Progress®
Kemp® LoadMaster®

Installation Guide Dell R Series

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Introduction

The LoadMaster is a purpose-built, hardware load balancing and Application Delivery Controller (ADC).

The LoadMaster enables data center clusters which power Internet sites and large intranets to intelligently and efficiently distribute network traffic among web and application servers. A resource optimization layer in front of applications and infrastructure servers gives IT administrators greater control to adapt to network changes and enable the best network and infrastructure performance.

The LoadMaster delivers on these requirements through the inclusion of the latest advancements in Layer 4 and 7 load balancing, content switching, SSL acceleration, Layer 7 content switching, caching, compression, Intrusion Prevention System (IPS), IP and Layer 7 persistence. All Progress Kemp load balancers are optimized for a broad range of IP applications including core Microsoft Enterprise workloads such as Exchange, Lync, SharePoint, RDS and Dynamics.

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Connect the Dell R-Series

To connect the Dell R-Series, follow the steps below:

1. Install the Dell R-Series into a 19 inch rack or another safe location.
2. Connect Ethernet cables to the ports on the Dell R-Series. Please use the worksheet included in the pack to determine which ports to connect. For single-arm setups, the switch only needs to be connected to port 0 (or eth0). You can configure multiple arm setups using the console or Web User Interface (WUI) after the LoadMaster is licensed.
3. Connect the monitor and keyboard to the Dell R-Series (or just a serial cable).
4. Connect the power cable to the Dell R-Series.
5. Turn on power to the unit.

Contents

- Install the LoadMaster
- Boot the Installed LoadMaster
- License and Configure the LoadMaster
- Update from Temporary to Permanent License

Install the LoadMaster

To install the LoadMaster, follow the steps below:

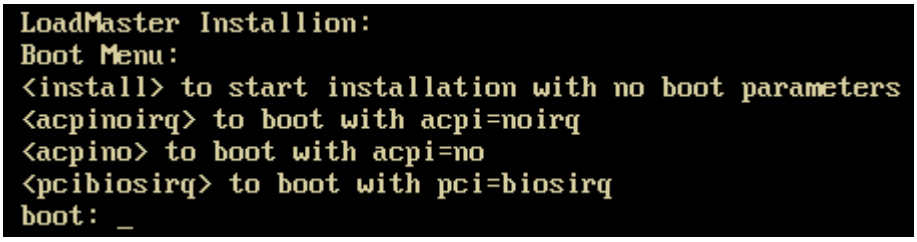
1. Prepare the CD/USB with the image you downloaded from the Progress Kemp website.

2. Insert the CD into the CD-ROM drive.

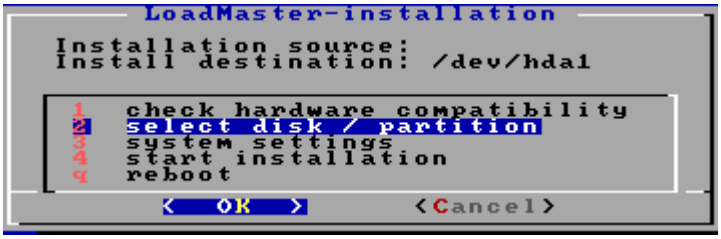
Note: The ISO image can be downloaded from www.kemptechnologies.com/baremetal-trial.

Note: PXE and USB booting options are also supported by the LoadMaster installation ISO file.

3. Boot the server.



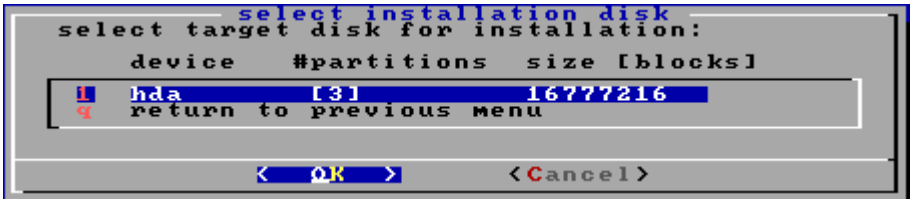
4. Once the server boots from the CD, the LoadMaster installation begins automatically with no parameters if no boot parameters are entered.



Note: For further information on the different boot options that are available, refer to the Bare Metal Boot Options, Technical Note.

Note: The serial number should be automatically pulled from the LoadMaster. If it is not, please enter it when prompted. The serial number should be provided in the licensing email you received from Progress Kemp. If you do not have this, you can log in to the Progress Kemp website using your Progress ID and the serial number should be available in your inventory. The Progress ID you log in with must be associated with the Purchase Order or the person who received the licensing email.

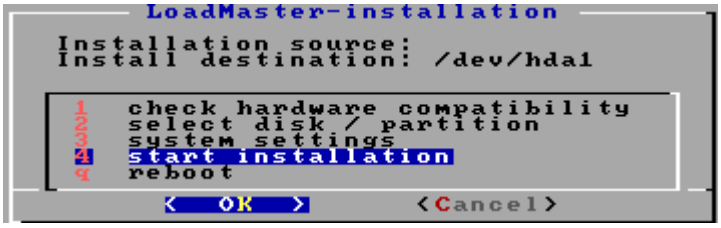
5. Select disk/partition and press **OK**.



6. Select the target disk for installation and press **OK**.



7. Select delete existing partition(s) and press **OK**.



8. Select start installation and press **OK**.
9. Press **OK**. The installation should complete successfully.

Boot the Installed LoadMaster

The server is now ready to be rebooted with the LoadMaster software installed on the local disk. Within the console, select the **Ctrl-Alt-Del** option from the **Macros** drop-down menu.

The server should now begin to boot from the local disk.

Note: Occasionally, call trace code may appear while the LoadMaster is booting up. This can be ignored.

On initial deployment, DHCPv4 and DHCPv6 both run to attempt to obtain an IP address. If the LoadMaster obtains an IP address using DHCP, take note of it because this is how you will access the LoadMaster.

If the LoadMaster does not obtain an IP address using DHCP the static IP address of **192.168.1.101** is assigned and the LoadMaster must be manually configured using the console.

Please refer to the Configuring the LoadMaster Using the Console section for further information regarding manually configuring the LoadMaster.

```
#########################################################################
#
# Your LoadMaster has finished booting.
# UUID: 31159ab6-5da4-4b92-8ee2-b8922cc08dfe
# Serial Number: 446312
# IP address of LoadMaster is 10.154.11.180
#
# Point your browser at https://10.154.11.180 to configure your LoadMaster.
#
#########################################################################
```

License and Configure the LoadMaster

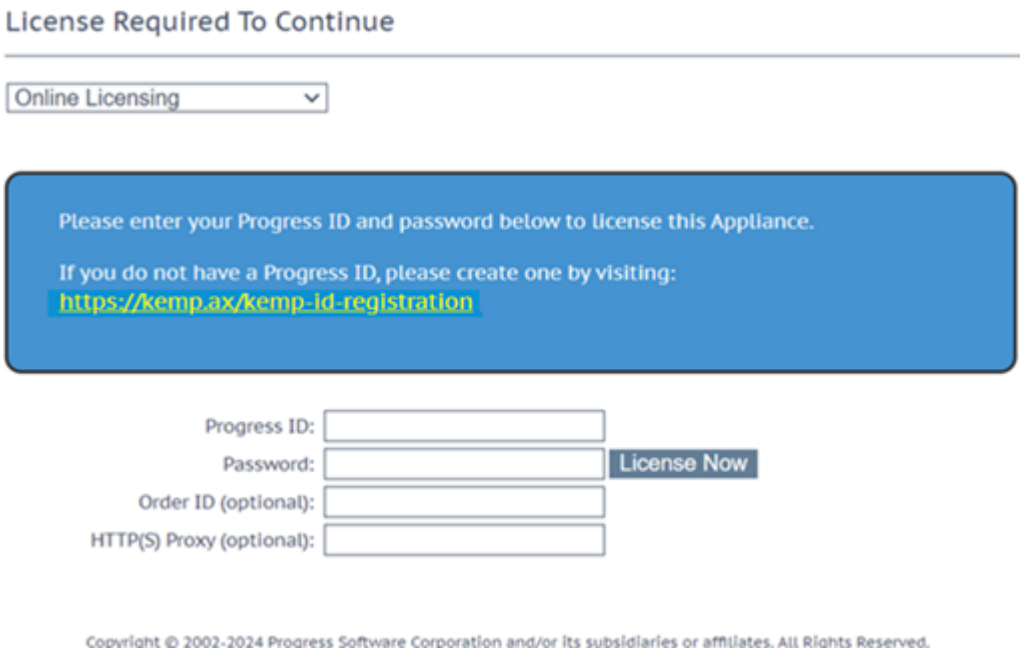
You must now configure the LoadMaster to operate within the network configuration.

1. In an internet browser, enter the IP address that was previously noted.

   Note: Ensure to enter **https://** before the IP address.

2. A warning may appear regarding website security certificates. Click the continue/ignore option to proceed.
3. The LoadMaster End User License Agreement (EULA) screen appears.

   Rread the license agreement and (if you are willing to accept the conditions), click **Agree** to proceed.

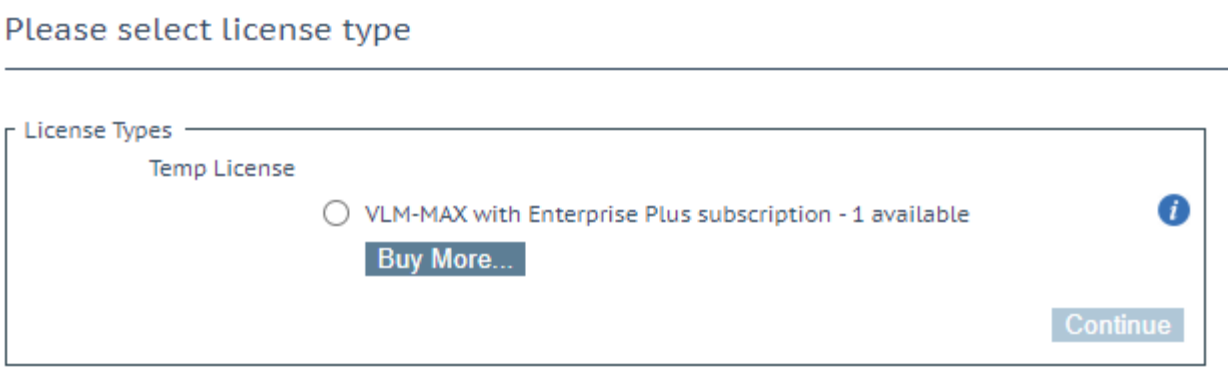


4. If using the **Online** licensing method, fill out the fields and click **License Now**.

   Note: If you are starting with a trial license, there is no need to enter an Order ID. If you are starting with a permanent license, enter the **Order ID#** if this was provided to you.

   Note: If using the **Offline Licensing** method, select **Offline Licensing**, obtain the license text, paste it into the **License** field and click **Apply License**.

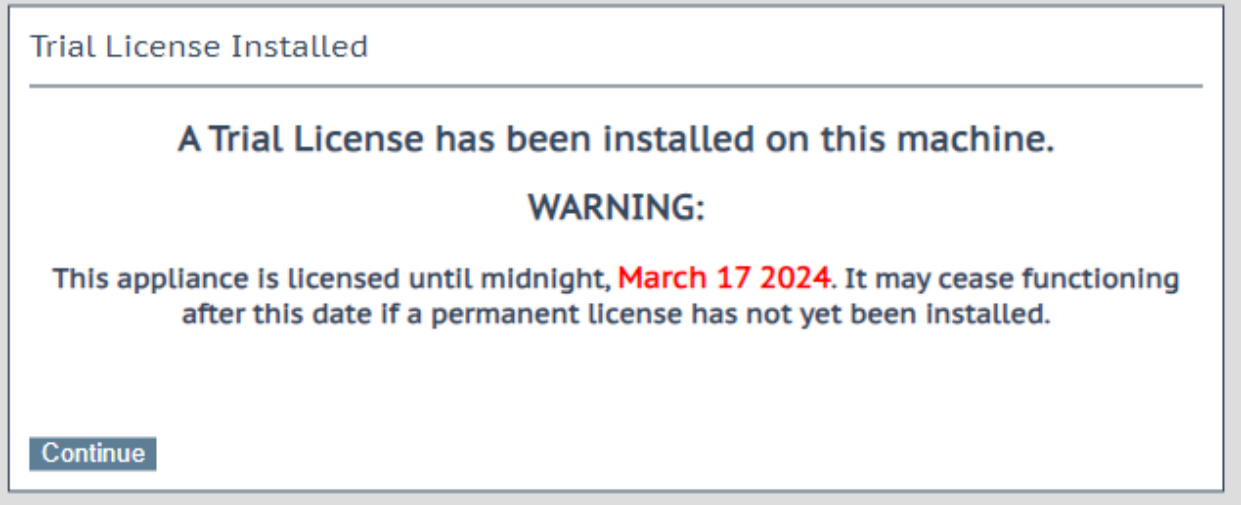
   Note: For detailed instructions on how to register for a Progress ID (formerly Kemp ID) and license the LoadMaster, refer to the **Licensing, Feature Description** on the Documentation Page.



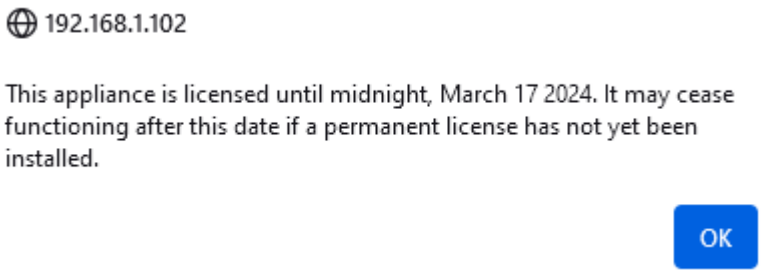
5. If you entered an **Order ID**, a screen appears that provides a list of available licenses for that order ID, in addition to any licenses registered for the Progress ID based on the LoadMaster platform type. Select the license type you want to apply to this LoadMaster.

Note: If the license type you want is not displayed, please contact your Progress Kemp representative.

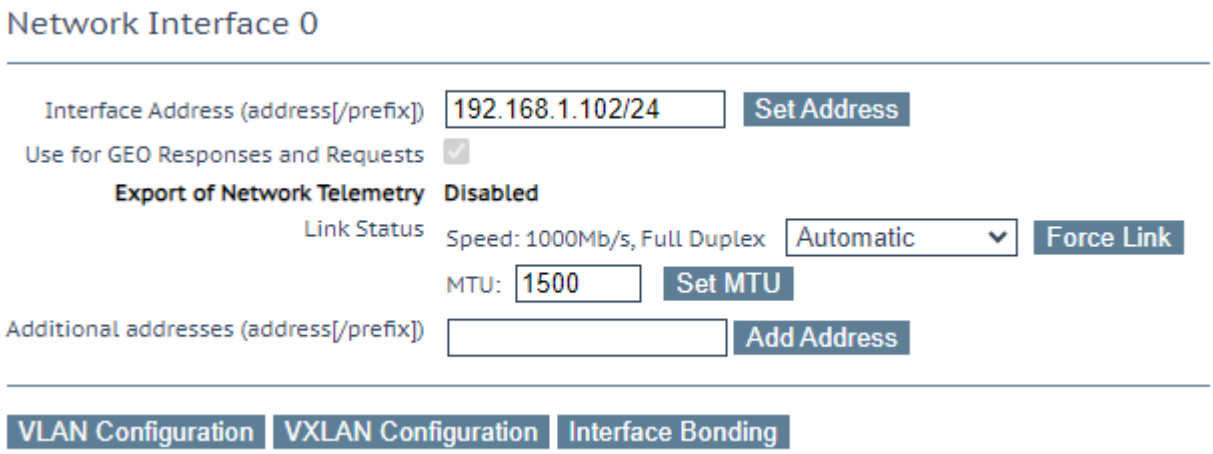
6. Click **Continue**.



7. The login screen appears. Enter the **bal** user name and the password.
8. In the screen informing you that the password has changed, click **Continue**.
9. If your machine has shipped with a temporary license you should get a warning informing you that a temporary license has been installed on your machine and for how long the license is valid.



10. Click **OK** .
11. You should now connect to the **Home** screen of the LoadMaster.
12. Go to **System Configuration > Network Setup** in the main menu.
13. Click the **eth0** menu option within the **Interfaces** section.



14. In the **Network Interface 0** screen, enter the IP address of the eth0 interface, the network facing interface of the LoadMaster, in the **Interface Address** input field.
15. Click **Set Address**.
16. Click the **eth1** menu option within the **Interfaces** section.
17. In the **Network Interface 1** screen, enter the IP address of the eth1 interface, the farm-side interface of the LoadMaster, in the **Interface Address** input field.
18. Click **Set Address**.

    This interface is optional, depending on the network configuration.

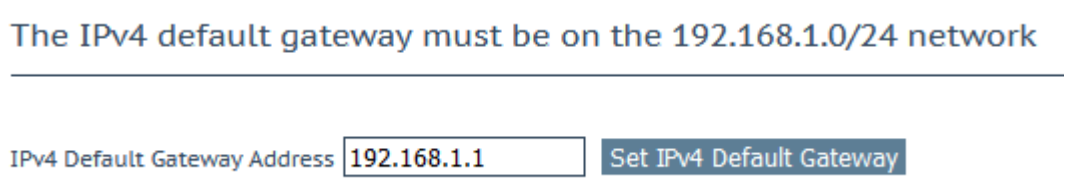
19. Go to **System Configuration > Network Setup > Host & DNS Configuration**.



20. In the **Hostname configuration** screen, enter the hostname in the **Current Hostname** field.
21. Click **Set Hostname**.
22. Click the **System Configuration > Network Setup > Host & DNS Configuration** menu option.



23. In the **DNS configuration** screen, enter the IP address(es) of the DNS Server(s) that is used to resolve names locally on the LoadMaster into the **DNS NameServer** input field.
24. Click **Add**.
25. Enter the domain name to be prepended to requests to the DNS nameserver into the **DNS NameServer** field.
26. Click **Add**.
27. Click the **System Configuration > Network Setup > Default Gateway** menu option.



28. In the **DNS configuration** screen, enter the IP address of the default gateway into the **IPv4 Default Gateway Address** input field.

    If you have an IPv6 Default Gateway, enter the value in the **IPv6 Default Gateway Address** field.

29. Click **Set IPv4 Default Gateway**.

The LoadMaster is now fully installed and ready to be used.

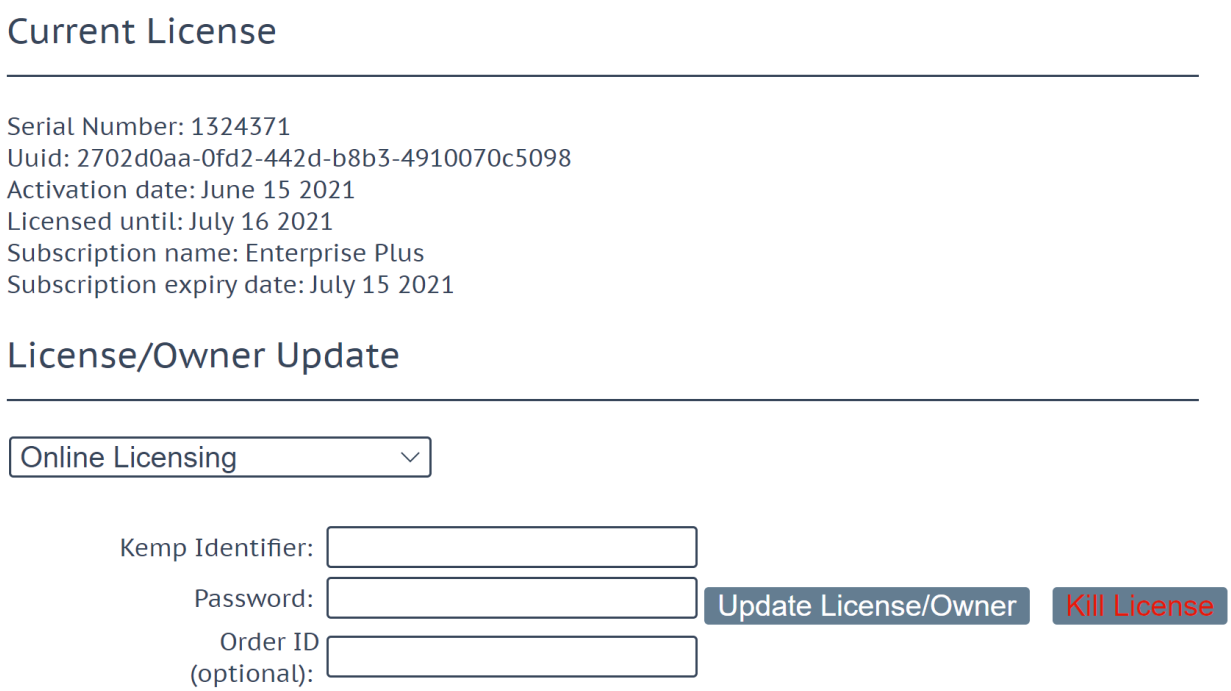
For further information on how to configure and implement the Virtual LoadMaster, refer to the: LoadMaster documentation.

Update from Temporary to Permanent License

Depending on the terms and conditions of purchase, the LoadMaster will be entitled to either a temporary or permanent license. If the LoadMaster has a temporary license, a permanent license will be automatically issued by email upon receipt of payment.

To upgrade the license from temporary to permanent please complete the following steps:

1. Select the **System Configuration** menu option.
2. Select the **System Administration > License Management** menu option.
3. The **License Management** screen appears.



4. If using the **Online Licensing** method, fill in the fields and click **Update License/Owner**.

Note: Do not click **Kill License** unless instructed to by Progress Kemp Support.

5. If using the **Offline Licensing** method, select **Offline Licensing**, copy the license text, paste it into the **License** field and click **Update License/Owner**.
6. We recommend rebooting after updating the license.
7. The license should now be updated.

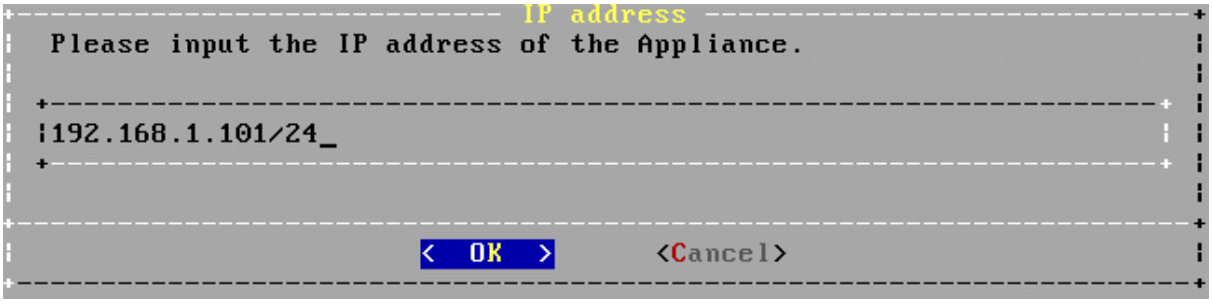
The LoadMaster is now fully installed, fully licensed and ready to be used. For further information on how to configure and implement the LoadMaster, please refer to the LoadMaster documentation which can be downloaded from the https://docs.progress.com/ page.

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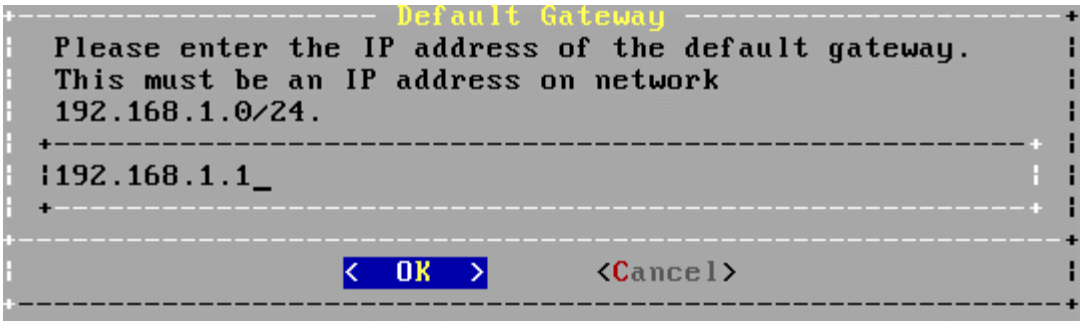
Configuring the LoadMaster Using the Console

If the LoadMaster does not automatically obtain an IP address using DHCP, or if you would prefer to configure the LoadMaster using the console, then you must complete the following configuration steps before starting the LoadMaster.

1. Log in into the LoadMaster using the console with the following settings:
   - **lb100 login:** bal
   - **Password:** 1fourall



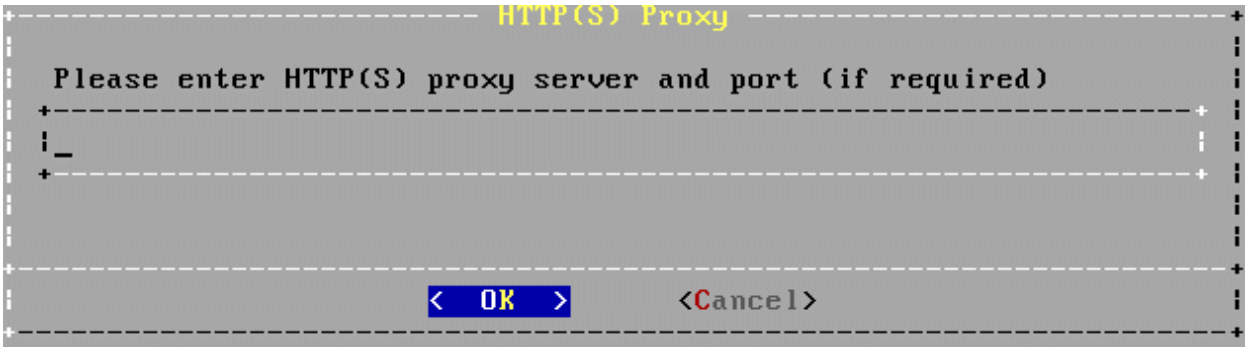
2. Enter the IP address of the eth0 interface, the network facing interface of the LoadMaster, in the input field within the **IP address** dialog box.
3. Press **OK**.



4. Enter the IP address of the default gateway in the input field of the **Default Gateway** dialog box.
5. Press **OK**.



6. Enter a space separated list of nameserver IP addresses.



7. Enter the HTTP(S) proxy server and port (if required).
8. Once these are set, a prompt will appear asking to connect to the web interface at the newly configured IP address. In an internet browser enter the IP address of the eth0 entered in Step 2.

Note: Ensure to enter **https://** before the IP address.

---

9. A warning may appear regarding website security certificates. Click the continue/ignore option to proceed.
10. The LoadMaster End User License Agreement (EULA) screen appears.
11. Read the license agreement and (if you are willing to accept the conditions), click **Agree** to proceed.
12. If the machine has shipped with a temporary license, a warning appears informing that a temporary license has been installed on the machine and for how long the license is valid.
13. Click **OK**.

14. The home screen of the LoadMaster should appear.

The LoadMaster is now fully installed and ready to use. For further information on how to configure and implement the Virtual LoadMaster, please refer to the which can be found here: LoadMaster documentation.

4

The iDRAC Module

Note: iDRAC Enterprise may not be installed on your Dell Server Platform. Please confirm with your Dell Support Team.

The iDRAC module gives network administrators a dedicated management channel for device maintenance. The iDRAC functionality can be accessed by using a Command Line Interface (CLI) or a supported web browser. The iDRAC has its own network connection, memory, processor and access to the system bus. Key features of the iDRAC include remote console capabilities, power management and virtual media access.

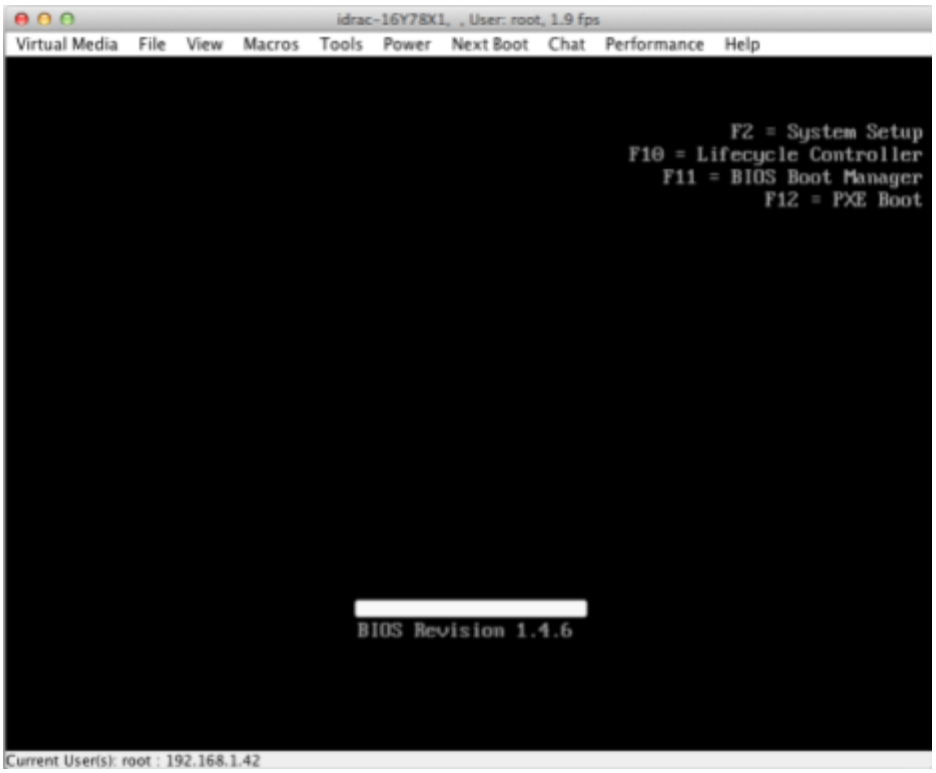
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- Configure the iDRAC Module
- Restore Functionality Using the iDRAC Module

Configure the iDRAC Module

To configure the iDRAC module, follow the steps below.

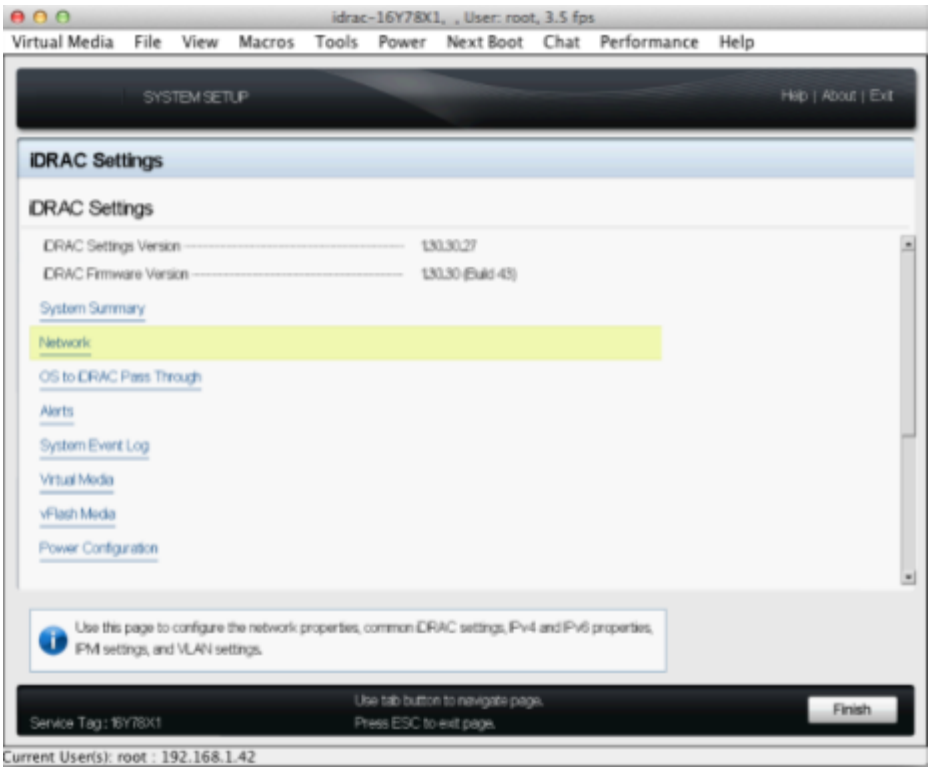
1. Connect and boot the iDRAC.



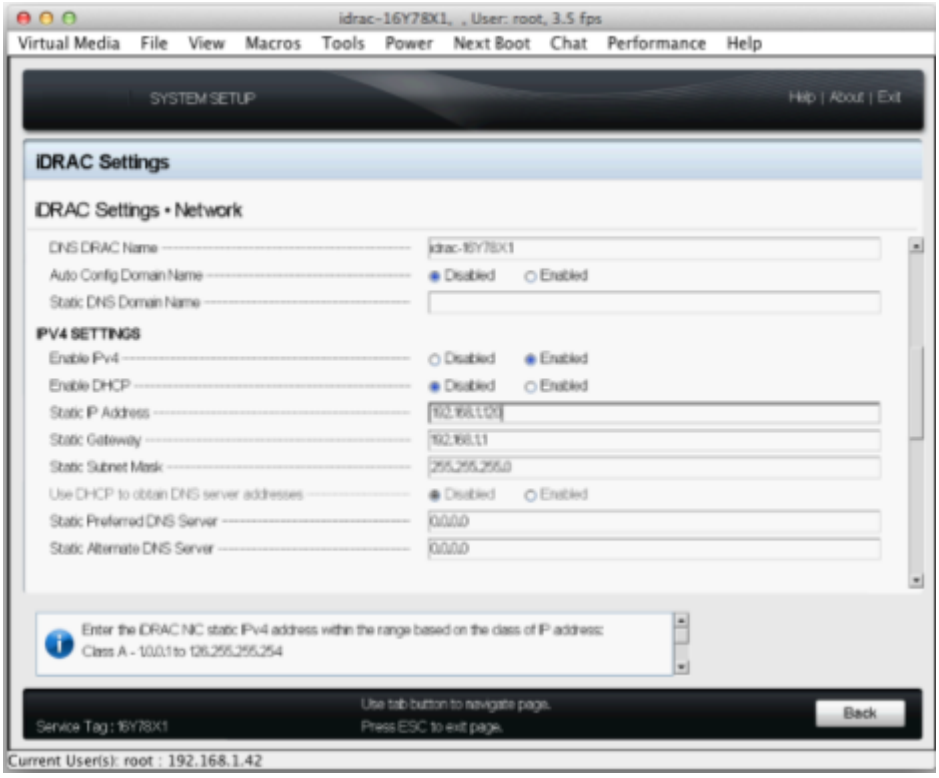
2. At boot prompt, press **F10** on the keyboard to enter the Lifecycle controller.



3. In the main menu, select **Home**.
4. Click **Configure server for remote access (iDRAC)**.

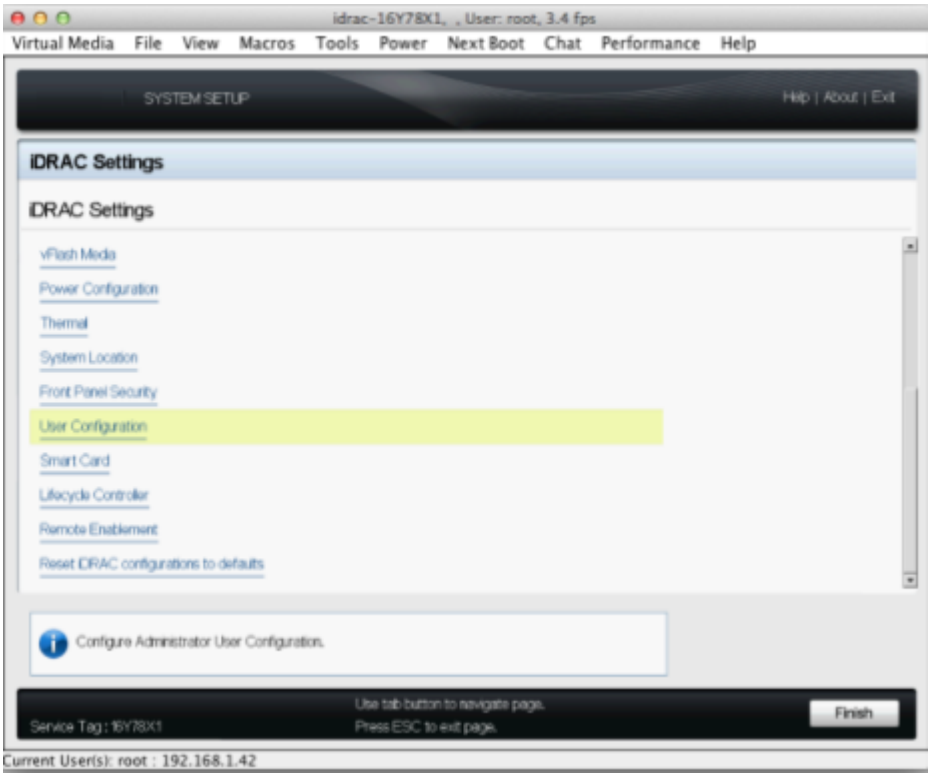


5. Click **Network**.

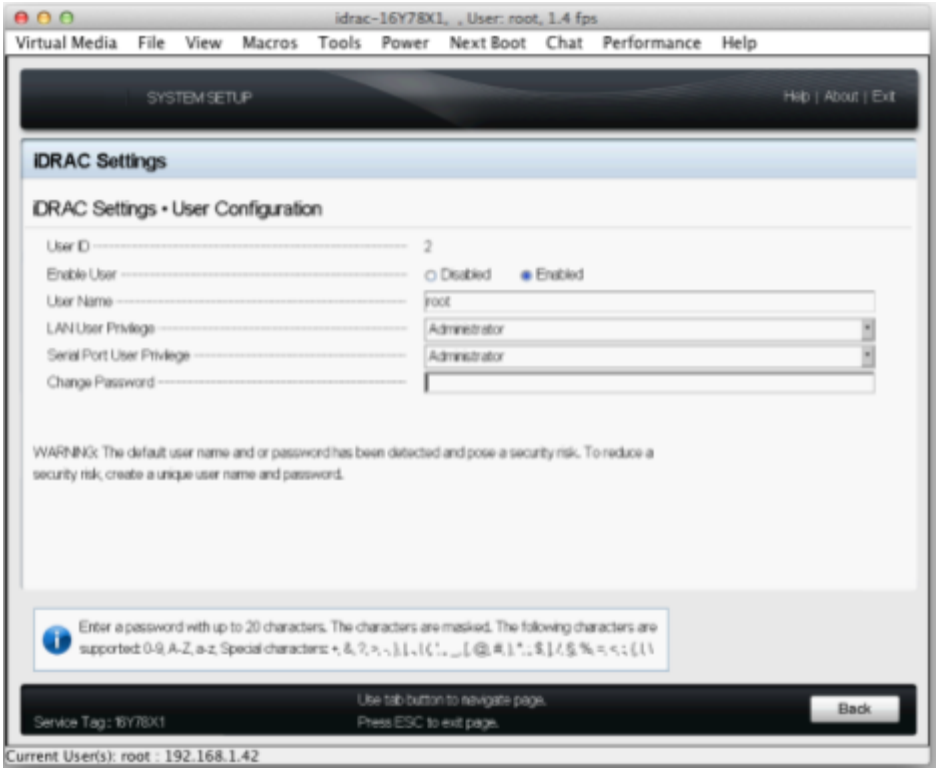


6. Select **Enabled** for the **Enable IPv4** option.
7. Set the **Static IP Address**.

8. Set the **Static Gateway**.
9. Set the **Static Subnet Mask**.
10. Click **Back**.



11. Click **User Configuration**.



12. Set the values as required.
13. Click the **Back** button.
14. Click **Exit**.
15. Now, log in to the iDRAC module from a web browser by entering the IP address previously configured.

Note: Ensure to enter **https://** before the IP address.

Restore Functionality Using the iDRAC Module

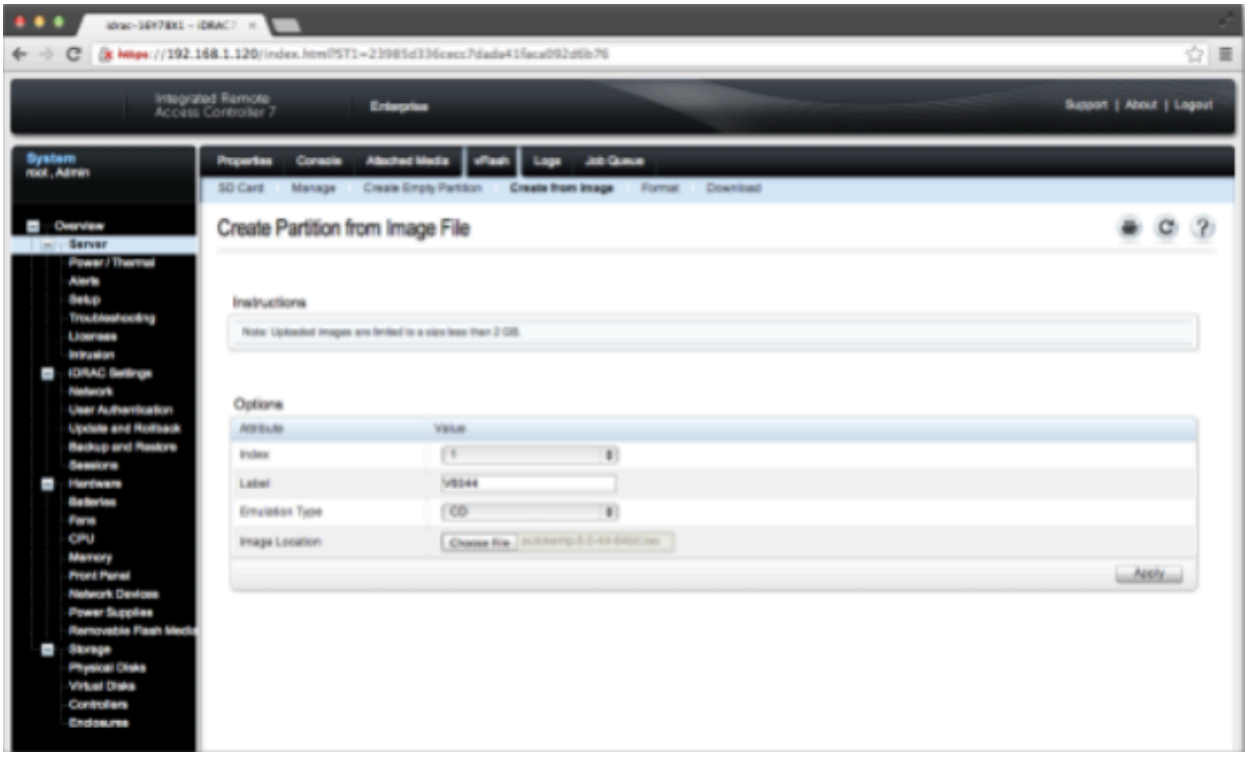
The iDRAC module is an effective way of restoring functionality to units when the Solid State Drive (SSD) needs to be replaced. The server is able to boot from an ISO uploaded to the vFlash SD card and reinstall the firmware.

Follow the steps below to restore using the iDRAC:

1. First, create a vFlash image.
2. Then, log in to the iDRAC Web User Interface (WUI) by navigating to the IP address in a web browser.

   Note: Ensure to enter **https://** before the IP address.

3. Navigate to **vFlash** and select **Create from Image**.

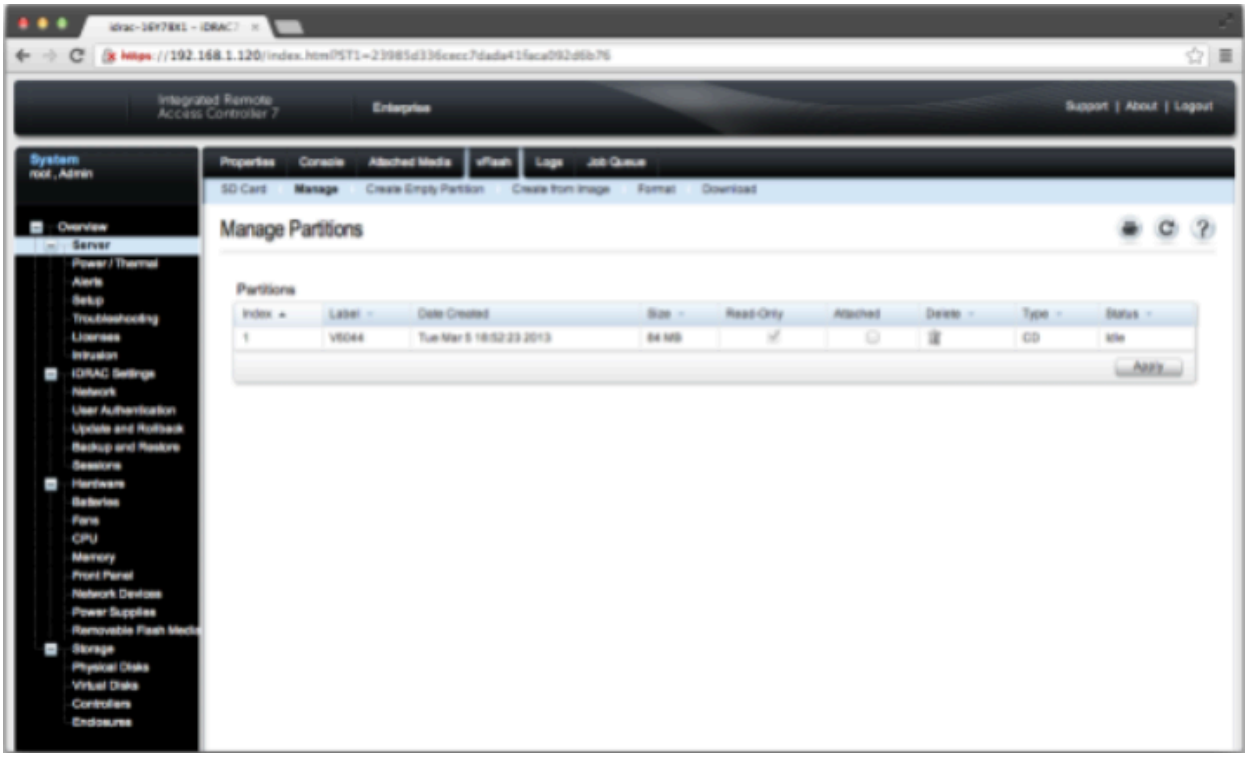


4. Select **1** as the **Index** value.
5. Enter a **Label**.
6. Select **CD** as the **Emulation Type**.
7. Click **Choose File** and navigate to the relevant **.iso** file.

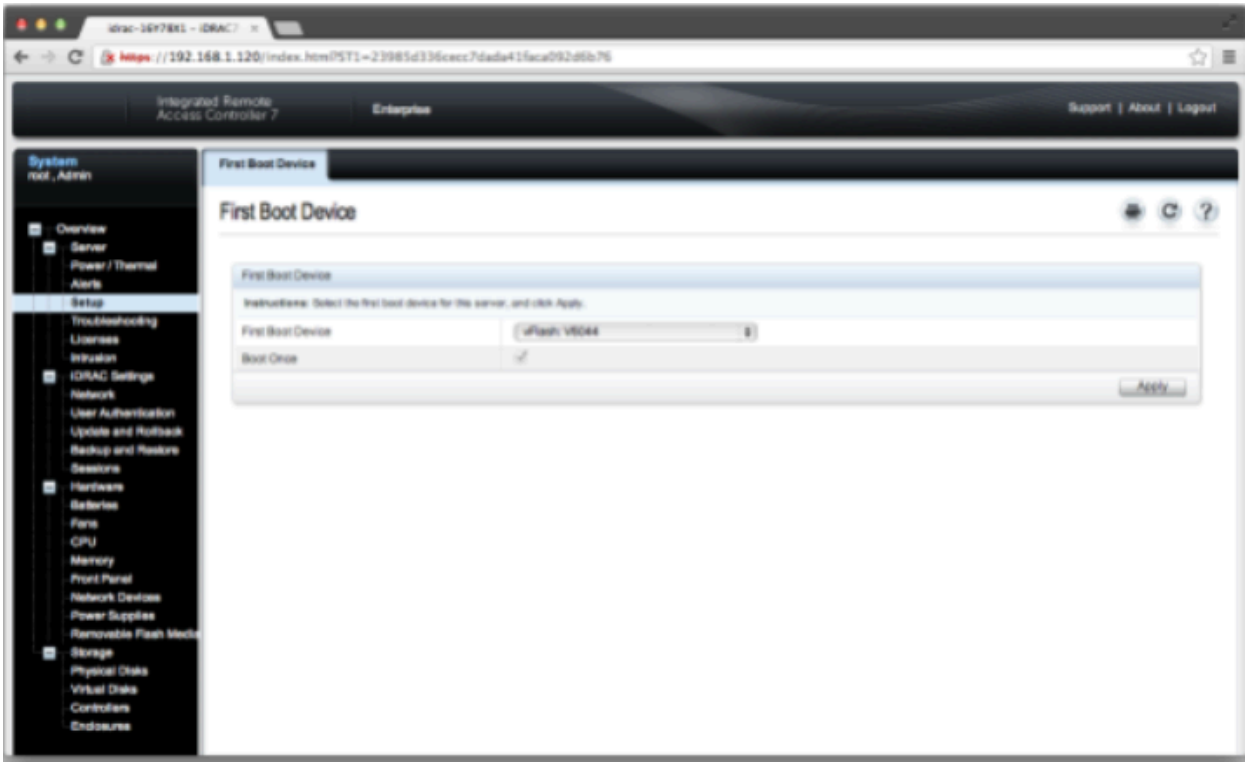
Note: 64-bit firmware must be used for Dell PERC controllers to be supported. 32-bit firmware gives an error saying the hard drive cannot be found.

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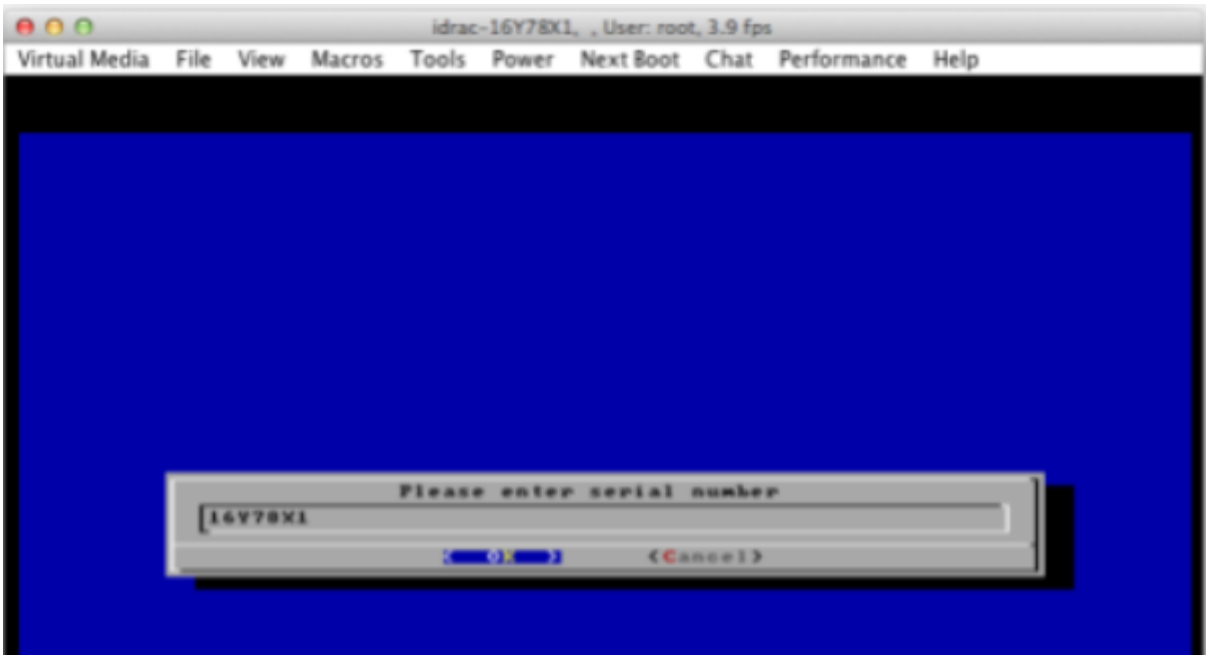
8. Wait for the vFlash partition to be created successfully.
9. Navigate to **vFlash > Manage**.



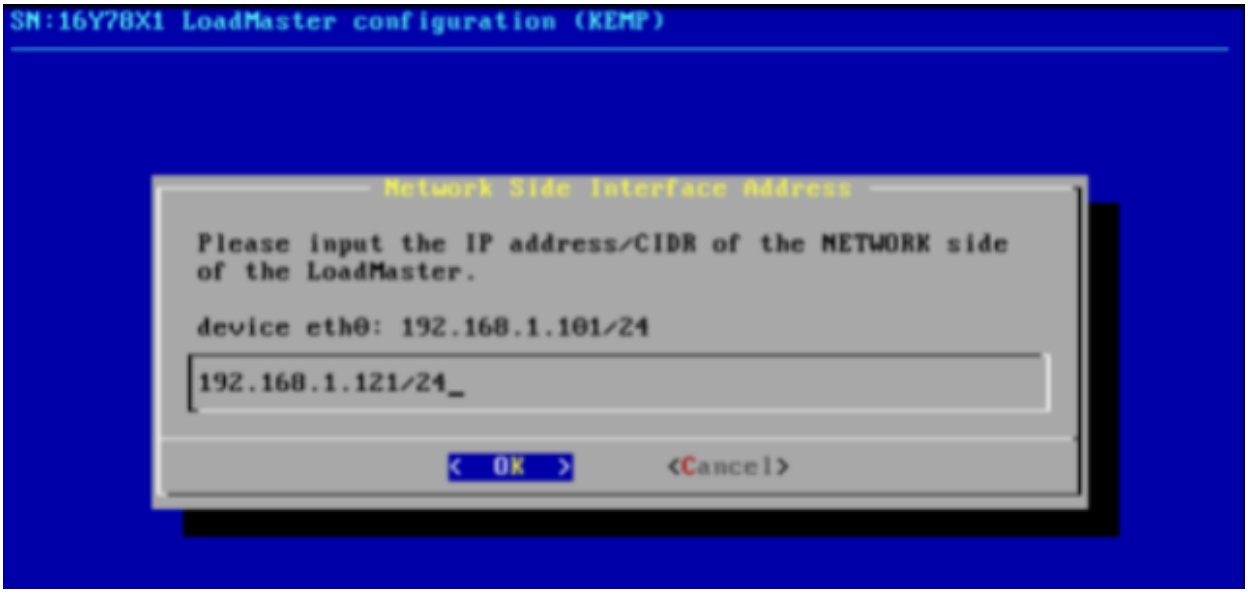
10. Select the **Attached** checkbox.
11. Click **Apply**.
12. Navigate to **Overview > Server > Setup**.



13. Select the relevant **First Boot Device.**
14. Click **Apply**.
15. Reboot the LoadMaster and observe the installation.



16. Enter the service tag as the serial number and press **OK**.
17. A message will be displayed informing that the installation was successful.



18. Enter the IP address and press **OK**.
19. When the quick-start setup is finished, the LoadMaster will reboot.
20. Move the network cable to the general NIC (use the left-most interface riser card above the iDRAC.
21. Connect to the LoadMaster WUI by entering the IP address of the LoadMaster in a web browser. Ensure to enter **https://** before the IP address.

22. Accept the license agreement.
23. License the LoadMaster. For further information, refer to the LoadMaster Licensing Feature Description.

    Note: If you are unable to complete licensing, contact Progress Kemp.

24. Set the password and log in.

After logging in successfully the LoadMaster **Home** screen should appear. Verify that the installation has completed successfully.

5

References

Unless otherwise specified, the following documents can be found at https://docs.progress.com/.

WUI, Configuration Guide

Licensing, Feature Description

LoadMaster, Product Overview

Bare Metal Boot Options, Technical Note