

Add Neighbor Node with Multiple External Traffic Networks

Ericsson Service-Aware Policy Controller

Operating Instructions

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Contents

1	Add Neighbor Node with Multiple External Traffic Networks Introduction	1
1.1	Prerequisites	1
2	Add Neighbor Node with Multiple External Traffic Networks Procedure	2
2.1	Access the Virtual Routers Console	2
2.2	Check Configuration	2
2.3	Identify VR State	3
2.4	Add a Route for a New Node	3
2.5	Remove an Existing Route	4





1 Add Neighbor Node with Multiple External Traffic Networks Introduction

Once the SAPC VNF is set with multiple traffic networks, it can be necessary to add or remove neighbor nodes that are connected to the SAPC through a new interface provided. This document describes how to add and configure neighbor nodes to a live SAPC Virtual Network Function (VNF) behaving as a client with multiple external traffic networks.

1.1 Prerequisites

Before starting this procedure, read the following documents:

- Personal Health and Safety Information
- System Safety Information
- SAPC VNF Network Configuration Guide

For the installation of a new node:

- SAPC VNF Deployment Instruction for OpenStack, or SAPC VNF Deployment Instruction for VMware, respectively.



2 Add Neighbor Node with Multiple External Traffic Networks Procedure

This section describes the procedure of adding a route for a new node and removing an existing route from a node that is taken out of the network. The procedure also shows how to prepare for performing these operations.

2.1 Access the Virtual Routers Console

To access the console of the Virtual Routers (VRs), follow the steps below:

Steps

1. Access the cloud manager.
2. Open the Virtual Machine (VM) console for the VR-3 and VR-4 VMs.

For the credentials, see SAPC Users and Passwords.

2.2 Check Configuration

To get detailed information about the VR configuration, enter the following command:

```
show configuration
```

To ease the checking of the configuration, consider redirecting the output of the command to a file.

To reach a new neighbor server through another external virtual Network Interface Card (vNIC) in the VRs, add a new route to the VR configuration. Otherwise, the VR sends all the traffic through the default route, which is always the first external vNIC (eth1 – ExtTraffic0 network). Adding a new route, the desired traffic can be sent through eth3, which is the new interface provided by the Network Separation functionality.

For further details on network configuration solutions, see [SAPC VNF Network Configuration Guide](#).

Routes related to neighbor nodes that interact with the SAPC and that are configured to use the new interface provided by the Network Separation functionality, must have their routing rules under the following schema:

- protocols
 - static



- route: this routing route has to include the IP of the node in the route value and the External-Traffic-2 gateway in the next-hop value. For the gateway value, see SAPC VNF Network Configuration Guide.

See [Example 1](#) for an example of the routing rule schema.

Example 1 Routing Rule Schema

```
protocols {
    ....
    static {
        ....
        route 10.200.68.207/32 {
            next-hop 10.81.90.225 {
            }
        }
    }
}
```

If there is no traffic separation, the VRs have only one vNIC to send and receive traffic outside. The VR already has a default route sending all the traffic outside through the external vNIC or network.

2.3 Identify VR State

To verify if the VR is in MASTER or BACKUP state, execute the following command in the VR console:

```
show vrrp
```

The output shows the VR state as shown in [Example 2](#):

Example 2 VR State Shown on the VR Console

Interface	Group	State	Compliant	Owner	Transition	Group
-----	-----	-----	-----	-----	-----	-----
eth1	20	BACKUP	no	no	4d19h36m14s	<none>
eth3	30	BACKUP	no	no	4d19h36m14s	<none>

2.4 Add a Route for a New Node

To add a route for a new node, follow the steps below:

Steps

1. To start a bash shell as a root user, enter the following command:

```
sudo bash
```

2. In the VR Console, enter the following command before adding a new route:



```
configure
```

3. Add a new route using the following command:

```
set protocols static route X.X.X.X/32 next-hop external-traffic-2_gateway
```

Where:

X.X.X.X/32 The IP of the new node.

external-traffic-2_gateway

The name of the network gateway. It can be obtained from the [SAPC VNF Network Configuration Guide](#).

4. Save the configuration to apply the changes executing the following commands:

```
commit
save
exit
```

Note: Add the new route first in the backup VR, and then in the master VR. Perform these operations on both VRs (VR-3 and VR-4).

5. Verify the configuration changes as described in [Check Configuration](#) on page 2.

2.5 Remove an Existing Route

If an existing route needs to be removed from a node that is taken out of the network, follow the steps below.

Steps

1. To start a bash shell as a root user, enter the following command:

```
sudo bash
```

2. In the VR Console, enter the following command before deleting the route to be removed:

```
configure
```

3. Delete the route using the following command:

```
del protocol static route X.X.X.X/32
```

Where:

X.X.X.X/32 The IP of the node that is removed from the network.



4. Save the configuration to apply the changes executing the following commands:

```
commit  
save  
exit
```

Note: Delete the route first from the backup VR and then from the master VR. Perform these operations on both VRs (VR-3 and VR-4).

5. Verify the configuration changes as described in [Check Configuration](#) on page 2.