LOADBALANCER

DEPLOYMENT GUIDE

# Load Balancing Kofax Equitrac

Version 1.3.0

# Table of Contents

# 1. About this Guide

This guide details the steps required to configure a load balanced Kofax Equitrac environment utilizing Loadbalancer.org appliances. It covers the configuration of the load balancers and also any Kofax Equitrac configuration changes that are required to enable load balancing.

For more information about initial appliance deployment, network configuration and using the Web User Interface (WebUI), please also refer to the Administration Manual.

# 2. Loadbalancer.org Appliances Supported

All our products can be used for load balancing Kofax Equitrac. For full specifications of available models please refer to https://www.loadbalancer.org/products. Some features may not be supported in all cloud platforms due to platform specific limitations, please check with Loadbalancer.org support for further details.

# 3. Software Versions Supported

## 3.1. Loadbalancer.org Appliance

- V8.4.1 and later

> **Note** The screenshots used throughout this document aim to track the latest Loadbalancer.org software version. If using an older software version, note that the screenshots presented here may not match the WebUI exactly.

## 3.2. Kofax Equitrac

- All versions

# 4. Kofax Equitrac

Kofax Equitrac is a print management solution designed to simplify printer management.

Printing costs can be monitored, and can be reduced by forcing users to follow budget saving printing habits. Secure and regulations-compliant printing is made possible by allowing users to 'pick up' and print their secure documents in person at any printer. Flexible printing is achieved as users can print from anywhere, at anytime, and print from wherever they like.

# 5. Load Balancing Kofax Equitrac

## 5.1. Introduction and Overview of Different Modes

This guide details the configuration of a high availability DCE cluster for Equitrac Office and Express, using a Loadbalancer.org appliance.

For a Kofax Equitrac deployment, the preferred and default load balancer configuration uses Layer 4 DR Mode (Direct Routing, aka DSR / Direct Server Return). This is a very high performance solution that requires little

change to your existing infrastructure. It is necessary to solve "the ARP problem" on the real print servers. This is a straightforward process, and is detailed in the section Configuring Print Servers for Load Balancing.

It is also possible to load balance a Kofax Equitrac deployment using Layer 7 SNAT Mode. This mode might be preferable if making changes to the real print servers is not possible, although some Windows Registry keys need to be added. Due to the increased amount of information at layer 7, performance is not as fast as at layer 4. Also note that load balanced connections at layer 7 are not source IP transparent, which is not usually an issue when load balancing print servers but should still be considered.

## 5.2. Prerequisites

A load balanced Kofax Equitrac environment requires the following:

- Microsoft Windows Server environment
- Installation of DCE server and Couchbase in High Availability setup

For installation instructions, refer to the Kofax support.

## 5.3. Overview of steps required

Setting up a load balanced Kofax Equitrac environment can be summarised as follows:

- Create a virtual service (VIP) on the load balancer that listens on the required ports
- Associate the print servers to the virtual service, i.e. define them as 'real servers' (RIPs) for the VIP
- Install and configure the Kofax Equitrac DCE Windows print servers
- Configure registry settings on the print servers to enable them to be accessed via a shared name
- Configure name resolution related settings on the print servers
- Point users at the VIP to access the print server and the printer shares

# 6. Loadbalancer.org Appliance – the Basics

## 6.1. Virtual Appliance

A fully featured, fully supported 30 day trial is available if you are conducting a PoC (Proof of Concept) deployment. The VA is currently available for VMware, Virtual Box, Hyper-V, KVM, XEN and Nutanix AHV and has been optimized for each Hypervisor. By default, the VA is allocated 2 vCPUs, 4GB of RAM and has a 20GB virtual disk. The Virtual Appliance can be downloaded here.

| Note | The same download is used for the licensed product, the only difference is that a license key file (supplied by our sales team when the product is purchased) must be applied using the appliance's WebUI. |
|---|---|

| Note | Please refer to Virtual Appliance Installation and the ReadMe.txt text file included in the VA download for additional information on deploying the VA using the various Hypervisors. |
|---|---|

> **Note** The VA has 4 network adapters. For VMware only the first adapter (**eth0**) is connected by default. For HyperV, KVM, XEN and Nutanix AHV all adapters are disconnected by default. Use the network configuration screen within the Hypervisor to connect the required adapters.

## 6.2. Initial Network Configuration

After boot up, follow the instructions on the appliance console to configure the management IP address, subnet mask, default gateway, DNS Server and other network settings.

> **Important** Be sure to set a secure password for the load balancer, when prompted during the setup routine.

## 6.3. Accessing the Appliance WebUI

The WebUI is accessed using a web browser. By default, users are authenticated using Apache authentication. Users can also be authenticated against LDAP, LDAPS, Active Directory or Radius - for more information, please refer to External Authentication.

> **Note** There are certain differences when accessing the WebUI for the cloud appliances. For details, please refer to the relevant Quick Start / Configuration Guide.

> **Note** A number of compatibility issues have been found with various versions of Microsoft Internet Explorer and Edge. The WebUI has been tested and verified using both Chrome & Firefox.

1. Using a browser, navigate to the following URL:

   **https://<IP-address-configured-during-the-network-setup-wizard>:9443/lbadmin/**

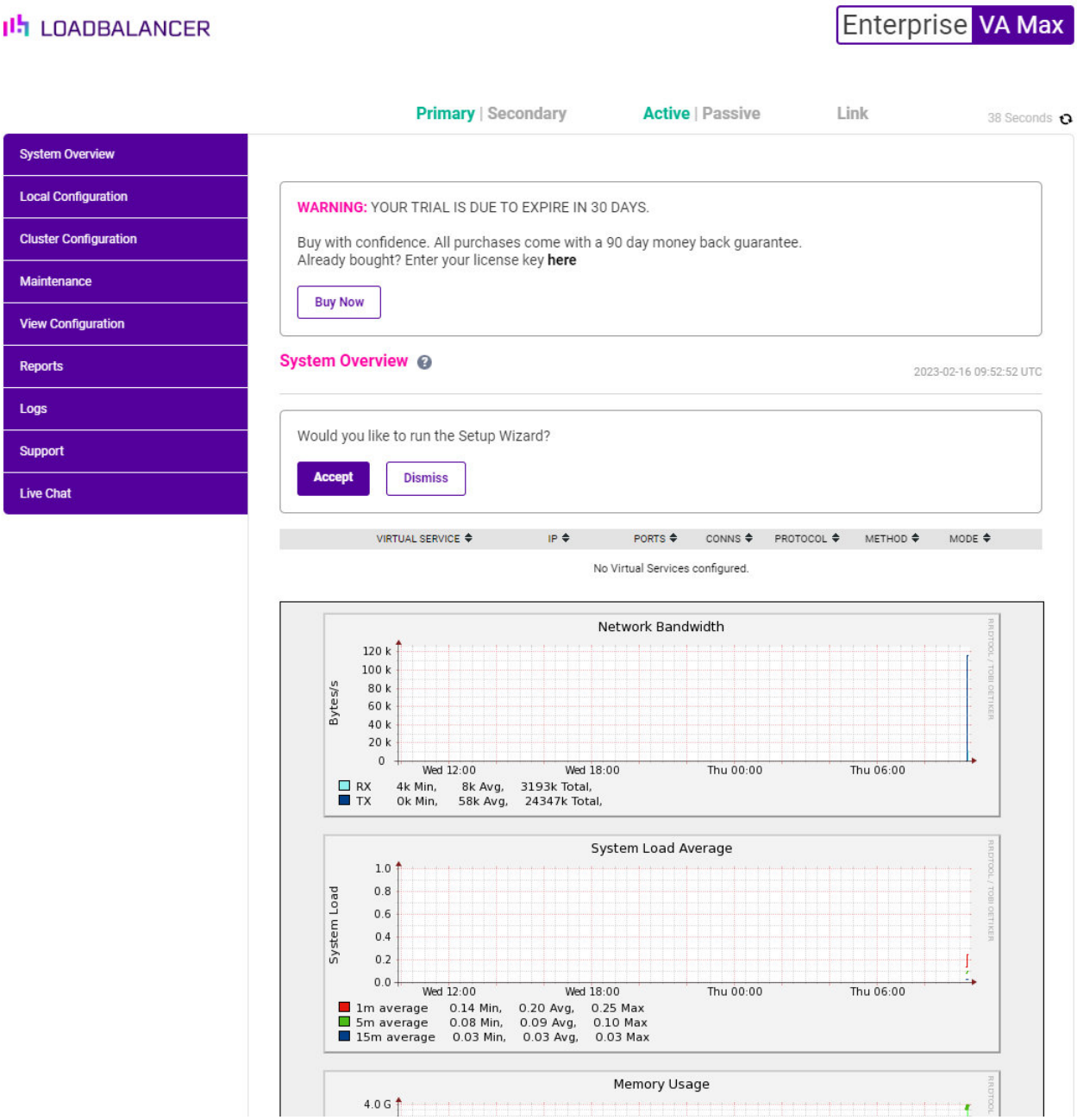
   > **Note** You'll receive a warning about the WebUI's certificate. This is due to the default self signed certificate that is used. If preferred, you can upload your own certificate - for more information, please refer to Appliance Security Features.

2. Log in to the WebUI using the following credentials:

   **Username**: loadbalancer
   **Password**: <configured-during-network-setup-wizard>

   > **Note** To change the password, use the WebUI menu option: ***Maintenance > Passwords.***

   Once logged in, the WebUI will be displayed as shown below:




3. You'll be asked if you want to run the Setup Wizard. Click **Dismiss** if you're following a guide or want to configure the appliance manually. Click **Accept** to start the Setup Wizard.

> **Note** The Setup Wizard can only be used to configure Layer 7 services.

## Main Menu Options

**System Overview** - Displays a graphical summary of all VIPs, RIPs and key appliance statistics
**Local Configuration** - Configure local host settings such as IP address, DNS, system time etc.
**Cluster Configuration** - Configure load balanced services such as VIPs & RIPs
**Maintenance** - Perform maintenance tasks such as service restarts and taking backups
**View Configuration** - Display the saved appliance configuration settings
**Reports** - View various appliance reports & graphs
**Logs** - View various appliance logs
**Support** - Create a support download, contact the support team & access useful links

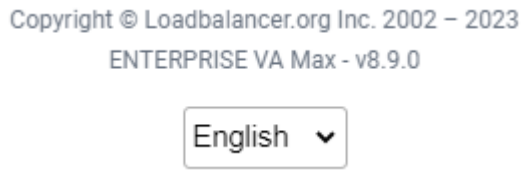
**Live Chat** - Start a live chat session with one of our Support Engineers

## 6.4. Appliance Software Update

To ensure that the appliance(s) are running the latest software version, we recommend a software update check is performed.

### Determining the Current Software Version

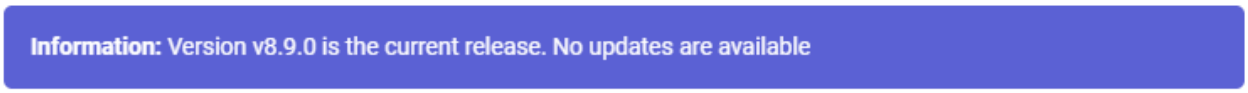
The software version is displayed at the bottom of the WebUI as shown in the example below:




### Checking for Updates using Online Update

> **Note** By default, the appliance periodically contacts the Loadbalancer.org update server and checks for updates. An update check can also be manually triggered as detailed below.

1. Using the WebUI, navigate to: *Maintenance > Software Update*.
2. Select **Online Update**.
3. If the latest version is already installed, a message similar to the following will be displayed:




4. If an update is available, you'll be presented with a list of new features, improvements, bug fixes and security related updates.
5. Click **Online Update** to start the update process.

> **Note** Do not navigate away whilst the update is ongoing, this may cause the update to fail.

6. Once complete (the update can take several minutes depending on download speed and upgrade version) the following message will be displayed:


7. If services need to be reloaded/restarted or the appliance needs a full restart, you'll be prompted accordingly.

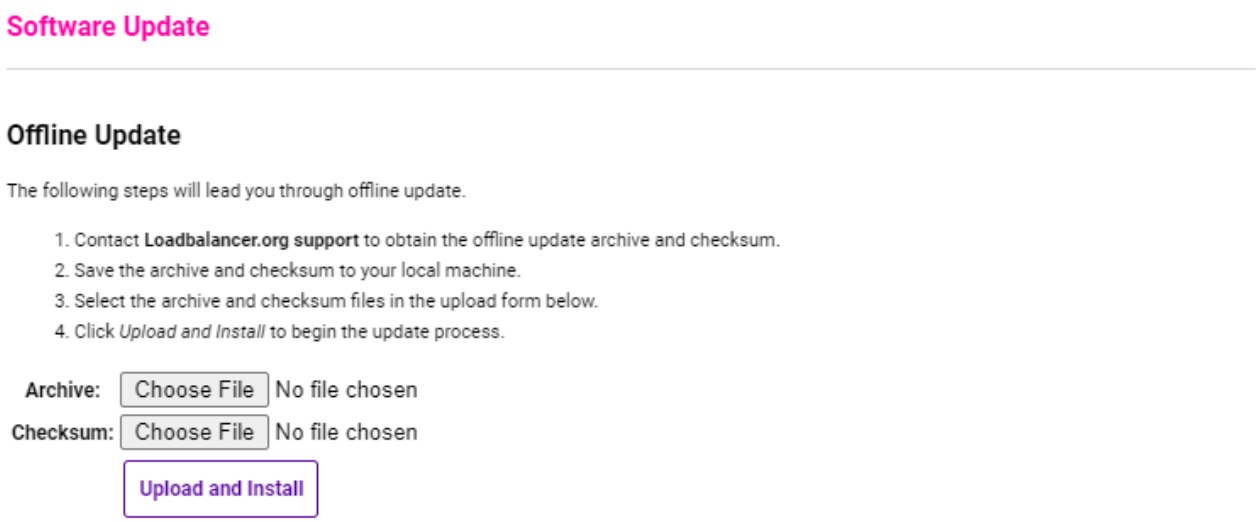
### Using Offline Update

If the load balancer does not have access to the Internet, offline update can be used.

> **Note** Please contact support@loadbalancer.org to check if an update is available and obtain the latest offline update files.

*To perform an offline update:*

1. Using the WebUI, navigate to: ***Maintenance > Software Update***.
2. Select **Offline Update**.
3. The following screen will be displayed:




4. Select the ***Archive*** and ***Checksum*** files.
5. Click **Upload and Install**.
6. If services need to be reloaded/restarted or the appliance needs a full restart, you'll be prompted accordingly.

## 6.5. Ports Used by the Appliance

By default, the appliance uses the following TCP & UDP ports:

| Protocol | Port | Purpose |
|---|---|---|
| TCP | 22 | SSH |
| TCP & UDP | 53 | DNS |
| TCP & UDP | 123 | NTP |
| TCP & UDP | 161 | SNMP |
| UDP | 6694 | Heartbeat between Primary & Secondary appliances in HA mode |
| TCP | 7778 | HAProxy persistence table replication |
| TCP | 9080 | WebUI - HTTP (disabled by default) |
| TCP | 9081 | Nginx fallback page |
| TCP | 9443 | WebUI - HTTPS |

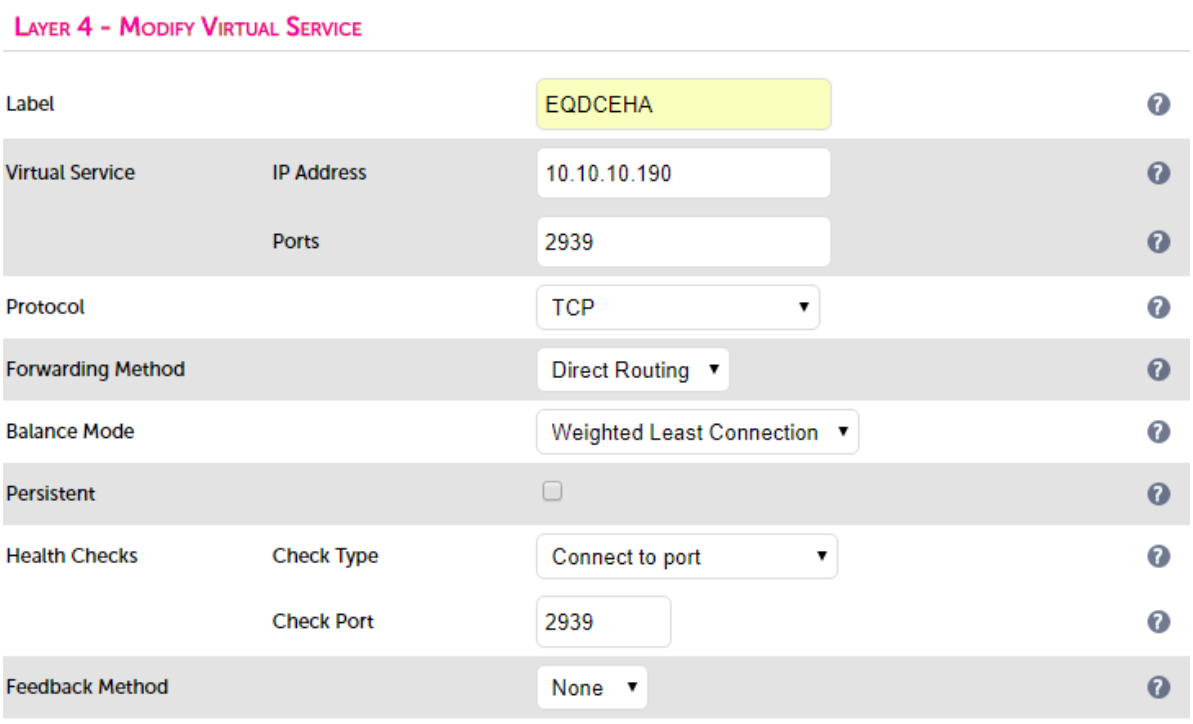
## 6.6. HA Clustered Pair Configuration

Loadbalancer.org recommend that load balancer appliances are deployed in pairs for high availability. In this guide a single unit is deployed first, adding a secondary unit is covered in Configuring HA - Adding a Secondary Appliance.

# 7. Appliance Configuration for Kofax Equitrac – Using DR Mode

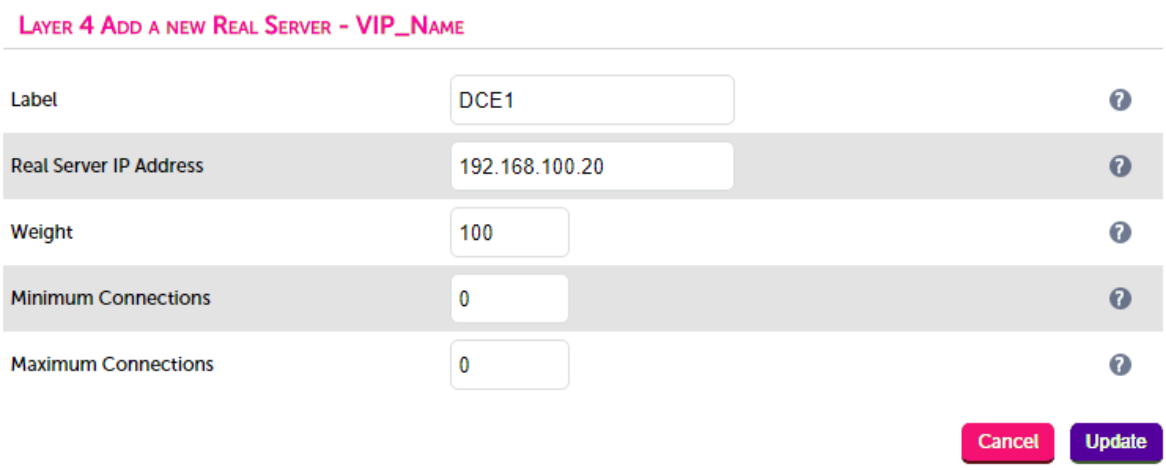
## 7.1. Configuring the virtual service (VIP)

1. Using the web user interface, navigate to *Cluster Configuration > Layer 4 – Virtual Services* and click on **Add a new Virtual Service**.
2. Define the *Label* for the virtual service as required, e.g. **EQDCEHA**.
3. Set the *Virtual Service IP Address* field to the required IP address, e.g. **10.10.10.190**.
4. Set the *Ports* as needed, depending on your MFP vendor:
   - For Lexmark and Ricoh, use port **2939**.
   - For HP OXPd, use ports **2939** and **7627**.
5. Click **Update** to create the virtual service.
6. Click **Modify** next to the newly created VIP.
7. Make sure that the *Persistent* checkbox is not selected.
8. Set the *Check Port* for server/service online to **2939**.
9. Click **Update**.



## 7.2. Defining the Real Servers (RIPs)

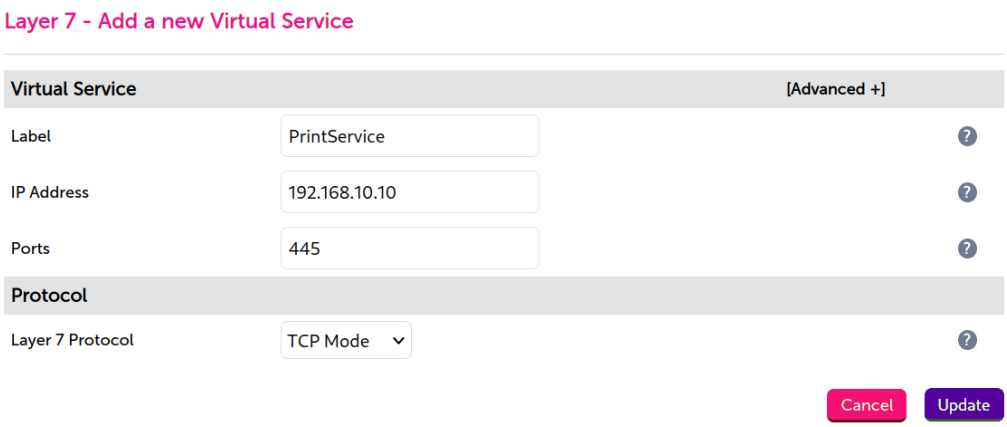
1. Using the web user interface, navigate to *Cluster Configuration > Layer 4 – Real Servers* and click on **Add a new Real Server** next to the newly created VIP.
2. Define the *Label* for the real server as required, e.g. **DCE1**.
3. Set the *Real Server IP Address* field to the required IP address, e.g. **192.168.100.20**.
4. Click *Update*.
5. Repeat these steps to add additional print servers as required.




# 8. Appliance Configuration for Kofax Equitrac – Using SNAT Mode

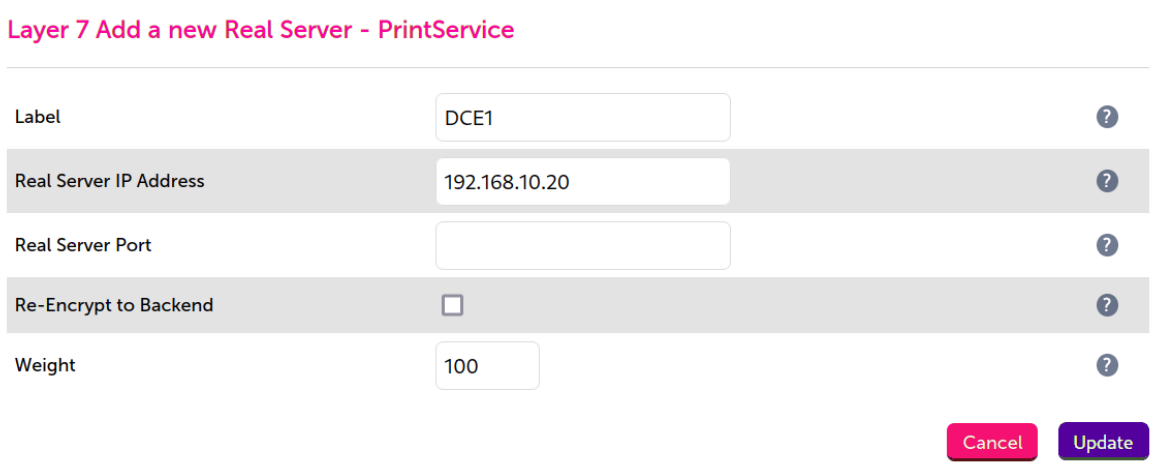
## 8.1. Configuring the virtual service (VIP)

1. Using the web user interface, navigate to *Cluster Configuration > Layer 7 – Virtual Services* and click on **Add a new Virtual Service**.
2. Define the *Label* for the virtual service as required, e.g. **PrintService**.
3. Set the *Virtual Service IP Address* field to the required IP address, e.g. **192.168.10.10**.
4. Set the *Ports* to **445**.
5. Set the *Layer 7 Protocol* to **TCP Mode**.
6. Click **Update**.




## 8.2. Defining the Real Servers (RIPs)

1. Using the web user interface, navigate to *Cluster Configuration > Layer 7 – Real Servers* and click on **Add a new Real Server** next to the newly created VIP.
2. Define the *Label* for the real server as required, e.g. **DCE1**.
3. Set the *Real Server IP Address* field to the required IP address, e.g. **192.168.10.20**.
4. Leave the *Real Server Port* field blank.
5. Click **Update**.
6. Repeat these steps to add additional print servers as required.




7. Click on **Reload HAProxy** when prompted to do so in the "Commit changes" box that appears. This will apply the new changes and put the new virtual service and its associated virtual servers into use.

# 9. Configuring Print Servers for Load Balancing

The following steps should be carried out on each print server defined in the virtual service:

1. Join the server to the same domain as the client PCs.
2. Install the **Print and Document Service** role / **Print Server** service.

3. Install and share the printers (use exactly the same share names and permissions across all servers).
4. If DR mode is used, solve the "ARP problem" on each print server, to that DR mode will work. For detailed steps on solving the ARP problem for the various versions of Windows, please refer to Solving the ARP Problem for more information.

> **Important**
>
> When configuring the Loopback Adapter to solve the ARP Problem, the following options ***must*** also be checked (ticked):
>
> ```
> Client for Microsoft Networks & File & Printer Sharing for Microsoft Networks
> ```

## 9.1. Registry Modifications

To enable the print servers to be accessed via a shared name (**EQDCEHA** in the example virtual service in this guide), add the following registry entries to each print server:

```
Key: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa
Value: DisableLoopbackCheck
Type: REG_DWORD
Data: 1
```

```
Key: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lanmanserver\parameters
Value: DisableStrictNameChecking
Type: REG_DWORD
Data: 1
```

```
Key: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lanmanserver\parameters
Value: OptionalNames
Type: REG_MULTI_SZ
Data: EQDCEHA
```

> **Note**
>
> In the example presented here, EQDCEHA is the name that will be used to access the load balanced print servers via the virtual service (VIP) created on the load balancer. This can be set to any appropriate name. Whatever name is used, it must resolve to the IP address of the VIP as explained in the section below.

### Microsoft Windows Server 2008 Specific Registry Change

If Microsoft Windows Server 2008 is used as the operating system for the printer servers, an additional registry entry change is required. The following registry entry should be changed from a DWORD to a QWORD:

```
Key: HKLM\SYSTEM\CurrentControlSet\Control\Print\DNSOneWire
Value: DnsOnWire
Type: REG_QWORD
Data: 1
```

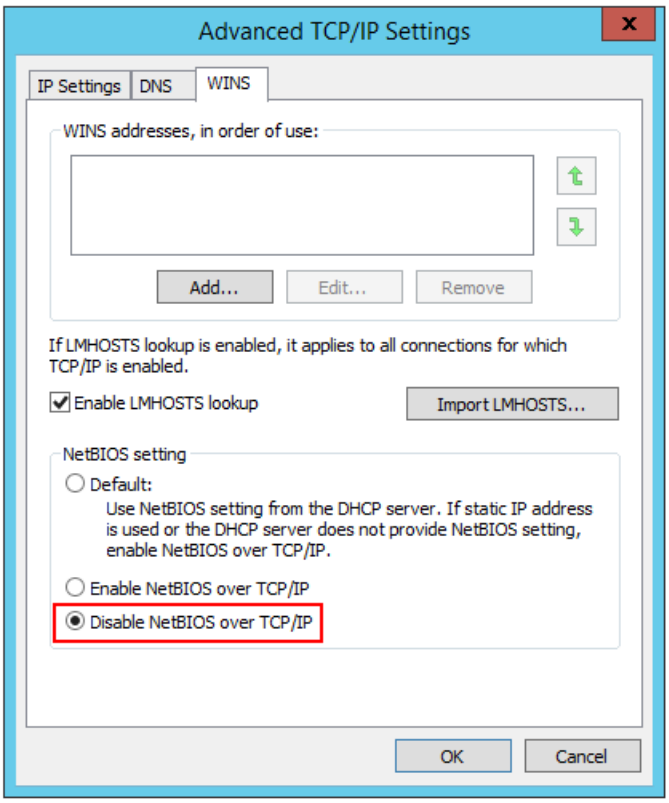
## 9.2. Configuring Name Resolution

For printer load balancing to work, **either** DNS or NetBIOS name resolution should be configured as detailed below.

### DNS Name Resolution (Windows 2000 & later)

To configure DNS name resolution, the following steps should be completed:

1. NetBIOS over TCP/IP should be disabled on **all** interfaces of **each** print server, as shown here:




2. A host name and corresponding "Host (A)" record for the virtual DCE that matches the virtual IP (VIP) address for the load balancer should be created.

When configuring printers to connect back to the highly available DCE, the DCE hostname / IP address should be the VIP address and not the individual DCE host name or IP address.

### NetBIOS Name Resolution (legacy Environments)

To configure NetBIOS name resolution, the following steps should be completed:

1. NetBIOS over TCP/IP should be **disabled on the main NIC** and **left enabled on the Loopback adapter** on **each** print server.
2. Either a WINS server should be set up and all clients configured to use this, **or** pre-loaded entries in the LMHosts file of each client should be set up.

> **Note** As shown in the flow chart in this Technet article, for a default H-node client, NetBIOS name

resolution occurs in the following order:

1. Local NetBIOS cache.
2. WINS server.
3. NetBIOS broadcast.
4. Local LMHosts file.

Therefore, to avoid broadcast, LMHost entries must be declared as pre-loaded to ensure they are available in the local NetBIOS cache.

### Configuring the LMHosts file

This is done by creating an entry like so:

```
EQDCEHA 192.168.100.10 #PRE
```

Entries with the #PRE directive are loaded into the cache on reboot, or can be forced using the command:

```
nbtstat -R
```

The following command can be used to view the cache and verify that the entry has been added:

```
nbtstat -c
```

## 9.3. Finalising the Server Configuration

To finalise the print server configuration changes, **each print server must be rebooted**.

# 10. Testing & Verification

> **Note** For additional guidance on diagnosing and resolving any issues you may have, please also refer to Diagnostics & Troubleshooting.

The load balanced print service can be tested, either by browsing to the virtual service IP address or the share name. In the example presented in this document, this would be done by going to

```
\\10.10.10.190
```

or

```
\\EQDCEHA
```

Any shared printers and shared folders that have been configured on the real print servers should be visible.

### 10.1. Installing and Configuring Couchbase and Equitrac DCE

The Couchbase and Equitrac DCE software should be set up by following the steps outlined in the installation document. To obtain a copy, reach out to Kofax support.

## 11. Technical Support

For more details about configuring the appliance and assistance with designing your deployment please don't hesitate to contact the support team using the following email address: support@loadbalancer.org.

## 12. Further Documentation

For additional information, please refer to the Administration Manual.

# 13. Appendix

## 13.1. Solving the ARP Problem

### Windows Server 2012 & Later

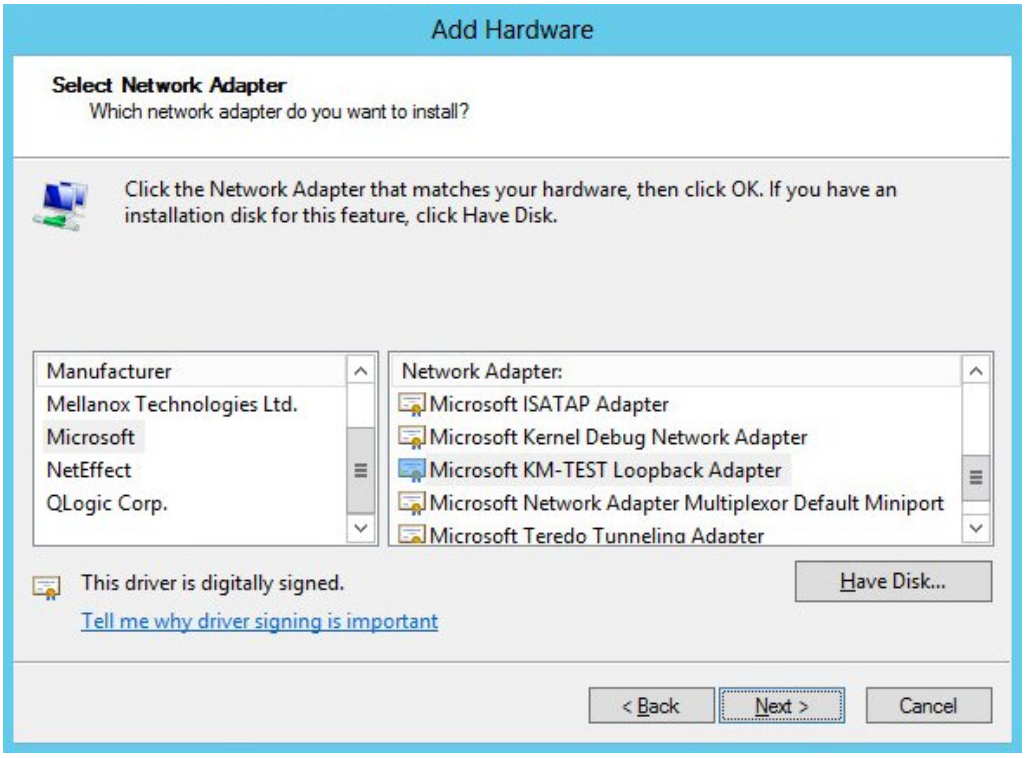
Windows Server 2012 and later support Direct Routing (DR) mode through the use of the Microsoft Loopback Adapter that must be installed and configured on each load balanced (Real) Server. The IP address configured on the Loopback Adapter must be the same as the Virtual Service (VIP) address. This enables the server to receive packets that have their destination set as the VIP address. If a Real Server is included in multiple DR mode VIPs, an IP address for each VIP must be added to the Loopback Adapter.

In addition, steps must be taken to set the strong/weak host behavior on each Real Server. This is used to either prevent or allow interfaces to receive packets destined for a different interface on the same server.

> **Important** The following 3 steps must be completed on ***all*** Real Servers associated with the VIP.

#### Step 1 of 3: Install the Microsoft Loopback Adapter

1. Click **Start**, then run **hdwwiz** to start the Hardware Installation Wizard.
2. Once the Wizard has started, click **Next**.
3. Select **Install the hardware that I manually select from a list (Advanced)**, click **Next**.
4. Select **Network adapters**, click **Next**.




5. Select **Microsoft** & **Microsoft KM-Test Loopback Adapter**, click **Next**.
6. Click **Next** to start the installation, when complete click **Finish**.

## Step 2 of 3: Configure the Loopback Adapter

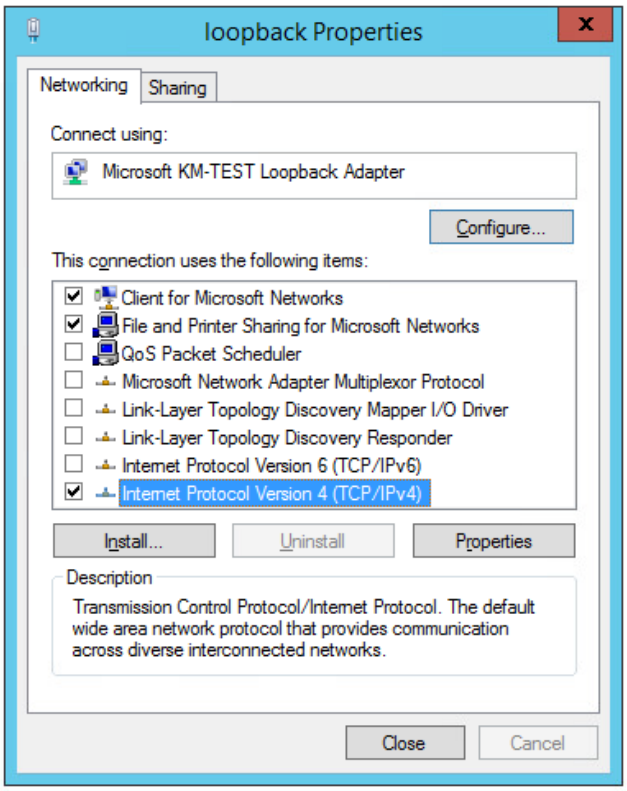
1. Open Control Panel and click **Network and Sharing Center**.
2. Click **Change adapter settings**.
3. Right-click the new Loopback Adapter and select **Properties**.

> **Note** You can configure IPv4 or IPv6 addresses or both depending on your requirements.

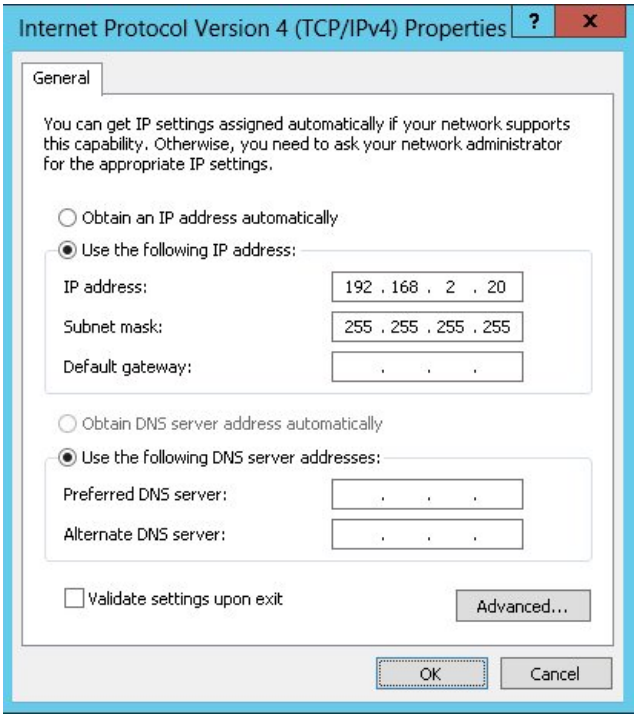
> **Important** when configuring the loopback adapter properties, make sure that **Client for Microsoft Networks** and **File & Printer Sharing for Microsoft Networks** is also checked as shown below.

### IPv4 Addresses

1. Uncheck all items except **Client for Microsoft Networks**, **File & Printer Sharing for Microsoft Networks** and **Internet Protocol Version 4 (TCP/IPv4)** as shown below:




2. Ensure that **Internet Protocol Version (TCP/IPv4)** is selected, click **Properties** and configure the IP address to be the same as the Virtual Service address (VIP) with a subnet mask of **255.255.255.255**, e.g. **192.168.2.20/255.255.255.255** as shown below:



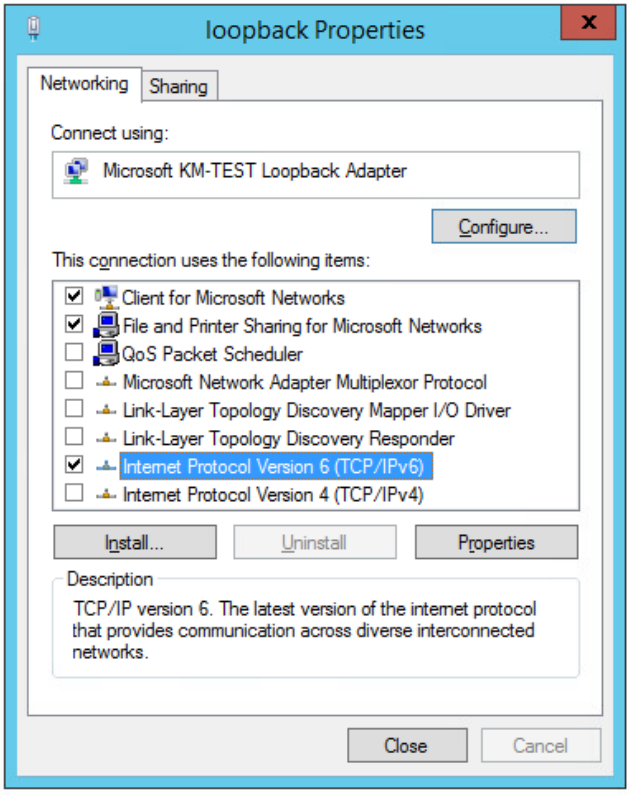

> **Note** **192.168.2.20** is an example, make sure you specify the correct VIP address.

> **Note** If a Real Server is included in multiple DR mode VIPs, an IP address for each VIP must be added to the Loopback Adapter.

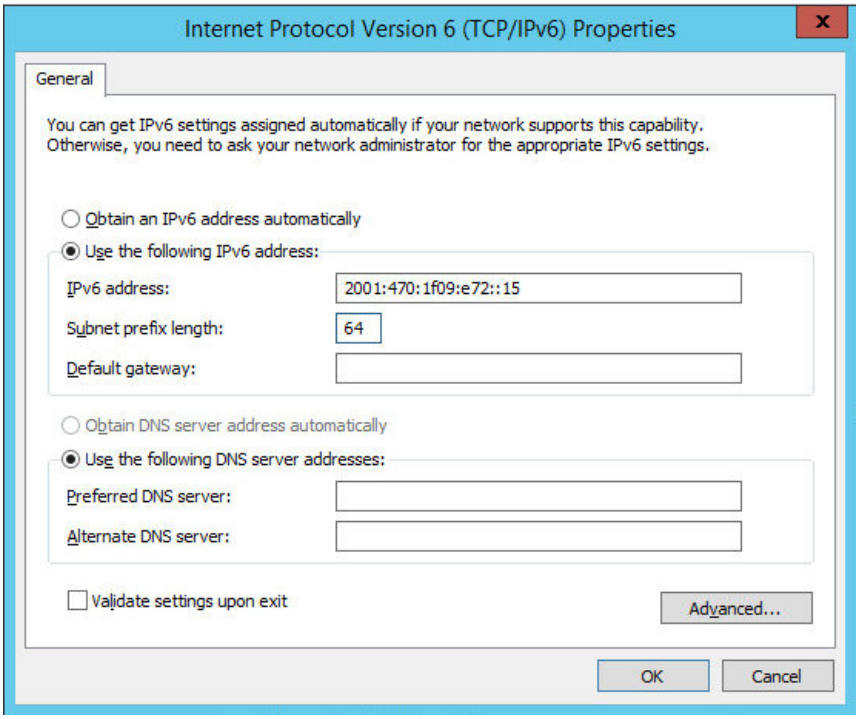
3. Click **OK** then click **Close** to save and apply the new settings.

### IPv6 Addresses

1. Uncheck all items except **Client for Microsoft Networks**, **File & Printer Sharing for Microsoft Networks** and **Internet Protocol Version 6 (TCP/IPv6)** as shown below:




2. Ensure that **Internet Protocol Version (TCP/IPv6)** is selected, click **Properties** and configure the IP address to be the same as the Virtual Service (VIP) and set the ***Subnet Prefix Length*** to be the same as your network setting, e.g. **2001:470:1f09:e72::15/64** as shown below:




> **Note** **2001:470:1f09:e72::15/64** is an example, make sure you specify the correct VIP address.

> **Note** If a Real Server is included in multiple DR mode VIPs, an IP address for each VIP must be

added to the Loopback Adapter.

3. Click **OK** then click **Close** to save and apply the new settings.

### Step 3 of 3: Configure the strong/weak host behavior

The strong/weak host behavior can be configured using either of the following 2 methods:

- Option 1 - Using Network Shell (netsh) commands
- Option 2 - Using PowerShell cmdlets

The commands in this section assume that the LAN Adapter is named "**net**" and the Loopback Adapter is named "**loopback**" as shown in the example below:


> **Important** Either adjust the commands to use the names allocated to your LAN and loopback adapters, or rename the adapters before running the commands. Names are case sensitive so make sure that the interface names used in the commands match the adapter names exactly.

#### Option 1 - Using Network Shell (netsh) Commands

To configure the correct strong/weak host behavior run the following commands:

For IPv4 addresses:

```
netsh interface ipv4 set interface "net" weakhostreceive=enabled
netsh interface ipv4 set interface "loopback" weakhostreceive=enabled
netsh interface ipv4 set interface "loopback" weakhostsend=enabled
```

For IPv6 addresses:

```
netsh interface ipv6 set interface "net" weakhostreceive=enabled
netsh interface ipv6 set interface "loopback" weakhostreceive=enabled
netsh interface ipv6 set interface "loopback" weakhostsend=enabled
netsh interface ipv6 set interface "loopback" dadtransmits=0
```

#### Option 2 - Using PowerShell Cmdlets

For IPv4 addresses:

```
Set-NetIpInterface -InterfaceAlias loopback -WeakHostReceive enabled -WeakHostSend enabled
-DadTransmits 0 -AddressFamily IPv4
```

```
Set-NetIpInterface -InterfaceAlias net -WeakHostReceive enabled -AddressFamily IPv4
```

For IPv6 Addresses:

```
Set-NetIpInterface -InterfaceAlias loopback -WeakHostReceive enabled -WeakHostSend enabled
-DadTransmits 0 -AddressFamily IPv6
```

```
Set-NetIpInterface -InterfaceAlias net -WeakHostReceive enabled -AddressFamily IPv6
```

## 13.2. Configuring HA - Adding a Secondary Appliance

Our recommended configuration is to use a clustered HA pair of load balancers to provide a highly available and resilient load balancing solution.

We recommend that the Primary appliance is configured first and then the Secondary should be added. Once the Primary and Secondary are paired, all load balanced services configured on the Primary are automatically replicated to the Secondary over the network using SSH/SCP.

> **Note** For Enterprise Azure, the HA pair should be configured first. In Azure, when creating a VIP using an HA pair, 2 private IPs must be specified – one for the VIP when it's active on the Primary and one for the VIP when it's active on the Secondary. Configuring the HA pair first, enables both IPs to be specified when the VIP is created.

The clustered HA pair uses Heartbeat to determine the state of the other appliance. Should the active device (normally the Primary) suffer a failure, the passive device (normally the Secondary) will take over.

### Non-Replicated Settings

A number of settings are not replicated as part of the Primary/Secondary pairing process and therefore must be manually configured on the Secondary appliance. These are listed by WebUI menu option in the table below:

| WebUI Main Menu Option | Sub Menu Option | Description |
|---|---|---|
| Local Configuration | Hostname & DNS | Hostname and DNS settings |
| Local Configuration | Network Interface Configuration | All network settings including IP address(es), bonding configuration and VLANs |
| Local Configuration | Routing | Routing configuration including default gateways and static routes |
| Local Configuration | System Date & time | All time and date related settings |

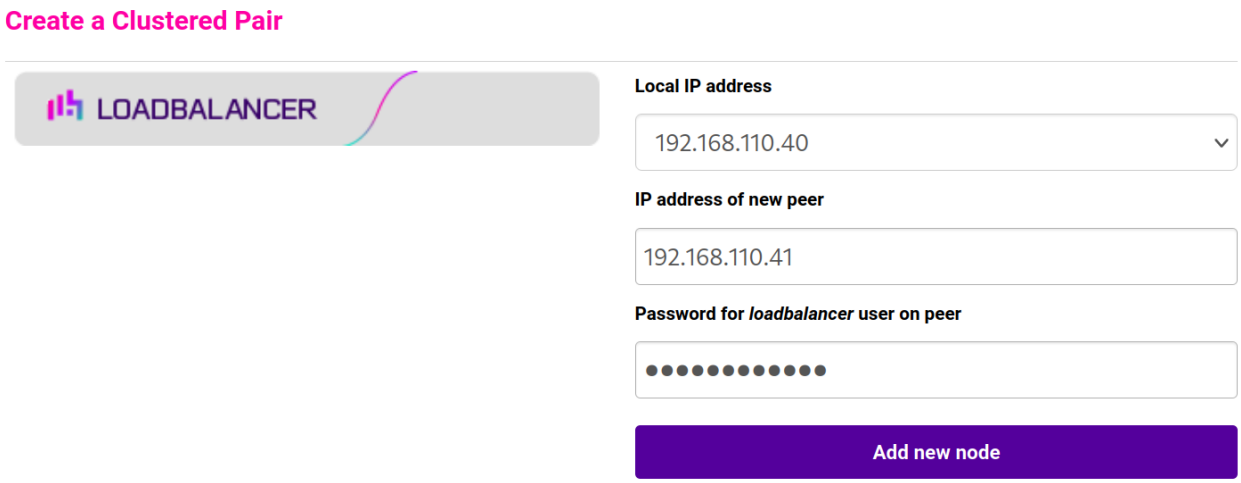
| WebUI Main Menu Option | Sub Menu Option | Description |
|---|---|---|
| Local Configuration | Physical – Advanced Configuration | Various settings including Internet Proxy, Management Gateway, Firewall connection tracking table size, NIC offloading, SMTP relay, logging and Syslog Server |
| Local Configuration | Security | Appliance security settings |
| Local Configuration | SNMP Configuration | Appliance SNMP settings |
| Local Configuration | Graphing | Appliance graphing settings |
| Local Configuration | License Key | Appliance licensing |
| Maintenance | Software Updates | Appliance software update management |
| Maintenance | Firewall Script | Appliance firewall (iptables) configuration |
| Maintenance | Firewall Lockdown Wizard | Appliance management lockdown settings |

**Important** Make sure that if these settings/updates have been configured on the Primary appliance, they're also configured on the Secondary appliance.

## Adding a Secondary Appliance - Create an HA Clustered Pair

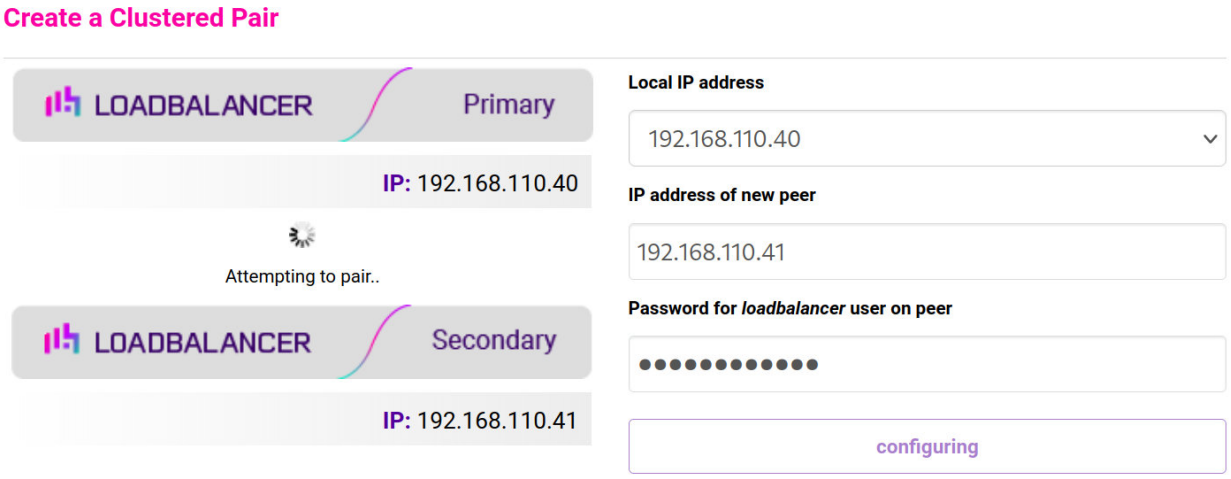
**Note** If you have already run the firewall lockdown wizard on either appliance, you'll need to ensure that it is temporarily disabled on both appliances whilst performing the pairing process.

1. Deploy a second appliance that will be the Secondary and configure initial network settings.
2. Using the WebUI on the Primary appliance, navigate to: *Cluster Configuration > High-Availability Configuration*.

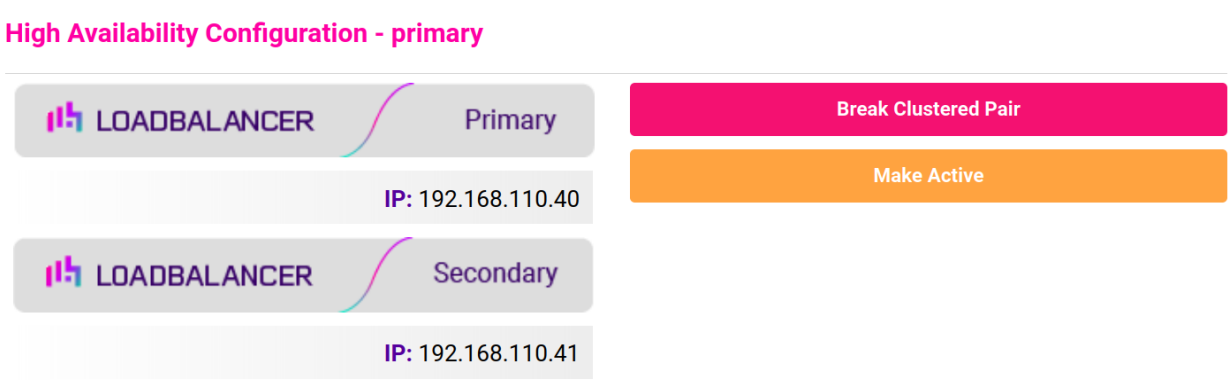



3. Specify the IP address and the *loadbalancer* user's password for the Secondary (peer) appliance as shown in the example above.

4. Click **Add new node**.
5. The pairing process now commences as shown below:




6. Once complete, the following will be displayed on the Primary appliance:




7. To finalize the configuration, restart heartbeat and any other services as prompted in the "Commit changes" message box at the top of the screen.

> **Note** Clicking the **Restart Heartbeat** button on the Primary appliance will also automatically restart heartbeat on the Secondary appliance.

> **Note** For more details on configuring HA with 2 appliances, please refer to Appliance Clustering for HA.

> **Note** For details on testing and verifying HA, please refer to Clustered Pair Diagnostics.

# 14. Document Revision History

| Version | Date | Change | Reason for Change | Changed By |
|---|---|---|---|---|
| 1.0.0 | 8 March 2018 | Initial version | | AH |
| 1.0.1 | 6 December 2018 | Added the new "Company Contact Information" page | Required updates | AH |
| 1.1.0 | 9 December 2019 | Styling and layout | General styling updates | AH |
| 1.1.1 | 8 June 2020 | New title page<br><br>Updated Canadian contact details<br><br>Added standard section 'Loadbalancer.org Appliance – the Basics'<br><br>Added standard appendix section 'Clustered Pair Configuration – Adding a Secondary Unit' | Branding update<br><br>Change to Canadian contact details<br><br>Consistency with other deployment guides | AH |
| 1.1.2 | 15 October 2020 | Name change from Nuance to Kofax | Kofax Acquisition of Nuance Document Imaging | OW |
| 1.2.0 | 1 November 2021 | Converted the document to AsciiDoc | Move to new documentation system | AH, RJC, ZAC |
| 1.2.1 | 28 September 2022 | Updated layer 7 VIP and RIP creation screenshots | Reflect changes in the web user interface | AH |
| 1.2.2 | 5 January 2023 | Combined software version information into one section<br><br>Added one level of section numbering<br><br>Added software update instructions<br><br>Added table of ports used by the appliance<br><br>Reworded 'Further Documentation' section<br><br>Removed references to the colour of certain UI elements | Housekeeping across all documentation | AH |
| 1.2.3 | 2 February 2023 | Updated screenshots | Branding update | AH |

| Version | Date | Change | Reason for Change | Changed By |
|---|---|---|---|---|
| 1.2.4 | 7 March 2023 | Removed conclusion section | Updates across all documentation | AH |
| 1.3.0 | 24 March 2023 | New document theme<br><br>Modified diagram colours | Branding update | AH |

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