

BGP Control Path Failure

Cloud Execution Environment

OPERATING INSTRUCTIONS

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BGP Control Path Failure



1 Introduction

This instruction concerns alarm handling.

1.1 Alarm Description

The BGP Control Path Failure alarm is issued by the Managed Object (MO) BGP_Neighbor when the control connection with the Border Gateway Protocol (BGP) neighbor is down.

The severity of the alarm is CRITICAL.

Possible alarm causes and fault locations are explained in Table 1.

Table 1 Alarm Causes

Alarm Cause	Description	Fault Reason	Fault Location	Impact
Control path connection with the BGP neighbor is down	BGP neighbor connection is down	BGP neighbor connection is not in ESTABLISHED state	BGP neighbor	<ul style="list-style-type: none">• The service provided by the component is degraded or lost• Connection with the BGP neighbor is lost and datapath is affected

The following is the consequence for the node if the alarm is not solved:

— The service provided by the component is degraded or lost.

The alarm attributes are listed in Table 2.

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	2162705
Managed Object Class	BGP_Neighbor
Managed Object Instance	Region=<name_of_the_region>, Service=SDNc, Alarm=BgpControlPathFailure, BGP_Neighbor=<ip_address>



Attribute Name	Attribute Value
Specific Problem	BGP neighbor connection is not in Established state
Event Type	communicationsAlarm
Probable Cause	302
Additional Text	Bgp Neighbor TCP connection is down,for BGP_Neighbor=<ip_address>
Severity	CRITICAL

1.2 Prerequisites

This section provides information on the documents, tools, and conditions that apply to the procedure.

1.2.1 Documents

For more information on CSC alarms, refer to the SDN document Alarms, Reference [1].

1.2.2 Tools

No tools are required.

1.2.3 Conditions

Not applicable.

2 Procedure

This section describes the procedure to follow when this alarm is received.

2.1 Actions

This alarm is automatically cleared once the connection with the neighbor gets ESTABLISHED state.



Normally, no further actions are necessary. In this case, exit this procedure. If the alert is issued for the same BGP neighbor frequently, do the following:

1. Log on to a vCIC.
2. Check if E-ODL is up and running:

display app-status [--all <all>]

Example output:

```
root@cic-1:~# /etc/init.d/sdnc-service comcli
cli>display app-status
Enter password for user cscadm:
Timestamp: Thu Jul 06 08:28:53 GMT+01:00 2017
Node IP Address: 192.168.70.2
  INTERFACE_SERVICE : OPERATIONAL
  OPENFLOW          : ERROR
  ITM                : OPERATIONAL
  DATASTORE_SERVICE : OPERATIONAL
  SCF_SERVICE        : OPERATIONAL
  ELAN_SERVICE       : OPERATIONAL
Node IP Address: 192.168.70.3
  INTERFACE_SERVICE : OPERATIONAL
  OPENFLOW          : OPERATIONAL
  ITM                : OPERATIONAL
  DATASTORE_SERVICE : OPERATIONAL
  SCF_SERVICE        : OPERATIONAL
  ELAN_SERVICE       : OPERATIONAL
Node IP Address: 192.168.70.4
  INTERFACE_SERVICE : OPERATIONAL
  OPENFLOW          : OPERATIONAL
  ITM                : OPERATIONAL
  DATASTORE_SERVICE : OPERATIONAL
  SCF_SERVICE        : OPERATIONAL
  ELAN_SERVICE       : OPERATIONAL
```

If any service is in ERROR state, restart CSC:

crm resource restart clone_p_sdnc-service

Restart can take about 3-5 minutes. Wait for 5 minutes before executing any other command.

If the connection is reestablished and the alarm ceases, exit this procedure. Else, continue with Step 3.

3. Check the port and the underlying connectivity.
 - a. Check if Quagga Border Gateway Protocol (QBGp) ports 179, 6644, and 7644 are up:



```
netstat -antp | grep 6644
netstat -antp | grep 179
netstat -antp | grep 7644
```

The ports can be in OPEN or ESTABLISHED state on any of the vCICs.

An example output where the ports are functional is shown below.

```
**** 6644 port****
tcp      0      0 0.0.0.0:6644        0.0.0.0:*           LISTEN      25214/java
tcp      0      0 192.168.123.2:6644  192.168.123.5:47644 ESTABLISHED 25214/java
tcp      0      0 192.168.123.5:47644 192.168.123.2:6644  ESTABLISHED 14652/qthrift
**** 7644 port ****
tcp      0      0 0.0.0.0:7644        0.0.0.0:*           LISTEN      14652/qthrift
tcp      0      0 192.168.123.5:42698 192.168.123.1:7644  ESTABLISHED 25214/java
tcp      0      0 192.168.123.1:7644  192.168.123.5:42698 ESTABLISHED 14652/qthrift
**** 179 port****
tcp      0      0 0.0.0.0:179         0.0.0.0:*           LISTEN      19030/bgpd
tcp      0      0 17.17.17.6:44978    17.17.17.45:179     ESTABLISHED 19030/bgpd
```

If all the ports are functional, continue with Step 4.

Example output where one of the ports is down:

```
****6644 port****
cic-1.domain.tld
tcp      0      0 0.0.0.0:6644        0.0.0.0:*           LISTEN      25214/java
tcp      0      0 192.168.123.2:6644  192.168.123.5:47644 ESTABLISHED 25214/java
**** 7644 port ****
cic-1.domain.tld
tcp      0      0 0.0.0.0:7644        0.0.0.0:*           LISTEN      14652/qthrift
tcp      0      0 192.168.123.5:42698 192.168.123.1:7644  ESTABLISHED 25214/java
tcp      0      0 192.168.123.1:7644  192.168.123.5:42698 ESTABLISHED 14652/qthrift
```

In the above case, connectivity to DC-GW over port 179 is not established.

The following scenarios are possible:

- If port 6644 is not in ESTABLISHED and LISTEN state, restart the QBGp service:

```
crm resource restart p_qbgp-service
```

- If port 7644 is not in ESTABLISHED and LISTEN state, restart the QBGp service:

```
crm resource restart p_qbgp-service
```

- If port 6644 or 7644 is not in LISTEN state (in any of the vCICs), restart both services:

```
crm resource restart p_sdnc-service
crm resource restart p_qbgp-service
```




- If port 179 is not in ESTABLISHED and LISTEN state, verify BGP configuration and DC-GW connectivity. If they are correct, restart the QBGp service:

```
crm resource restart p_qbgp-service
```

Restart can take about 3-5 minutes. Wait for 5 minutes before executing any other command.

If the connection is reestablished and the alarm ceases, exit this procedure. Else, continue with Step b.

- Check data connectivity:

```
ping <dc-gw_ip>
```

An example of a successful command is shown below.

```
cic-1:~ # ping 10.184.22.13
PING 10.184.22.13 (10.184.22.13) 56(84) bytes of data.
64 bytes from 10.184.22.13: icmp_seq=1 ttl=254 time=1.03 ms
64 bytes from 10.184.22.13: icmp_seq=2 ttl=254 time=0.867 ms
64 bytes from 10.184.22.13: icmp_seq=3 ttl=254 time=0.780 ms
^C
--- 10.184.22.13 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 0.780/0.895/1.038/0.107 ms
```

This means that DC-GW is reachable through the underlay. In this case, continue with Step 4.

Example output where the command is not successful:

```
cic-1:~ # ping 10.184.22.99
PING 10.184.22.99 (10.184.22.99) 56(84) bytes of data.
^C
--- 10.184.22.99 ping statistics ---
6 packets transmitted, 0 received, 100% packet loss, time 5038ms
```

This means that DC-GW is not reachable through the underlay, which can indicate an underlay fault. Refer to alarm topic LostConnection in the HDS documentation, Reference [2], and continue with Step 4.

- Collect troubleshooting data as described in the [Data Collection Guideline](#).
 - Contact the next level of maintenance support.
- Further actions are outside the scope of this instruction.
- The job is completed.



Reference List

- [1] Alarms, 1/198 22-AXD 101 08/6-V1
- [2] Hyperscale Datacenter System 8000 Customer Documentation, 2/1551-LZN 901 5032