ *Microsoft Internet Explorer*, version 11.0 and later
- ♦ *Mozilla Firefox*, version 29.0 and later

NOTE: JavaScript (Active Scripting) must be enabled in your browser:

To launch the PlateSpin Forge Web Interface from any computer:

- 1 Open a web browser and go to:

`http://<hostname_or_IP_address>/Forge`

Replace `<hostname_or_IP_address>` with the DNS host name or the IP address of your Forge VM.

If SSL is enabled, use `https` in the URL.

The first time you log into PlateSpin Forge, the browser is automatically redirected to the License Activation page.

6.3 Licensing the Forge Product

For Forge product licensing, you must have a license activation code. If you do not have a PlateSpin Forge license activation code, request one through the [Customer Center \(http://www.netiq.com/customercenter\)](http://www.netiq.com/customercenter). A Customer Care representative will contact you and provide instructions for how to access the license activation code through your Customer Center account.

You have two options for activating your product license: online or offline.

- ♦ [Section 6.3.1, “Online License Activation,” on page 56](#)
- ♦ [Section 6.3.2, “Offline License Activation,” on page 56](#)

6.3.1 Online License Activation

For online activation, the PlateSpin Forge Web Interface must have Internet access so the PlateSpin Server

NOTE: HTTP proxies might cause failures during online activation. Offline activation is recommended for users in HTTP proxy environments.

To activate a Forge license online:

- 1 In the PlateSpin Forge Web Interface, click **Add PlateSpin Forge License > Add License**. The License Activation page is displayed.

- 2 Select **Online Activation**, specify the email address that you provided when placing your order and the activation code you received, then click **Activate**.

The system obtains the required license over the Internet and activates the product.

6.3.2 Offline License Activation

For offline activation, you first need a computer that has Internet access to access the [PlateSpin Product Activation website \(http://www.platespin.com/productactivation/ActivateOrder.aspx\)](http://www.platespin.com/productactivation/ActivateOrder.aspx) where you will generate the license key file that you will use for offline license activation.

To activate a Forge license when offline:

- 1 In the PlateSpin Forge Web Interface, select **Add PlateSpin Forge License > Add License**. The License Activation page is displayed.
- 2 Select **Offline Activation** and copy the **Hardware ID** shown.

- 3 Use a web browser on a computer that has Internet access to navigate to the [PlateSpin Product Activation website](http://www.platespin.com/productactivation/ActivateOrder.aspx) (<http://www.platespin.com/productactivation/ActivateOrder.aspx>). Log in with your Customer Center user name and password of the user account used when you purchased the product.
- 4 Create a license key file. This process requires the following information:
 - ♦ the activation code that you received
 - ♦ the email address that you provided when you placed your order
 - ♦ the hardware ID that you copied in [Step 2](#)
- 5 Save the generated license key file, transfer it to the product host that does not have Internet connectivity, and use it to activate the product.
- 6 In the Web Interface on the License Activation page, type the path to the file or browse to its location, then click **Activate**.

The license key file is saved and the product is activated based on this file.

6.4 Post-Setup Tasks

Before you set up users and protection contracts on your rebuilt system, review the following configuration alternatives for your system in the [PlateSpin Forge User Guide](#):

- ♦ [“Applying Windows Security Updates to the Forge VM”](#)
- ♦ [“Modifying the Password for the SQL Server System Administrator User”](#)
- ♦ [“Setting Up Appliance Networking”](#)
- ♦ [“Using External Storage Solutions with PlateSpin Forge”](#)

Reconfigure users and preferred settings for PlateSpin Forge Server. See the following in the [PlateSpin Forge User Guide](#):

- ♦ [“Configuring Language Settings for International Versions”](#)
- ♦ [“Configuring User Authorization and Authentication”](#)
- ♦ [“Configuring Email Notification Services for Events and Replication Reports”](#)

A

Troubleshooting the Forge Rebuild

This section includes current information that can help you to troubleshoot the setup of the Forge Appliance.

- ♦ [Section A.1, “Log File Locations,” on page 59](#)
- ♦ [Section A.2, “Errors Occurring During ESXi Installation,” on page 59](#)
- ♦ [Section A.3, “Errors Occurred During Forge Management VM Configuration,” on page 60](#)

A.1 Log File Locations

Use these installation logs to help you diagnose problems with the configuration of the Forge Appliance:

- ♦ The automated ESXi installer writes log files located at `/var/log/messages`.
- ♦ Forge installation logs are located at `/var/log/forge/`.

A.2 Errors Occurring During ESXi Installation

An error has occurred while parsing the installation script

Source: When you are performing the [VMware ESXi configuration](#), you might see the following parsing error for the installation script:

```
Error (see log for more info):
An error has occurred while parsing the installation
script

error:/vmfs/volumes/mpx.vmhba33:C0:T0:L0/KICK/KS.CFG:
line 37: "/pre" script returned with an error.

Press <Enter> to continue
```

Explanation: This is a symptom of the hardware model verification script that is failing.

Action: You must gather information from the installation to understand the corrective actions you need to take.

- 1 Press Alt+F11. This command displays the ESXi alert messages related to the installation failure.
- 2 Press Alt+F1. This command displays the ESXi shell, where you can log in to locate the relevant diagnostic log file:
 - 2a Log in with these credentials:

Username: root

Password: Press Enter for an “empty” password. (This error occurs at the beginning of the ESXi install, so no root password is set.)

- 2b** When you are logged in, navigate to `/var/log/forge/forge.log`.
This file can provide clues to reasons behind the failure of the install.

A.3 Errors Occurred During Forge Management VM Configuration

A FAILURE error occurred on running Forge Appliance Configurator

Source: When you run the Forge Appliance Configurator, you might not see `SUCCESS`.

Troubleshoot: Check the log file found at the location mentioned in the error message. For example:

```
D:\Program Files\PlateSpin Forge  
Server\ForgeApplianceConfigurator\ForgeApplianceConfigurator.log
```

Explanation: The possible causes for this problem could be any of the following:

Possible Cause: The Forge Management VM disk is not `PLATESPINFORGE01`.

Action: Delete the Forge Management VM, then deploy the OVF Template, according to the instructions in [Section 5.3.4, “Deploying the Forge Management VM from an OVF File,” on page 42](#), where the name of the imported VM is `PLATESPINFORGE01`.

Possible Cause: The Forge Management VM name is not `PlateSpin Forge Management VM`.

Action: Rename the Forge Management VM to `PlateSpin Forge Management VM`, according to the instructions in [Section 5.3.5, “Renaming the Forge Management VM,” on page 45](#).

Possible Cause: The Forge ESXi Hypervisor has the Evaluation License.

Action: Follow the instructions in [Section 5.6, “Licensing the VMware ESXi Hypervisor,” on page 50](#), and then re-run the Forge Appliance Configurator.

Possible Cause: The Forge Appliance Configurator log reports an `Installing self-signed SSL certificate` event before the exception error. Check the Event Log if the Forge Management VM’s IIS Admin Service failed to manually or automatically start up because of an `Invalid Signature` error.

Action: Two possible reasons for this issue and actions to take are:

- ♦ IIS sometimes gets in a bad state. While you could uninstall and reinstall IIS on the Forge Management VM, it is easier to redeploy the OVF. Delete the Forge Management VM, then deploy the OVF Template, according to the instructions in [Section 5.3.4, “Deploying the Forge Management VM from an OVF File,” on page 42](#), where the name of the imported VM is `PLATESPINFORGE01`.
- ♦ The checksums of the copied VM folder might not match. Re-copy the VM folder and repeat [Section 5.3.4, “Deploying the Forge Management VM from an OVF File,” on page 42](#).

B Documentation Updates

This section contains information on documentation content changes that were made in this *Field Rebuild Guide* after the initial release of PlateSpin Forge 11.3.

NOTE: This updated information does not appear in the localized versions of the *Field Rebuild Guide*.

- ♦ [Section B.1, “July 2018,” on page 61](#)
- ♦ [Section B.2, “June 2018,” on page 61](#)

B.1 July 2018

Location	Update
“A Forge Appliance Rebuild Kit” in Section 1.4, “What You Need,” on page 9	The files for the PlateSpin Forge Appliance Rebuild Kit are available for download on Micro Focus Patch Finder . Expand PlateSpin Forge 11.3, then select the patch listed as PlateSpin Forge 11.3 Appliance Rebuild Kit . When you are prompted for your Customer Care user identity, log in with user account that has the email address associated with the product purchase. NOTE: Download the files to a USB drive that you can mount as needed on different computers.

B.2 June 2018

Location	Update
“TLS Protocol” in Section 1.4, “What You Need,” on page 9	PlateSpin Forge requires Transport Layer Security (TLS) 1.0 and higher to be enabled on the Forge VM.

