



Citrix Virtual Apps and Desktops (Internal Publishing Only)

Deployment Guide

UPDATED: 27 July 2023

© 2022 Progress Software Corporation and/or one of its subsidiaries or affiliates. All rights reserved.

These materials and all Progress® software products are copyrighted and all rights are reserved by Progress Software Corporation. The information in these materials is subject to change without notice, and Progress Software Corporation assumes no responsibility for any errors that may appear therein. The references in these materials to specific platforms supported are subject to change.

#1 Load Balancer in Price/Performance, 360 Central, 360 Vision, Chef, Chef (and design), Chef Habitat, Chef Infra, Code Can (and design), Compliance at Velocity, Corticon, Corticon.js, DataDirect (and design), DataDirect Cloud, DataDirect Connect, DataDirect Connect64, DataDirect XML Converters, DataDirect XQuery, DataRPM, Defrag This, Deliver More Than Expected, DevReach (and design), Driving Network Visibility, Flowmon, Inspec, Ipswitch, iMacros, K (stylized), Kemp, Kemp (and design), Kendo UI, Kinvey, LoadMaster, MessageWay, MOVEit, NativeChat, OpenEdge, Powered by Chef, Powered by Progress, Progress, Progress Software Developers Network, SequeLink, Sitefinity (and Design), Sitefinity, Sitefinity (and design), Sitefinity Insight, SpeedScript, Stylized Design (Arrow/3D Box logo), Stylized Design (C Chef logo), Stylized Design of Samurai, TeamPulse, Telerik, Telerik (and design), Test Studio, WebSpeed, WhatsConfigured, WhatsConnected, WhatsUp, and WS_FTP are registered trademarks of Progress Software Corporation or one of its affiliates or subsidiaries in the U.S. and/or other countries.

Analytics360, AppServer, BusinessEdge, Chef Automate, Chef Compliance, Chef Desktop, Chef Workstation, Corticon Rules, Data Access, DataDirect Autonomous REST Connector, DataDirect Spy, DevCraft, Fiddler, Fiddler Classic, Fiddler Everywhere, Fiddler Jam, FiddlerCap, FiddlerCore, FiddlerScript, Hybrid Data Pipeline, iMail, InstaRelinker, JustAssembly, JustDecompile, JustMock, KendoReact, OpenAccess, PASOE, Pro2, ProDataSet, Progress Results, Progress Software, ProVision, PSE Pro, Push Jobs, SafeSpaceVR, Sitefinity Cloud, Sitefinity CMS, Sitefinity Digital Experience Cloud, Sitefinity Feather, Sitefinity Thunder, SmartBrowser, SmartComponent, SmartDataBrowser, SmartDataObjects, SmartDataView, SmartDialog, SmartFolder, SmartFrame, SmartObjects, SmartPanel, SmartQuery, SmartViewer, SmartWindow, Supermarket, SupportLink, Unite UX, and WebClient are trademarks or service marks of Progress Software Corporation and/or its subsidiaries or affiliates in the U.S. and other countries. Java is a registered trademark of Oracle and/or its affiliates. Any other marks contained herein may be trademarks of their respective owners.

Please refer to the NOTICE.txt or Release Notes – Third-Party Acknowledgements file applicable to a particular Progress product/hosted service offering release for any related required third-party acknowledgements.

Table of Contents

1 Introduction	4
1.1 Document Purpose	4
1.2 Intended Audience	4
1.3 Architecture	5
2 Citrix VDI Template	6
3 Configure the LoadMaster	7
3.1 Enable Subnet Originating Requests Globally	7
3.2 Configure a Citrix VDI Virtual Service	8
References	11
Last Updated Date	12

1 Introduction

Citrix Virtual Desktop Infrastructure is a virtualization server environment which allows remote access to users. With Citrix VDI, application traffic is delivered across a Wide Area Network (WAN).

Citrix VDI makes IT management much easier. Rather than maintaining PCs at local branch offices, Citrix VDI enables a corporation's IT department maintain virtual, location diverse PCs in a central location.

Users require confidence that the service is available when needed. Kemp LoadMasters help to provide reliability. When deployed as a pair, two LoadMasters give the security of High Availability (HA). HA allows two physical or virtual machines to become one logical device. Only one of these units is ever handling traffic at any particular moment. One unit is active and the other is a hot standby (passive). This provides redundancy and resiliency, meaning if one LoadMaster goes down for any reason, the hot standby can become active, therefore avoiding any downtime. For more information on HA please refer to the: [High Availability \(HA\), Feature Description](#).

1.1 Document Purpose

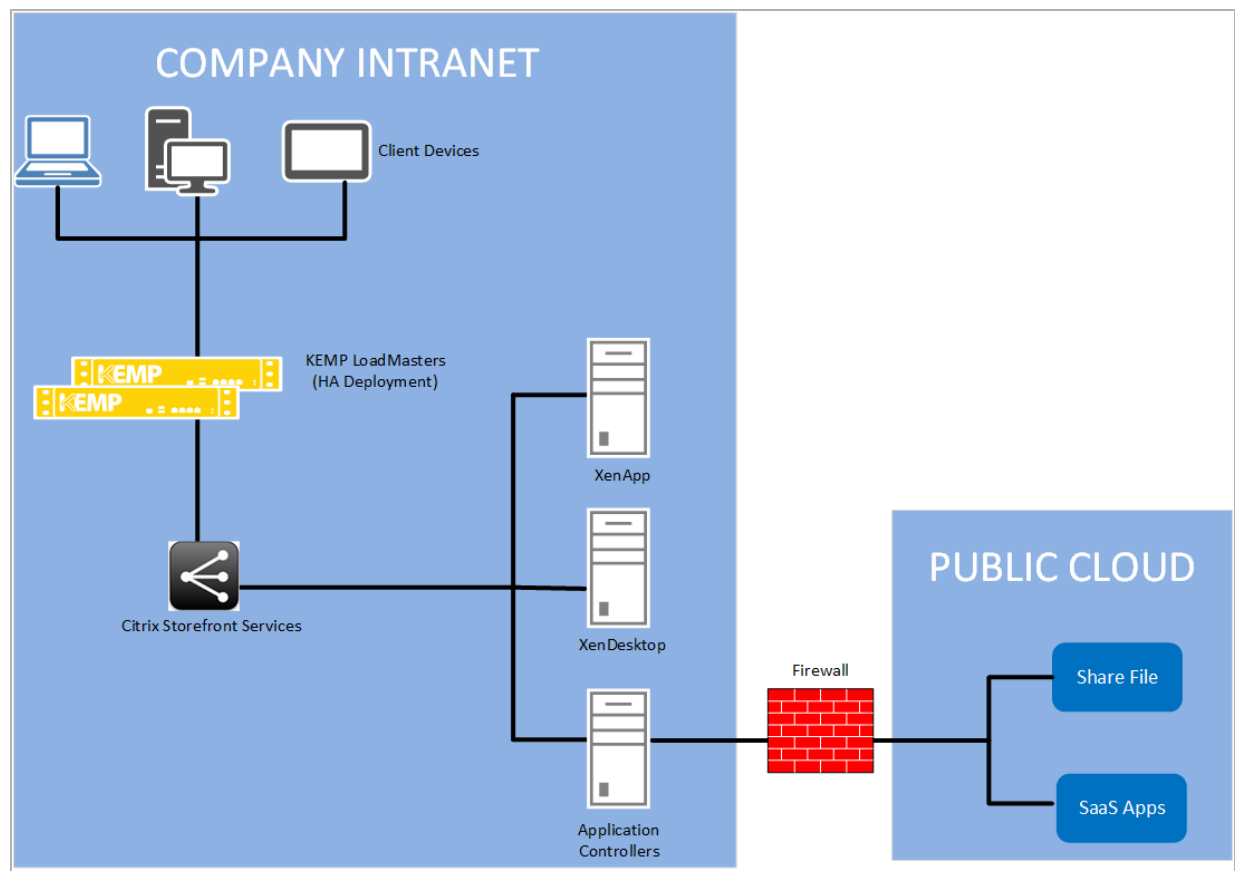
This document provides guidance on deploying Citrix VDI with a Kemp LoadMaster. The Kemp Support Team is available to provide solutions for scenarios not explicitly defined.

The Kemp support site can be found at: <https://support.kemptechnologies.com>.

1.2 Intended Audience

This document is for anyone deploying Citrix VDI with a Kemp LoadMaster.

1.3 Architecture



2 Citrix VDI Template

Kemp has developed a template containing our recommended settings for the Citrix VDI Virtual Service. This template can be installed on the LoadMaster and used when creating the Virtual Service. Using a template automatically populates the settings in the Virtual Service. This is quicker and easier than manually configuring the Virtual Service. If needed, changes can be made to any of the Virtual Service settings after using the template.

Download released templates from the **Templates** section on the Kemp documentation page:
<http://kemptechnologies.com/documentation/>.

For more information and steps on how to import and use templates, refer to the [Virtual Services and Templates, Feature Description](#).

3 Configure the LoadMaster

The following sections provide step-by-step instructions on how to configure a LoadMaster to load balance the Citrix VDI workload.

3.1 Enable Subnet Originating Requests Globally

It is best practice to enable the **Subnet Originating Requests** option globally.

In a one-armed setup (where the Virtual Service and Real Servers are on the same network/subnet) **Subnet Originating Requests** is usually not needed. However, enabling **Subnet Originating Requests** should not affect the routing in a one-armed setup.

In a two-armed setup where the Virtual Service is on network/subnet A, for example, and the Real Servers are on network B, **Subnet Originating Requests** should be enabled on LoadMasters with firmware version 7.1-16 and above.

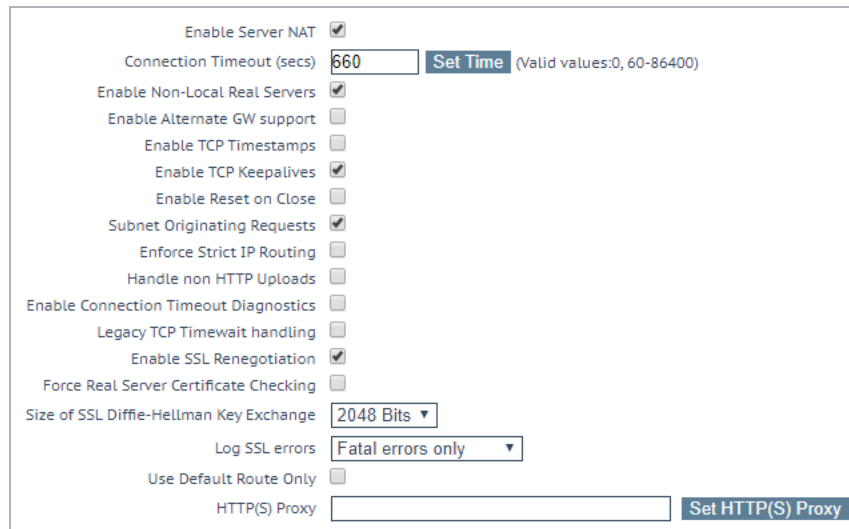
When **Subnet Originating Requests** is enabled, the LoadMaster routes traffic so that the Real Server sees traffic arriving from the LoadMaster interface that is in that network/subnet.

When **Subnet Originating Requests** is enabled globally, it is automatically enabled on all Virtual Services. If the **Subnet Originating Requests** option is disabled globally, you can choose whether to enable **Subnet Originating Requests** on a per-Virtual Service basis.

To enable **Subnet Originating Requests** globally, follow the steps below:

1. In the main menu of the LoadMaster Web User Interface (WUI), go to **System Configuration > Miscellaneous Options > Network Options**.

3 Configure the LoadMaster



Enable Server NAT ☒

Connection Timeout (secs) [Set Time](#) (Valid values:0, 60-86400)

Enable Non-Local Real Servers ☒

Enable Alternate GW support ☐

Enable TCP Timestamps ☐

Enable TCP Keepalives ☒

Enable Reset on Close ☐

Subnet Originating Requests ☒

Enforce Strict IP Routing ☐

Handle non HTTP Uploads ☐

Enable Connection Timeout Diagnostics ☐

Legacy TCP Timewait handling ☐

Enable SSL Renegotiation ☒

Force Real Server Certificate Checking ☐

Size of SSL Diffie-Hellman Key Exchange

Log SSL errors

Use Default Route Only ☐

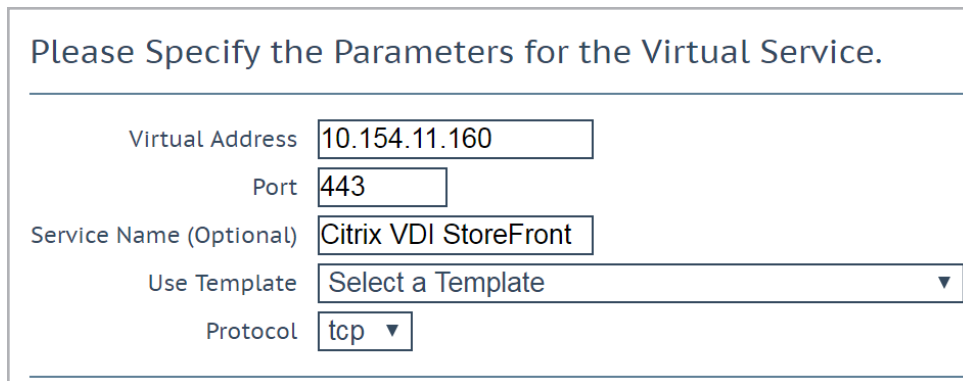
HTTP(S) Proxy [Set HTTP\(S\) Proxy](#)

2. Select the **Subnet Originating Requests** check box.

3.2 Configure a Citrix VDI Virtual Service

The following are the steps involved and the recommended settings to configure a Citrix VDI StoreFront Virtual Service:

1. In the main menu of the LoadMaster Web User Interface (WUI), go to **Virtual Services > Add New**.



Please Specify the Parameters for the Virtual Service.

Virtual Address

Port

Service Name (Optional)

Use Template

Protocol

2. Enter a valid IP address in the **Virtual Address** text box.
3. Enter **443** in the **Port** text box.
4. Enter a recognizable **Service Name**, for example **Citrix VDI StoreFront**.
5. Ensure **tcp** is selected as the **Protocol**.

3 Configure the LoadMaster

6. Click **Add this Virtual Service**.

7. Configure the settings as recommended in the following table:

Section	Option	Value	Comment
Standard Options	Force L4	Enabled	
	Persistence Options Mode	None	
	Scheduling Method	round robin	
SSL Properties	SSL Acceleration	Enabled	
	Reencrypt	Enabled	
	Supported Protocols	TLS1.0; TLS1.1; TLS1.2; TLS1.3	While this workload may not support TLS1.3 yet, Kemp recommend enabling it for future proofing.
	Cipher Set	BestPractices	
Real Servers	Real Server Check Method	HTTPS Protocol	
	HTTP Method	HEAD	
	Scheduling Method	least connection	ESP can be enabled if an ESP license is in place. For more information on ESP, refer to the ESP, Feature Description on the Kemp documentation page .

3 Configure the LoadMaster

SSL Properties	
SSL Acceleration	Enabled: <input checked="" type="checkbox"/> Reencrypt: <input checked="" type="checkbox"/>
Supported Protocols	<input type="checkbox"/> SSLv3 <input checked="" type="checkbox"/> TLS1.0 <input checked="" type="checkbox"/> TLS1.1 <input checked="" type="checkbox"/> TLS1.2
Require SNI hostname	<input type="checkbox"/>
Certificates	<p>Self Signed Certificate in use.</p> <div> <div>Available Certificates</div> <div>None Available</div> </div> <div> <div>Assigned Certificates</div> <div>None Assigned</div> </div> <div>Set Certificates</div> <div>Manage Certificates</div>
Ciphers	<div> <div>Cipher Set</div> <div>BestPractices</div> <div>Modify Cipher Set</div> </div> <div>Assigned Ciphers</div> <div> ECDHE-RSA-AES256-GCM-SHA384 ECDHE-ECDSA-AES256-GCM-SHA384 DHE-DSS-AES256-GCM-SHA384 DHE-RSA-AES256-GCM-SHA384 ECDHE-RSA-AES256-SHA384 ECDHE-ECDSA-AES256-SHA384 </div>
Client Certificates	No Client Certificates required
Reencryption Client Certificate	None required
Reencryption SNI Hostname	<input type="text"/> <div>Set SNI Hostname</div>

8. Add the Real Servers.

- Expand the **Real Servers** section.
- Click **Add New**.
- Enter the IP address of the **StoreFront** server.
- Enter **443** as the **Port**.

The **Forwarding method** and **Weight** values are set by default. An administrator can change these.

- Click **Add this Real Server**. Click **OK** to the pop-up message.
- Repeat the steps above to add more Real Servers as needed, based on the environment.

References

Unless otherwise specified, the following documents can be found at: <http://kemptechnologies.com/documentation>.

Virtual Services and Templates, Feature Description.

High Availability (HA), Feature Description

Last Updated Date

This document was last updated on 27 July 2023.