Introduction to Citrix NetScaler Load Balancer

Cisco Unified Intelligence Center is a flexible and intuitive web-based reporting platform providing you with reports on relevant business data. With Unified Intelligence Center, you can create a comprehensive information portal where contact center reports and dashboards are developed and shared throughout the organization. In large, Unified Intelligence Center deployments, the Citrix NetScaler 1000v (Load Balancer) is used to load balance Unified Intelligence Center HTTP and HTTPS traffic.

Qualified Product Version

- Unified Intelligence Center: 11.0(1)
- Citrix NS: appliance Edition: Citrix NetScaler 1000v (10.1 Build 125.8)
Figure 1: Network Topology
Basic Configuration

System Settings and License
On the Citrix NetScaler 1000v screen, configure the settings and upload the license. Go to the **Configuration** tab > **Settings** > **Configure Basic features**.
Upload the license, without it license SSL does work on Citrix NetScaler 1000v. On the Configuration tab > Settings > System > Licenses > Manage License > Update License.

Network Configuration

The clients communicate to Load balancer through the Virtual IP (VIP) and Load balancer communicates to Unified Intelligence Center through its Subnet IP (SNIP).

Create Subnet IP

Procedure

Step 1  Click Add, to add IP address and select Type as Subnet IP.
Step 2  Click Create to create the desired IP address.
Create VIP

Procedure

Step 1  Click Add, to add IP address and select Type as Virtual IP.
Step 2  Click Create to create the desired IP address.

Create Routes

Procedure

Step 1  Create routes to the network from where http or https requests comes to the Load Balancer.
Note  Creating routes are optional.
Step 2  Click Create to create the desired route.
HTTPS Load Balancing Configuration

Create virtual server entries, one for each port. In Unified Intelligence Center, three ports require monitoring (HTTP ports 80, 8081 and https port 8444). Each virtual server entry is the IP and port combination which receives the HTTP traffic from client (accessing Unified Intelligence Center report).

Virtual servers are required to be linked with servers, to send load traffic. To check the status of the server’s monitors, they need servers assigned to each. Using the monitors, load detects the server (Unified Intelligence Center) failure and redistributes the incoming traffic to servers which are in good health to serve the requests. The relationship is Virtual Server > Service and Server > Monitor.

To configure HTTPS load balancing:

• Create Monitors
• Create Servers
• Create Services with Server association
• Link each service to corresponding monitors
• Create virtual servers
• Link corresponding Services with virtual Servers
• Create Persistency Group and add virtual Servers

The following figure depicts three virtual server entries and its relationship.
Create Monitors

Go to Traffic Management > Load Balancing > Monitors, click Add.

Note

Three types of monitors are created, for port 80, 8081 and 8444.
Create Monitor for HTTP Port 80

Procedure

Step 1  On the Create Monitor window, select Type as TCP and specify all standard parameters accordingly.
Step 2  Click Create to create the monitor. For HTTPS, create two monitors (one per server)

![Create Monitor for HTTP Port 80](image)

Create Monitor for HTTP Port 8081

Procedure

Step 1  Complete the Name and Type field.
Step 2  Select the Type HTTP and complete the Special Parameter fields. This monitor reports success if the response to the HTTP request is either 200 or 302. When HTTP is disabled in Unified Intelligence Center, 302 is expected otherwise, 200. So to deal with both the instances 200 and 302 are included.
**Create Monitor for HTTPs Port 8444**

**Procedure**

1. Complete the **Name** and **Type** field.
2. Select the **Type** HTTPs and complete the **Special Parameter** fields.

   This monitor reports success only, if the response contains a string **In Service**.
Figure 10: Create Monitor HTTPs Port 8444

Figure 11: Configure Monitor

Create Servers

Server represents a Unified Intelligence Center node. For each Unified Intelligence Center node served by the load balancer a server entry is required. To create server, go to Traffic Management > Load Balancing > Servers. Click Add.
Create Services

To create services, go to **Traffic Management > Load Balancing > Services**. Click **Add**.

If there are no monitors associated, a default monitor is displayed in the **Configured** box in the **Configure Service** window. Do not remove the default monitor. Select the correct monitor from the available monitors from the list (cust_tcp) and click **Add** to move it to **Configured** list. Click **OK**.

Once the page is refreshed, the selected monitor only is displayed and default monitor disappears, as a service is associated with a monitor. If nothing is configured, load balancer provides a default one, but when you select a monitor, then load balancer removes the default monitor.

*Figure 12: Services*
Create Virtual Server

To create a virtual server, go to Traffic Management > Load Balancing > Virtual Servers. Click Add. Select the service associated with this virtual service.
In the **Method and Persistence** tab, select **Method** as *Least Connection*, **Persistence** as *SOURCEIP* and **Time-out** as *40*.

**Note**
Configure value greater than the refresh rate, as the default historical report refresh rate is set to 30 minutes. Also, if you configure a different refresh rate for historical report, then change this value as well.
Create Persistency Groups

To create a Persistency Group, go to Traffic Management > Load Balancing > Persistency Groups. Click Add.

In the Method and Persistence tab, select Method as Least Connection, Persistence as SOURCEIP and Time-out as 40.

Configure value greater than the refresh rate, as the default historical report refresh rate is set to 30 minutes. Also, if you configure a different refresh rate for historical report, then change this value as well.

Each Unified Intelligence Center server connects on three ports and thus include the three virtual servers. If a client requests from HTTP 80 port, all requests from that client targeting to port 8081 and 8444 is routed to the same Unified Intelligence Center server.

Figure 14: Configure Persistency Group
Create Persistence Groups