LoadMaster for Cisco UCS B-Series Blade Servers
Installation Guide

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1 Introduction

The KEMP LoadMaster load balancing solution is specifically optimized for the UCS B-series blades, enabling customers to deploy full-feature, high-performance load balancers. This can reduce network design complexity as well as increase performance through the direct access to the virtual networking fabric. Easily deployed on UCS Blades as a bare metal solution, KEMP’s LoadMaster for UCS offers unique value. The KEMP solution is designed to handle load balancing for application-to-application connections or at the edge for external/internet based connections to web services.

Depending on the license, the LoadMaster will support 6, 16 or 32 cores. If hyper-threading is present and enabled the number of supported cores is doubled. This document describes the steps required to install the KEMP LoadMaster software on a Cisco UCS B-Series Blade Server.

1.1 Pre-requisites

The following pre-requisites are required:

- A Cisco UCS B-Series Blade Server.
- An ISO image with the LoadMaster software.
- For a standalone LoadMaster one IP-address on an untagged LAN is required. Three IP-addresses are required for a HA pair.
- The local disk on the Cisco UCS B-Series Blade Server should be empty as it will be re-partitioned during the installation of the LoadMaster software.
- The boot order on the B-Series Blade Server should be configured as follows:
  1. Local Disk
  2. CD_ROM

The boot order can be checked and configured within the Boot Order Details section on the General tab of the Cisco Unified Computing Systems Manager.
2 Installing LoadMaster on the Cisco UCS Blade

The following steps must be completed in order to install the LoadMaster software on the Cisco B-Series Blade Server. These steps must be completed on the jump host, where the LoadMaster installation ISO image is located.

2.1 Open the KVM console for the B-series server

1. Select the Servers tab in the navigation pane.
2. Within the expandable tree view select the relevant server.
3. Select the General tab in the main pane.
4. Click the KVM console option within the Actions section.
5. This will open a KVM console window from which the installation can be completed.
2.2 Create a virtual CD-ROM

In the KVM console window complete the following steps:

1. Select the Virtual Media tab.
2. Click the Add Image button to open a file-selector window.
3. Select the LoadMaster installation image.
4. Click the Open button.
5. Click the Mapped button.

The Virtual Media tab of the KVM console should now correspond with Figure 2-2.
2.3 Boot the Server

The server is now ready to be booted to complete the installation procedure.

If the local disk is empty, that is contains no valid boot partition, simply click the **Boot Server** option on the KVM console. The server is booted from the previously mapped virtual CD.

If the local disk does contain a valid bootable partition you can explicitly select the virtual CD from the servers boot menu by completing the following steps:

1. Press **F6** when the boot process reaches the point illustrated in Figure 2-3.

![Figure 2-3 Server Boot Menu Selection](image)

2. The **Boot Menu Screen**, as illustrated by Figure 2-4, appears

![Figure 2-4 The Boot Menu Screen](image)

3. Select the **Cisco Virtual CD/DVD** option and press **Enter**.
   The server should boot from the virtual CD
2.4 Install the LoadMaster

Once the server boots from the virtual CD, as described in Section 2.3, the LoadMaster installation process automatically begins.

The serial number will be automatically populated. Press OK.

The installation then completes as shown in Figure 2-5.

![Figure 2-5 Installation Complete]

2.5 Boot the Installed LoadMaster

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

The server should now begin to boot from the local disk.
The LoadMaster should obtain an IP address via DHCP, please note this value.

If the LoadMaster does not obtain an IP address via DHCP then the LoadMaster must be manually configured using the KVM console once the license key has been obtained.

Please refer to Section 3 for further information regarding manually configuring the LoadMaster.

2.6 Configure the LoadMaster

The LoadMaster must now be configured to operate within the network configuration.

1. In an internet browser, enter the IP address that was previously noted in Section 2.5.

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

2. A warning may appear regarding website security certificates. Please click the continue/ignore option.

3. Enter the user name and password when requested.

Please use the following login credentials:

    lb100 login: bal

    Password: 1fourall
4. Enter the KEMP ID and Password and click License Now.
   If using the Offline Licensing method, obtain a license, paste it into the License field and click Apply License.

   For detailed instructions on how to register for a KEMP ID and license the LoadMaster, refer to the Licensing, Feature Description.

5. The LoadMaster End User License Agreement screen appears.
   Please read the license agreement and, if you are willing to accept the conditions therein, click on the Agree button to proceed.

6. The Change Password screen appears

7. Enter a new password for the bal user in the Password input field and retype it in the Retype Password input field.

8. The login screen appears again, enter the bal user name and the new password as defined in Step 6

9. In the screen informing you that the password has changed, press the Continue button

10. 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.
11. You should now connect to the **Appliance Vitals** screen of the LoadMaster.

![Figure 2-10 Appliance Vitals screen](image)

12. Click on the **System Configuration** menu option.

13. Click on 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 on the **Set Address** button.

16. Click on 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 on the **Set Address** button.

This interface is optional, depending on the network configuration.

19. Click on the **Local DNS Configuration > Hostname Configuration** menu option.

![Figure 2-12 Set Hostname screen](image)
20. In the **Hostname configuration** screen, enter the hostname into the **Current Hostname** input field.

21. Click on the **Set Hostname** button.

22. Click on the **Local DNS Configuration > DNS Configuration** menu option.

<table>
<thead>
<tr>
<th>DNS Servers</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNS NameServer (IP Address)</td>
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<tr>
<td>-----------------------------</td>
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<td></td>
</tr>
</tbody>
</table>

23. In the **DNS configuration** screen, enter the IP address(es) of the DNS Server(s) which will be used to resolve names locally on the LoadMaster into the **DNS NameServer** input field.

24. Click on the **Add** button.

25. Enter the domain name that is to be prepended to requests to the DNS nameserver into the **DNS NameServer** input field.

26. Click on the **Add** button.

27. Click on the **Route Management > Default Gateway** menu option.

<table>
<thead>
<tr>
<th>Default Gateway</th>
<th>IPv4 Default Gateway Address</th>
<th>IPv6 Default Gateway Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.110.1</td>
<td>2001:610:300:b:108</td>
</tr>
</tbody>
</table>

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, please enter the value in the **IPv6 Default Gateway Address** input field.

29. Click on the **Set IPv4 Default Gateway** button.

The LoadMaster is now fully installed and ready to be used. For further information on how to configure and implement the Virtual LoadMaster, please refer to the LoadMaster documentation which can be downloaded from the [http://www.KEMPtechnologies.com/documentation](http://www.KEMPtechnologies.com/documentation) page.
3 Configuring the LoadMaster via the KVM Console

If the LoadMaster does not automatically obtain an IP address using DHCP as described in Step 4, Section 2.6, or if the user prefers to configure the LoadMaster via the KVM console, then the following configuration steps must be completed before starting the LoadMaster.

1. Login into the LoadMaster via the KVM-console using the settings
   
   
   \[ \text{lb100 login: bal} \]
   
   \[ \text{Password: 1fourall} \]
   
   2. If required, change the LoadMaster password (for the bal user) when prompted to within the KVM console.

   3. If required, click OK within the dialog box informing of the password change

   4. Click OK within Quick Setup Help dialog box.

   5. Enter the IP address of the eth0 interface, the network facing interface of the LoadMaster, in the input field within the Network Side Interface Address dialog box.

   This value must be configured from within the KVM console.

   6. Click OK.

   ![Network Side Interface Address dialog box]

   **Figure 3-1 Network Side Interface Address**

   7. Enter the IP address of the eth1 interface in the input field within the Farm Side Interface Address dialog box. The eth1 interface is only configured if you have a two-armed configuration.

   This interface can be configured at a later date using the LoadMaster WUI if preferred.

   8. Click OK.

   9. Enter the hostname (you can accept the default value of ‘KEMP’) into the input field of the LoadMaster Hostname dialog box.

   10. Click OK.

   11. Enter the IP address(es) of the DNS Server(s) which will be used to resolve names locally on the LoadMaster into the input field of the Name Server IP Addresses dialog box.

   This interface can be configured at a later date using the LoadMaster WUI if preferred.

   12. Click OK.
13. Enter the domain name that is to be prepended to requests to the DNS nameserver in the input field of the **Domain List** dialog box.

This interface can be configured at a later date using the LoadMaster WUI if preferred

14. Click **OK**.

15. Enter the IP address of the default gateway in the input field of the **Default Gateway** dialog box.

This value must be configured from within the KVM console

16. Click **OK**.

![Default Gateway dialog box](image)

**Figure 3-2 Default Gateway**

17. Click **Yes** within the **Reboot** screen when requested.

![Reboot screen](image)

**Figure 3-3 Reboot**

18. In your internet browser enter the IP address of the eth0 inter you entered in Step 6. Ensure you place ‘https://’ before the IP address.

19. You may get a warning regarding website security certificates. Please click on the continue/ignore option.

20. The LoadMaster End User License Agreement screen appears. Please read the license agreement and, if you are willing to accept the conditions therein, click on the **Agree** button to proceed.
21. 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.

Click on the OK button

22. You should now connect to the Appliance Vitals screen of the LoadMaster.

The LoadMaster is now fully installed and ready to be used. For further information on how to configure and implement the Virtual LoadMaster, please refer to the LoadMaster documentation which can be downloaded from the http://www.KEMPtechnologies.com/documentation page.
4 References

Unless otherwise specified, the below documents can be found at http://www.kemptechnologies.com/documentation.

Licensing, Feature Description
## Document History

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