Load Balancing Microsoft Session Host in Azure

Version 1.3.0

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1. About this Guide

This document provides a quick reference guide on how to load balance Microsoft Remote Desktop Session Host servers using the Enterprise Azure Loadbalancer.org Azure cloud appliance.

- Microsoft Connection Broker is used, the Loadbalancer.org appliance interacts with the Routing Token to reconnect user sessions to the correct Session Host.

- The Loadbalancer.org Feedback Agent is installed on the Session Host servers to provide real time performance stats to enable optimum load distribution.

2. Software Versions Supported

2.1. Loadbalancer.org Appliance

- V8.9.1 and later

⚫ Note	The screenshots used throughout this document aim to track the latest Loadbalancer.org software version. If you're using an older version, or the very latest, the screenshots presented here may not match your WebUI exactly.

2.2. Microsoft Windows Server

- All versions

3. Related Documentation

For additional information, please refer to the Administration Manual, the Azure Quick Start Configuration Guide and the Microsoft Remote Desktop Services Deployment Guide.

4. Load Balanced Ports / Services

Port	Use	Transport Layer Protocol
3389	Remote Desktop Protocol (RDP)	TCP

5. Azure Network Security Group inbound rules

The following inbound rules must be configured in your Network Security Group:

- For Management: TCP 9443 (Appliance WebUI)

- For access to the load balanced RDP Services: TCP 3389 (RDP)

6. Appliance Configuration Overview
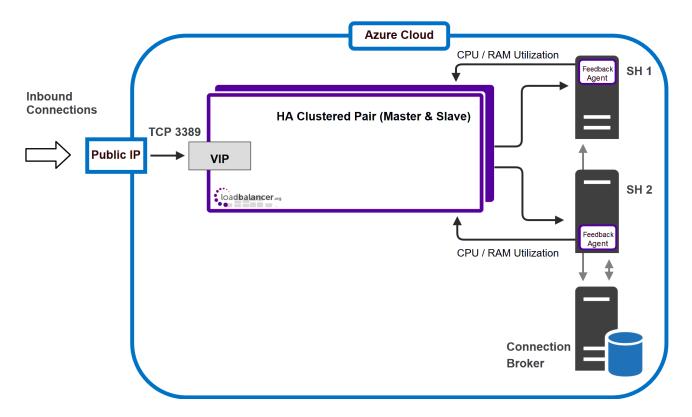
6.1. Operation Mode

The load balancer is configured using layer 7 SNAT mode. This mode does not require any mode specific configuration changes to the load balanced Real Servers.

6.2. Session Host Health-check

A connect to port health-check is used to verify that each Session Host server is available.

6.3. Deployment Concept

The diagram below shows how the system is configured.

Notes

1. The Loadbalancer.org Feedback Agent provides real time server utilization statistics based on either CPU or RAM utilization or a combination of both.

2. Connection Broker can be deployed in HA mode if required using 2 Connection Broker servers and an SQL database.

7. Deploying & Accessing the Appliance

7.1. Deployment

Deploy the Loadbalancer.org appliance as described in the Azure Quick Start Configuration Guide.

7.2. Accessing the Appliance WebUI

Using a browser, navigate to the public IP address or FQDN on port 9443:

https://<Public IP address>:9443

or

https://<FQDN>:9443

<table>
<tr><td>ℹ **Note**</td><td>To configure an FQDN in Azure please refer to this link.</td></tr>
</table>

<table>
<tr><td>ℹ **Note**</td><td>You'll receive a warning about the WebUI's SSL 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.</td></tr>
</table>

<table>
<tr><td>ℹ **Note**</td><td>If you need to change the port, IP address or protocol that the WebUI listens on, please refer to Service Socket Addresses.</td></tr>
</table>

Log in to the WebUI using the following default credentials:
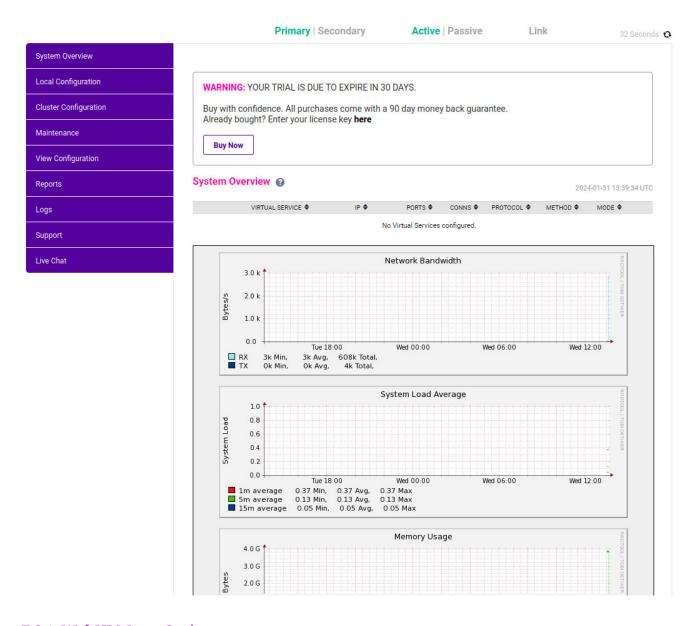
Username: loadbalancer
Password: loadbalancer

<table>
<tr><td>ℹ **Note**</td><td>To change the password, use the WebUI option: *Maintenance > Passwords.*</td></tr>
</table>

Once logged in, the WebUI is displayed:

7.2.1. WebUI 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

8. Configuration Steps

8.1. Appliance Configuration

8.1.1. Configure the Virtual Service

1. Using the WebUI, navigate to: *Cluster Configuration > Layer 7 – Virtual Services* and click **Add a New Virtual Service**.

2. Enter the following details:
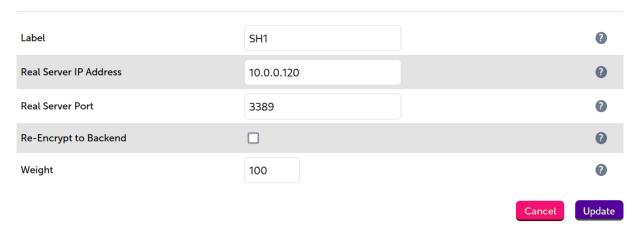
Layer 7 - Add a new Virtual Service

Virtual Service		[Advanced +]
Label	RDS-SessionHost	❓
IP Address	10.0.0.100	❓
Ports	3389	❓
Protocol		
Layer 7 Protocol	TCP Mode ⌄	❓

Cancel Update

3. Define the required *Label* (name) for the VIP, e.g. **RDS-SessionHost**.

4. Set the *Virtual Service IP Address* field to an appropriate value, e.g. **10.0.0.100**.

5. Set the *Virtual Service Ports* field to **3389**.

6. Change *Layer 7 Protocol* to **TCP Mode**.

7. Click **Update**.

8. Now click **Modify** next to the newly created VIP.

9. Scroll to the *Persistence* section.

   ▪ Change *Persistence Mode* to **MS Session Broker**.

10. Scroll to the *Feedback Method* section.

    ▪ Change *Feedback Method* to **Agent**.

11. Scroll to the *Other* section and click **[Advanced]**.

    ▪ Enable (check) the *Timeout* checkbox and set both *Client Timeout* and *Real Server Timeout* to a suitable value, e.g. **1h** (1 hour).

12. Click **Update**.

8.1.2. Define the Real (Session Host) Servers

1. Using the WebUI, navigate to: *Cluster Configuration > Layer 7 – Real Servers* and click **Add a new Real Server** next to the newly created VIP.

2. Enter the following details:

Layer 7 Add a new Real Server

Label	SH1	❓
Real Server IP Address	10.0.0.120	❓
Real Server Port	3389	❓
Re-Encrypt to Backend	☐	❓
Weight	100	❓

Cancel   Update

3. Enter an appropriate label for the Real Server, e.g. **SH1**.

4. Set the *Real Server IP Address* field to the required address, e.g. **10.0.0.120**.

5. Set the *Real Server Port* field to **3389**.

6. Click **Update**.

7. Repeat the above steps to add your other Session Host server(s).

8.1.3. Apply the New Settings

To apply the new settings, HAProxy must be reloaded. This can be done using the button in the "Commit changes" box at the top of the screen or by using the *Restart Services* menu option:

1. Using the WebUI, navigate to: *Maintenance > Restart Services*.

2. Click **Reload HAProxy**.

8.2. Session Host Server Configuration

8.2.1. Configure Server Settings

To configure the Session Host Servers, please refer to the section *"Load balancing Session Hosts when deployed with Connection Broker"* in the Microsoft Remote Desktop Services Deployment Guide.

8.2.2. Install The Feedback Agent

The Loadbalancer.org Windows Feedback Agent can be downloaded here. To install and configure the Feedback Agent, please refer to the section *"Server Feedback Agent"* in the Microsoft Remote Desktop Services Deployment Guide.

9. Testing

The load balanced Session Host Servers should now be accessible using the Public IP address or corresponding public DNS name. Connect to this address from the Microsoft RDP client (**mstsc.exe**) or equivalent.

10. Loadbalancer.org Technical Support

If you have any questions regarding the appliance or would like assistance designing your deployment, please don't hesitate to contact our support team: support@loadbalancer.org.

11. Document Revision History

Version	Date	Change	Reason for Change	Changed By
1.1.0	4 November 2019	Styling and layout	General styling updates	AH
1.1.1	23 July 2020	New title page Updated Canadian contact details	Branding update Change to Canadian contact details	AH
1.2.0	1 September 2022	Converted the document to AsciiDoc Updated links and instructions where necessary	Move to new documentation system Required updates	AH
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	Added one level of section numbering	Housekeeping across all documentation	AH
1.2.3	2 February 2023	Updated screenshots	Branding update	AH
1.2.4	21 March 2023	Improved document structure Updated various configuration steps	Document standardization Product feature updates	RJC
1.3.0	24 March 2023	New document theme Modified diagram colours	Branding update	AH

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Loadbalancer.org's mission is to ensure that its clients' businesses are never interrupted. The load balancer experts ask the right questions to get to the heart of what matters, bringing a depth of understanding to each deployment. Experience enables Loadbalancer.org engineers to design less complex, unbreakable solutions - and to provide exceptional personalized support.