LoadMaster in CenturyLink

Feature Description

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Copyright Notices

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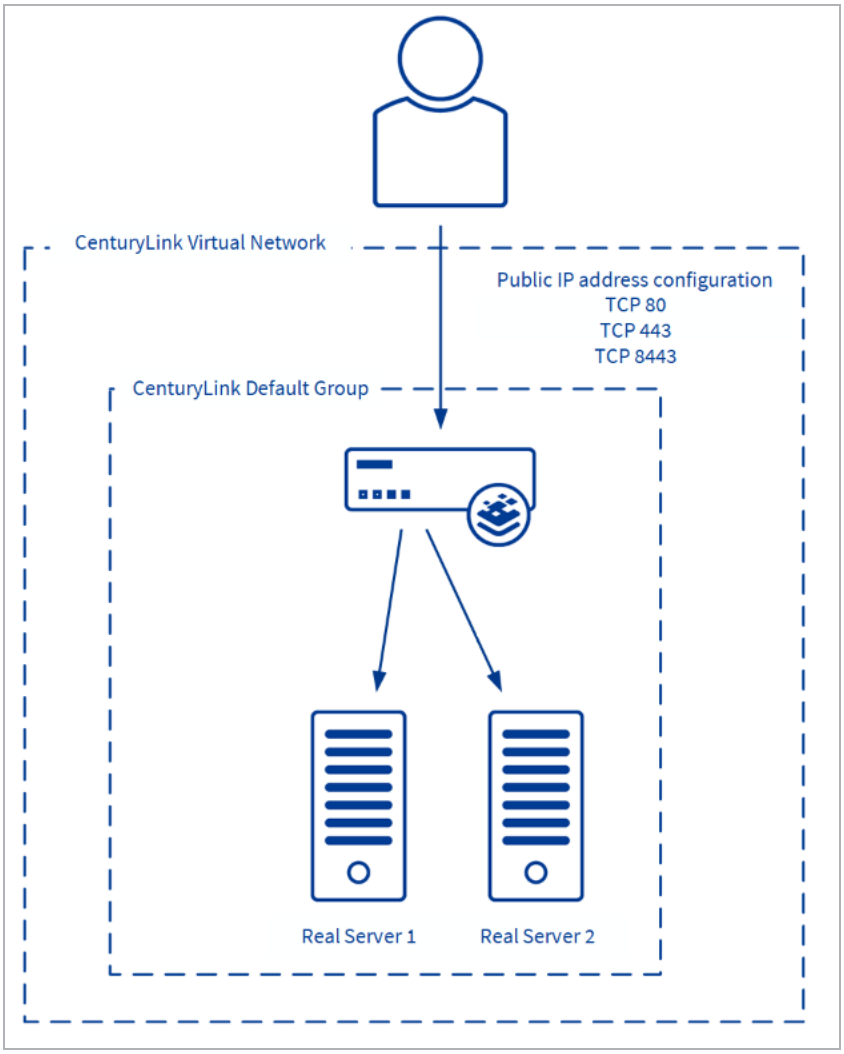
1 Introduction

> This document is no longer updated as of LoadMaster firmware version 7.2.53. However, CenturyLink is still supported by Kemp.

This document provides step-by-step instructions on how to deploy a Kemp Virtual LoadMaster in CenturyLink Cloud. This document provides an overview of the LoadMaster in CenturyLink Cloud and introduces some basic aspects of LoadMaster functionality.

1.1 Load Balancing in CenturyLink

CenturyLink Infrastructure as a Service (IaaS) deployments accept traffic only on published ports. Any request to access CenturyLink workloads must be open through the Public IP Configuration. The figure below depicts the deployment of Kemp LoadMaster in CenturyLink.



Any server or appliance being created in CenturyLink Cloud must be added to a “Group”. You can manage a collection of servers or appliances by using groups to perform power operations, snapshots, view reports, and schedule events.

If you wish to use LoadMaster in CenturyLink Cloud for your deployment, you must complete the following steps:

1. Deploy the LoadMaster in CenturyLink.

2. Create all the Virtual Machines (VMs) to be load balanced using the LoadMaster. These must be connected to the existing LoadMaster VM to create the required grouping.

3. Ensure the required ports to publish the workload are open in the Public IP Address Configuration through the CenturyLink Portal.

1.2 Known Issues/Limitations

There are a couple of known issues/limitations to be aware of:

- Transparency is not possible in the CenturyLink LoadMaster. **Transparency** must be disabled in the Virtual Service settings on the LoadMaster (**Virtual Services > View/Modify Services > Modify > Standard Options**).
- Do not downgrade from firmware version 7.2.36 or higher to a version below 7.2.36. If you do this, the LoadMaster becomes inaccessible and you cannot recover it.
- Alternate default gateway support is not permitted in a cloud environment.

2 Installation Prerequisites

To support LoadMaster in CenturyLink Cloud, the following are required:

- An active subscription of CenturyLink Cloud Virtual Machines
- A client computer running Windows 7 or later
- Internet Explorer 9 or newer, or any modern browser
- A minimum of 2GB RAM on the cloud environment

> It is not possible to bond interfaces on CenturyLink LoadMasters.

3 Creating a LoadMaster in CenturyLink

Ensure that the prerequisites documented in the earlier section are met.

3.1 Recommended Sizing

When creating a LoadMaster for CenturyLink Virtual Machine, you must select the vCPU and memory required. These are only recommended resources - different configurations may require more system resources such as high SSL Transactions Per Second (TPS) or Web Application Firewall (WAF). You can update the vCPU and memory after deployment, should the need arise.

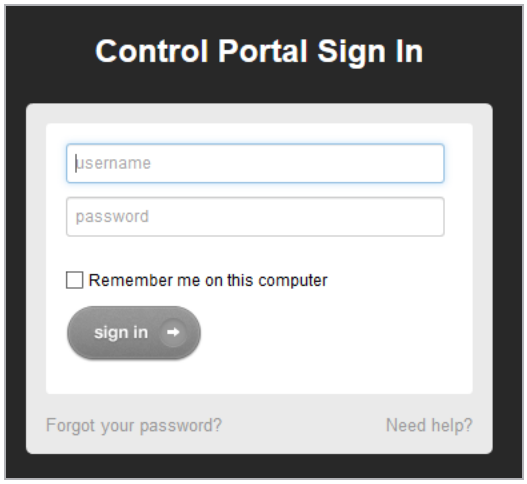
VLM Model	Minimum vCPU	Minimum Memory	Recommended vCPU	Recommended Memory
VLM-200 Standard	2	2GB	2	4GB
VLM-200 Enterprise Plus	2	2GB	4	8GB
VLM-3000 Standard	2	2GB	4	4GB
VLM-3000 Enterprise Plus	2	2GB	4	8GB

3.2 Creating a LoadMaster in CenturyLink

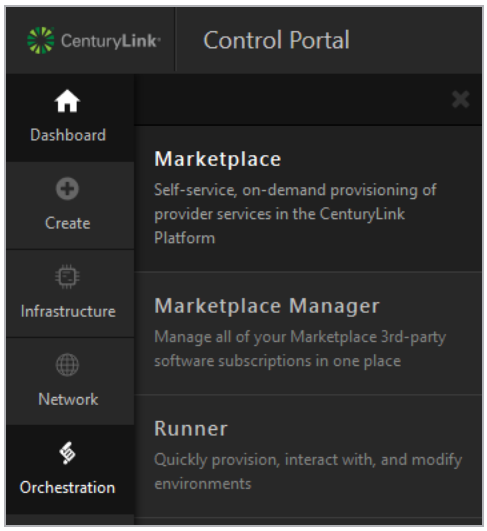
This section provides step-by-step instructions on how to deploy a Kemp Virtual LoadMaster in CenturyLink Cloud.

The steps in this document reflect the steps in the CenturyLink Marketplace.

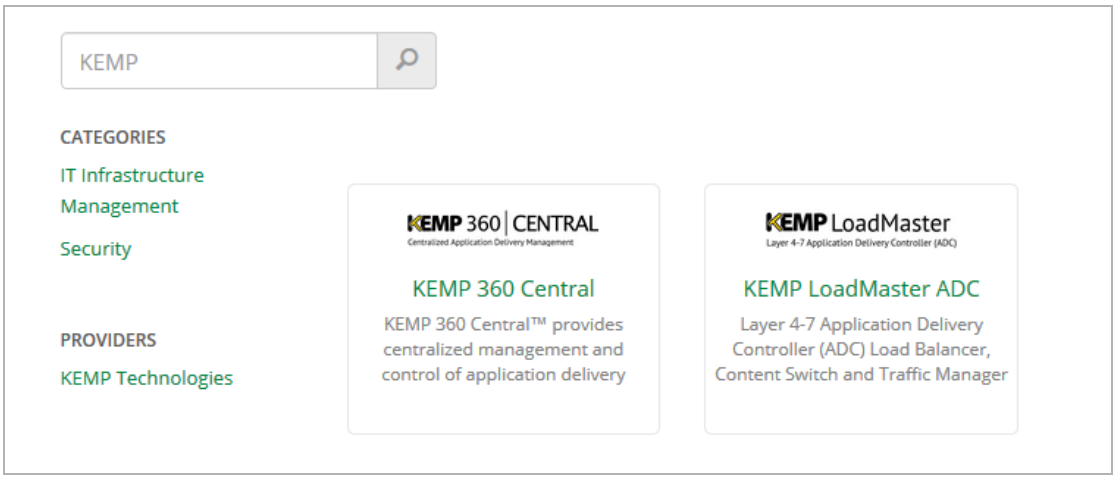
To deploy a new LoadMaster in CenturyLink Cloud, follow the steps below:



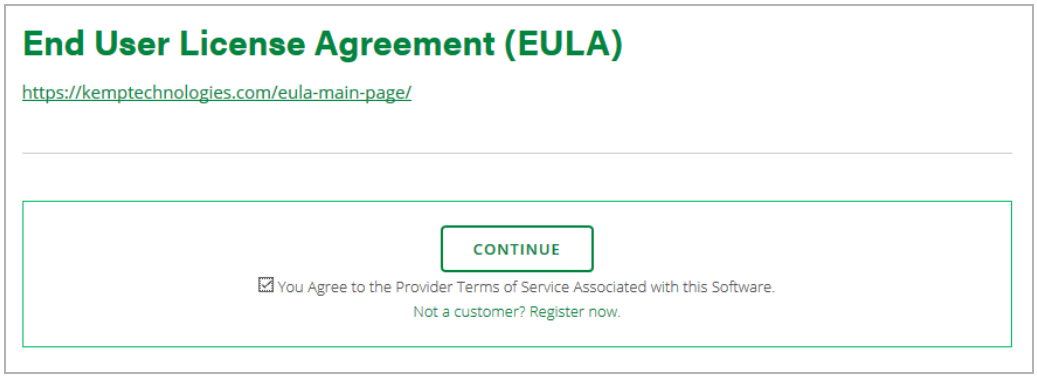
1. Log into the Portal.



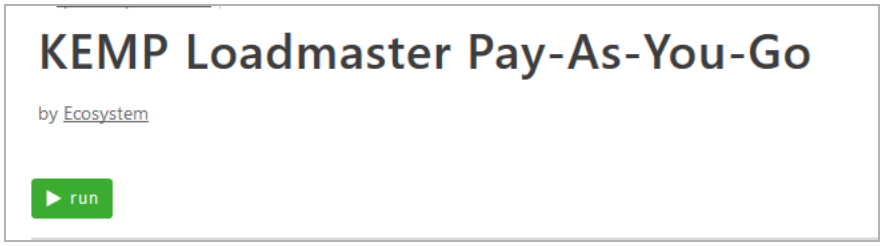
2. In the menu on the left, click **Orchestration** and **Marketplace.**



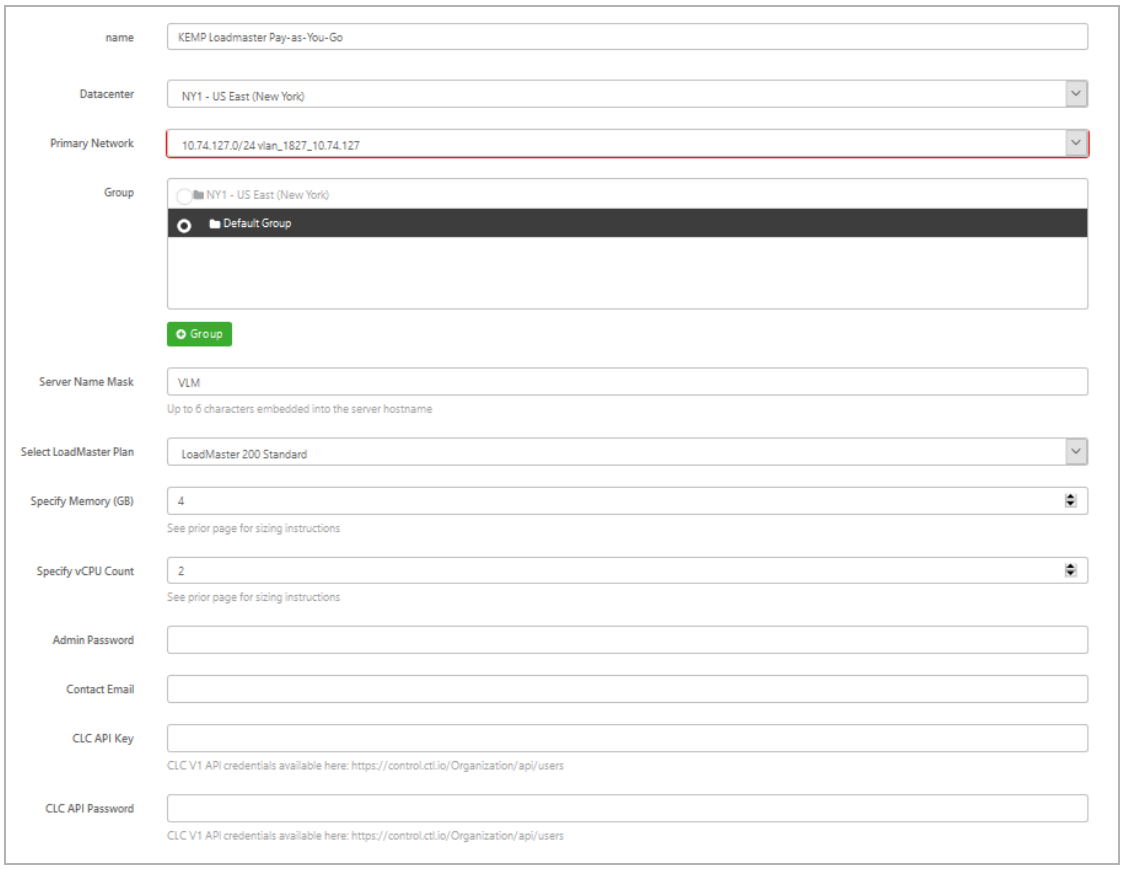
3. Type **Kemp** in the search bar.
4. Click **Kemp LoadMaster**.



5. At the bottom of the page, agree to the EULA, and click **Continue**.



6. On the ReadMe page, click **Run**.



7. Select a **Datacenter**.

8. Select a **Primary Network**.

9. Select a **Group**.

10. Type a **Server Name Mask**. (These six characters will be used for the name of the LoadMaster once deployed.)

11. Click the **Select LoadMaster Plan** drop-down list and choose the Virtual LoadMaster size and subscription plan.

12. Enter the number of GB memory the LoadMaster should have in the **Specify Memory (GB)** field. (See the table in the **Recommended Sizing** section for further information regarding recommended sizing).

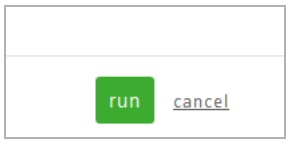
13. Enter the number of vCPUs required in the **Specify vCPU Count** field. (See the table in the **Recommended Sizing** section for further information regarding recommended sizing).

14. Type an **Admin Password**. You must reset this at first login.

15. Type a **Contact Email** address.

16. Type a **CLC API Key**. (Instructions are provided below the field.)

17. Type a **CLC API Password**. (Instructions are provided below the field.)



18. Click **run**.

3.3 Licensing and Initial Configuration

The following procedure will help you set up a LoadMaster in CenturyLink by ensuring appropriate licensing and basic configuration before you can create a Virtual Service and publish the required workloads:

1. Using a supported web browser, navigate to **https://*PublicIPAddress***.

> You can find the LoadMaster Public IP Address in the CenturyLink Portal under **Infrastructure > Servers**.

2. Take the appropriate steps to acknowledge notification about the self-signed certificate to proceed.

3. You are presented with the End User License Agreement (EULA). You must accept the EULA to proceed further. Click **Agree** to accept the EULA.

4. After accepting the EULA, a password change screen appears. Provide a secure password of your choice. Click **Set Password** to commit changes. The new password is effective immediately.

5. On the password notification screen, click **Continue**.

6. The LoadMaster requires you to authenticate with a new password. Type **bal** in the **User** text box and the new password in the **Password** text box. Click **Ok** to proceed.

7. Before using the LoadMaster, it must be licensed. For instructions on how to license the LoadMaster, refer to the **LoadMaster Licensing Feature Description** on the Kemp Documentation Page.

> CenturyLink licenses are automatically issued as permanent – there are no trial licenses.

8. After licensing, you are given the opportunity to enable Kemp Analytics. With this feature, LoadMaster collects and sends usage data to Kemp for analysis. This data is strictly about product usage, enabled capabilities, and statistics. No sensitive user data, or traffic of any kind is either collected or communicated. To enable this feature, click **Enable Kemp Analytics**. To proceed without enabling this feature, click **Don't Enable Kemp Analytics**. For more information, visit https://kemp.ax/KempAnalytics.

The main menu and home screen of the LoadMaster then appears.

Before you can create Virtual Services, you should create VMs that you are load balancing through the LoadMaster in CenturyLink. Kemp recommends updating the default Web User Interface (UI) management port from TCP 443 to 8443 to enable publishing workloads over HTTPS (TCP 443). Instructions for updating the Web UI Management port are in the Web User Interface (WUI) Configuration Guide in the **Administrator Access** section. In addition, port TCP 8443 on the server's public IP address must be set to "open" in the Cenruty Link Cloud (CLC) Control Portal.

4 Creating Virtual Services

The following steps describe how to create a Virtual Service on the LoadMaster in CenturyLink:

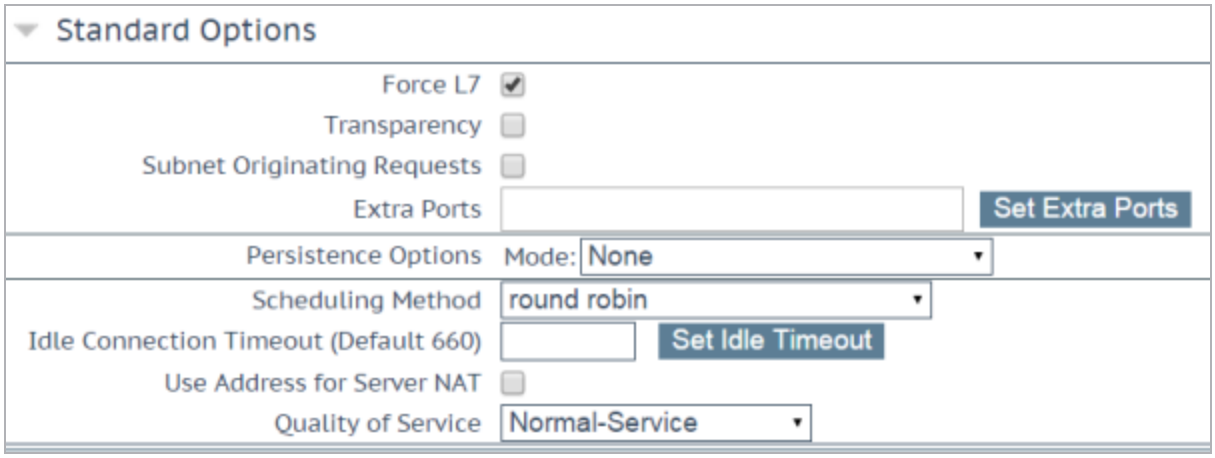
1. Using a supported web browser, navigate to **https://*PublicIPAddress*:8443**.
2. Take the appropriate steps to acknowledge notification about the self-signed certificate to proceed further.
3. If prompted, log in to the WUI.
4. From the main menu, expand the **Virtual Services** section and click **Add New**.
5. In the Virtual Service parameters section, provide the following details:

   a) **Virtual Address**: This will be one of the Private IP addresses of the LoadMaster. The Private IP address can be found in the CenturyLink Portal under **Infrastructure > Servers**.

   b) **Port**: This will be the port used for publishing the workload. This port must be open in the **Public IP Address Configuration** in the CenturyLink Portal.

   c) **Service Name**: While optional, the service name helps identify the purpose of the Virtual Service.

   d) **Protocol**: This must be the same as the protocol selected during creation of the endpoint in the earlier section.
6. Click **Add this Virtual Service**.
7. Expand the **Standard Options** section.



Virtual Services in the LoadMaster in CenturyLink may not be set to transparent.

8. Configure the remaining virtual parameters as necessary. Use the Kemp LoadMaster guides from the Product Documentation section located on the Kemp website: http://kemptechnologies.com/documentation

9. Add VMs being load balanced in the **Real Servers** section of the Virtual Service.

Repeat the steps above as necessary to create more Virtual Services on LoadMaster for CenturyLink.

References

While the instructions above provide a basic overview of how to deploy and configure LoadMaster for CenturyLink, it is not designed to be a comprehensive guide to configure every possible workload. This section identifies some of many guides published on our resources section of our website. Unless otherwise specified, the following documents can be found at http://kemptechnologies.com/documentation.

Kemp LoadMaster, Product Overview

Web User Interface (WUI), Configuration Guide

CLI, Interface Description

RESTful API, Interface Description

Virtual Services and Templates, Feature Description

SubVSs, Feature Description

SSL Accelerated Services, Feature Description

Port Following, Feature Description

Content Rules, Feature Description

ESP, Feature Description

HA for CenturyLink, Feature Description

Licensing, Feature Description

You can find more documentation here: http://kemptechnologies.com/documentation

You can engage in community discussions on forums at: https://support.kemptechnologies.com/hc/en-us/community/topics

Last Updated Date

This document was last updated on 19 March 2021.