Load Balancing Microsoft Session Host in AWS

v1.1.1

Quick Reference Guide
About this Guide
This document provides a quick reference guide on how to load balance Microsoft Remote Desktop Session Host servers using the Enterprise AWS Loadbalancer.org Amazon 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

Related Documentation
For additional information about the Loadbalancer.org AWS Appliance, please also refer to the following documents:

- Administration Manual
- AWS Quick Start Guide
- Microsoft Remote Desktop Services Deployment Guide

Load Balanced Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Use</th>
<th>Transport Layer Protocol</th>
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</thead>
<tbody>
<tr>
<td>3389</td>
<td>Remote Desktop Protocol (RDP)</td>
<td>TCP</td>
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</table>

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

- For Management: TCP 22 (SSH), TCP 9443 (Appliance WebUI), 7777 (HAProxy Stats page)
- For RDP services: TCP 3389 (RDP)

Load Balancer Configuration

Deploy The Loadbalancer.org AWS Appliance
1. Deploy an AWS Loadbalancer.org appliance as detailed in the Quick Start Guide

Accessing The Appliance WebUI
Using a browser, navigate to the Public DNS name or Public IP address on port 9443, i.e.
https://<Public IP address>:9443

You’ll receive a warning about the certificate as it’s a self signed cert not related to an Internet based CA. Confirm you want to continue and a login prompt will be displayed. Use the following default credentials:
Username: loadbalancer
Password: <EC2 Instance-ID>

Note: To change the password for the 'loadbalancer' account, use the WebUI option: Maintenance > Passwords.

Once logged in, the WebUI is displayed:
Configuration
The diagram below shows how the system is configured.

Notes:
- The Loadbalancer.org Server Feedback Agent provides real time server utilization statistics based on either CPU or RAM utilization or a combination of both.
- Connection Broker can be deployed in HA mode if required using 2 Connection Broker servers and an SQL database.

Deploy The Loadbalancer.org AWS Appliance
1. Deploy an AWS loadbalancer.org appliance as detailed in the Quick Start Guide.

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:
3. Define the required Label (name) for the VIP, e.g. **RDS-SessionHost**
4. Set the Virtual Service IP address field to the required IP address, 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. Change **Persistence Mode** to **MS Session Broker**
10. Change **Feedback Method** to **Agent**
11. In the **Other** section, click **Advanced** to show more options
12. Enable (check) the **Timeout** checkbox and set both **Client Timeout** and **Real Server Timeout** to a suitable value, e.g. **1h** (1 hour)
13. Click **Update**

**Define The Real (Session Host) Servers**

Real Servers, i.e. the Session Host servers are now defined.

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:

   ![Real Server Configuration](image)

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)

**Apply The New Settings**

1. Once the configuration is complete, use the **Reload HAProxy** button at the top of the screen to commit the changes.

**Associate An EIP With The Virtual Service**

An EIP is added and associated with the VIP to provide a public IP address for client connections.

1. Using the WebUI, navigate to: **EC2 > EC2 Network Configuration**
2. Click **Allocate New Elastic IP**, this will request an EIP from Amazon using API calls

3. Click **[Associate]** to associate the EIP to the Virtual Service Private IP address

   This association is then displayed as shown below:
Session Host Server Configuration

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.

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.

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

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.
### Document Revision History

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<tr>
<th>Version</th>
<th>Date</th>
<th>Change</th>
<th>Reason for Change</th>
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<tr>
<td>1.1.0</td>
<td>4 November 2019</td>
<td>Styling and layout</td>
<td>General styling updates</td>
<td>AH</td>
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<tr>
<td>1.1.1</td>
<td>26 August 2020</td>
<td>New title page</td>
<td>Branding update</td>
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<td>Updated Canadian contact details</td>
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<td>Amended instructions for setting timeout options</td>
<td>Changes to the appliance WebUI</td>
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About Loadbalancer.org

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.

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