

# Citrix Netscaler RADIUS Monitor and RADIUS Load Balancer

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## Introduction

Citrix 10.5 allows the RADIUS to be monitored and load balanced in a number of ways. Earlier versions such as 10.1 also have this capability but have different configuration screens.

Where Swivel [Single Channel Sessions \(TURING, Pinpad\)](#), and SMS by [On Demand Authentication](#) and [Mobile Provision Codes](#), it is expected that [Appliance Synchronisation](#) will also be used.

## Prerequisites

Swivel HA solution

Netscaler 10.x

## Baseline

Swivel 3.10.3

Netscaler 10.5

## Swivel Configuration

The Swivel servers should be setup as indicated in the integration guide.

Configure a RADIUS NAS entry for the Netscaler SNIP interface, see [RADIUS Configuration](#)

Optionally set **Authenticate non-user with just password**: to Yes and configure a non Swivel user with a static password, see [RADIUS Static Password](#).

## Netscaler Configuration

The Netscaler Configuration should be setup and tested to be working before attempting these steps.

### Create a Swivel Radius Monitor

On the Netscaler Administration console Configuration Tab select Traffic management/Load Balancing/**Monitors**, then Add

Expand the Special Parameters and add **Response Codes** to 3 for Access Reject and add 2 for Access Accept

Set **Username** to an appropriate test user

Set **Password** to the required value if Authenticate non-user with just password if authenticate non Swivel user is used (or random if not)

Set **RADIUS Key** to the value for the Swivel RADIUS NAS

Leave other settings as default

Click Create to create the Monitor

Create Monitor

Name\*

Swivel RADIUS Monitor

Type\*

RADIUS

Standard Parameters

Special Parameters

Response Codes

+

3

x

User Name\*

test

Password\*

.....

RADIUS Key\*

.....

NAS ID

NAS IP

.

.

.

Create

Close

Configure Monitor

Name

Swivel RADIUS Monitor

Type

RADIUS

Standard Parameters

Special Parameters

Response Codes

+

2-3

x

User Name\*

non-swivel

Password\*

.....

RADIUS Key\*

.....

NAS ID

NAS IP

0

.

0

.

0

.

0

OK

Close

The Monitor should appear in the list.

Dashboard

Configuration

Reporting

+ System

+ AppExpert

- Traffic Management

- Load Balancing

Virtual Servers

Services

Service Groups

**Monitors**

Metric Tables

Servers

Persistence Groups

+ Content Switching

+ DNS

+ SSL

Optimization

+ Security

+ NetScaler Gateway

Show Unlicensed Features

Integrate with Citrix Products

XenMobile

XenApp and XenDesktop

NetScaler > Traffic Management > Load Balancing > Monitors

Add

Edit

Delete

Action

Name
▶ Swivel RADIUS Monitor
▶ ping-default
▶ tcp-default
▶ arp
▶ nd6
▶ ping
▶ tcp
▶ http
▶ tcp-ecv
▶ http-ecv
▶ udp-ecv
▶ dns
▶ ftp
▶ tcps
▶ https
▶ tcps-ecv
▶ https-ecv
▶ ldns-ping
▶ ldns-tcp
▶ ldns-dns
▶ xdm
▶ xnc

## Create Entries for the Swivel RADIUS Servers

On the Netscaler Administration console Configuration Tab select Traffic management/Load Balancing/**Servers**, then Add. Enter the details for each of the Swivel RADIUS servers. If the Swivel servers are already configured, then this step can be skipped over.

Enter **Server Name** and **IP Address/Hostname**

**Create Server**

Server Name\*

Swivel Primary

☒ IP Address ☐ Domain Name

IPAddress\*

192 . 168 . 12 . 116 ☐ IPv6

Traffic Domain

▼

+

?

☒ Enable after Creating

Comments

Create

Close

**Create Server**

Server Name\*

Swivel Standby

☒ IP Address ☐ Domain Name

IPAddress\*

192 . 168 . 12 . 117 ☐ IPv6 ?

Traffic Domain

▼

+

☒ Enable after Creating

Comments

Create

Close

Click Create to create the Server

+ System

+ AppExpert

- Traffic Management

- Load Balancing

Virtual Servers

Services

Service Groups

Monitors

Metric Tables

Servers

Persistence Groups

+ Content Switching

+ DNS

+ SSL

Optimization

+ Security

+ NetScaler Gateway

Show Unlicensed Features

NetScaler > Traffic Management > Load Balancing > Servers

Add


Edit


Delete

Action

Name	State
▶ Swivel Standby	Enabled
▶ Swivel Primary	Enabled
▶ 192.168.12.111	Enabled
▶ 127.0.0.1	Enabled

Integrate with Citrix Products

 XenMobile

 XenApp and XenDesktop

## Create a Swivel Load Balance Service Group

On the Netscaler Administration console Configuration Tab select Traffic management/Load Balancing/**Service Group**, then Add.

Enter the **Name**, **Protocol** RADIUS, then click OK, and

## Load Balancing Service Group

### Basic Settings

Name\*

Swivel LB Service Group

Protocol\*

RADIUS

Traffic Domain

Cache Type\*

SERVER

AutoScale Mode

☐ Cacheable

☒ State

☒ Health Monitoring

☒ AppFlow Logging

Number of Active Connections

Comments

OK

Cancel

Click below the **Service Group members** to add members to the group, select the **Server Based** radio button to add in the Swivel RADIUS servers and enter **Port 1812**. Repeat for each Swivel server to be added.

Service Group Member	
<input type="radio"/> IP Based <input checked="" type="radio"/> Server Based	<input type="radio"/> IP Based <input checked="" type="radio"/> Server Based
Server Name*	Server Name*
<input type="text" value="Swivel Primary"/>	<input type="text" value="Swivel Standby"/>
Port*	Port*
<input type="text" value="1812"/>	<input type="text" value="1812"/>
Weight	Weight
<input type="text" value="1"/>	<input type="text" value="1"/>
Server Id	Server Id
<input type="text"/>	<input type="text"/>
Hash Id	Hash Id
<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> State	<input checked="" type="checkbox"/> State
<input type="button" value="Create"/> <input type="button" value="Close"/>	<input type="button" value="Create"/> <input type="button" value="Close"/>

### Add the Monitor to the Load Balance Server Group

From the Right Handside select Monitor so it appears at the bottom then click it again to add the Swivel RADIUS Monitor.

ServiceGroup Binding > Load Balancing Service Group > Load Balancing Monitor Binding	
Load Balancing Monitor Binding	
Select Monitor*	
<input type="text" value="Swivel RADIUS Monitor"/> <input type="button" value="➤"/> <input type="button" value="+"/> <input type="button" value="✎"/>	
Binding Details	
Weight	
<input type="text"/>	
<input type="checkbox"/> State	
<input type="checkbox"/> Passive	
<input type="button" value="Bind"/> <input type="button" value="Close"/>	

Click **Bind** to add it, then Done.

## Create A Virtual Server

On the Netscaler Administration console Configuration Tab select Traffic management/Load Balancing/**Virtual Servers**, then Add. Enter a **Name** for the Virtual Server **IP Address**, **Protocol** and **Port**.

### Load Balancing Virtual Server

**Basic Settings**

Name\*

Swivel LB Virtual Server

Protocol\*

RADIUS

IP Address Type\*

IP Address

IP Address\*

192 . 168 . 12 . 115

☐ IPv6

Port\*

1812

?

More

OK

Cancel

Click OK to create the entry

## Add the Service Group to the Virtual Server

After configuring the Virtual Server, the Service section will appear, click on OK to bring up the **Service Group** on the right hand side.



## Load Balancing Virtual Server

### Basic Settings

Name	Swivel LB RADIUS
Protocol	RADIUS
State	DOWN
IP Address	192.168.12.115
Port	1812
Traffic Domain	0

Listen Priority	-
Listen Policy Expression	-
Range	1
Redirection Mode	IP
RHI State	PASS
AppFlow Logging	ENAB

### Service

**No** Load Balancing Virtual Server Service Binding

### Traffic Settings

Health Threshold	0
Client Idle Time-out	120
Minimum Autoscale Members	0
Maximum Autoscale Members	0
ICMP Virtual Server Response	PASSIVE

Priority Queuing	OFF
Sure Connect	OFF
Down State Flush	ENABLED

### Service Group

**No** Load Balancing Virtual Server ServiceGroup Binding

Done

Click on the Service Group, it will appear at the bottom allowing it to be selected, and then click on **Select Service Group Name** to choose the required service group created earlier.

ServiceGroup Binding > Service Groups

Service Groups

AddEditDeleteManage MembersStatisticsAction

Service Group Name	State	Effective State	Protocol	Max Clients	Max Requests	M
Swivel LB Service Group	ENABLED	UP	RADIUS	0	0	

OKClose

Then click **Bind**

**Add the Method to the Virtual Server**

Select Method and then from the **Load Balancing Method** drop down select **ROUNDROBIN** then click on OK.

Method

Load Balancing Method\*

ROUNDROBIN

New Service Startup Request Rate

New Service Request unit\*

PER\_SECOND

Increment Interval

OK

Click Done and the Virtual server should be created.

NetScaler > Traffic Management > Load Balancing > Virtual Servers						
<div> Add Edit Delete Enable Disable Statistics Action ▼ </div>						
Filters: <div>RADIUS X</div>						
Name	State	Effective State	IP Address	Port	Protocol	Method
▶ RADIUS Virtual Server	Up	Up	192.168.12.115	1812	RADIUS	ROUNDROBIN

## Netscaler RADIUS configuration

The Netscaler can now be configured to use the new Virtual Server as its RADIUS servers following the original documentation.

## Testing

When functioning RADIUS entries will be seen in the Swivel RADIUS logs for each test.

Try RADIUS authentications and see which Swivel server that receives them. Stopping one RADIUS server should indicate on the Virtual Servers that health is degraded, i.e. 50% for two servers.

## Known Issues

The load balancing can produce a large number of logs.

## Troubleshooting