

10.18.130.107 0 100 8489 8502 1 0 0 00:18:59
0

RP/0/0/CPU0:BGP-R1#

RP/0/0/CPU0:BGP-R1#show bgp neighbor
Mon Oct 16 16:51:16.181 UTC

BGP neighbor is 10.18.130.92
Remote AS 100, local AS 100, internal link
Remote router ID 10.18.132.191
BGP state = Established, up for 00:04:45
NSR State: None
Last read 00:00:15, Last read before reset 00:34:50
Hold time is 90, keepalive interval is 30 seconds
Configured hold time: 180, keepalive: 60, min acceptable hold time:

3

Last write 00:00:10, attempted 19, written 19
Second last write 00:00:40, attempted 19, written 19
Last write before reset 00:34:56, attempted 23, written 23
Second last write before reset 00:35:01, attempted 72, written 72
Last write pulse rcvd Oct 16 16:51:06.022 last full not set pulse
count 1003
Last write pulse rcvd before reset 00:34:56
Socket not armed for io, armed for read, armed for write
Last write thread event before reset 00:34:56, second last 00:34:56
Last KA expiry before reset 00:00:00, second last 00:00:00
Last KA error before reset 00:00:00, KA not sent 00:00:00
Last KA start before reset 00:34:56, second last 00:00:00
Precedence: internet
Non-stop routing is enabled
Multi-protocol capability received
Neighbor capabilities:
Route refresh: advertised (old + new) and received (new)
4-byte AS: advertised and received
Address family IPv4 Unicast: advertised and received
Received 501 messages, 2 notifications, 0 in queue
Sent 502 messages, 0 notifications, 0 in queue
Minimum time between advertisement runs is 0 secs
Inbound message logging enabled, 3 messages buffered
Outbound message logging enabled, 3 messages buffered

For Address Family: IPv4 Unicast
BGP neighbor version 1
Update group: 0.2 Filter-group: 0.1 No Refresh request being
processed
AF-dependent capabilities:
Additional-paths Send: received
Additional-paths Receive: received
Route refresh request: received 0, sent 0

0 accepted prefixes, 0 are bestpaths
Cumulative no. of prefixes denied: 0.
Prefix advertised 0, suppressed 0, withdrawn 0
Maximum prefixes allowed 1048576
Threshold for warning message 75%, restart interval 0 min
AIGP is enabled
An EoR was not received during read-only mode
Last ack version 1, Last synced ack version 0
Outstanding version objects: current 0, max 0
Additional-paths operation: None
Send Multicast Attributes
Advertise VPNv4 routes enabled with disable option
Advertise VPNv6 routes is enabled with disable option

Connections established 3; dropped 2
Local host: 10.18.132.191, Local port: 179, IF Handle: 0x00000000
Foreign host: 10.18.130.92, Foreign port: 52265
Last reset 00:22:00, due to User clear requested (CEASE notification sent - administrative reset)
Time since last notification sent to neighbor: 00:22:00
Error Code: administrative reset
Notification data sent:
None
Time since last notification received from neighbor: 00:34:50
Error Code: cease: unknown subcode
Notification data received:
None

BGP neighbor is 10.18.130.96
Remote AS 100, local AS 100, internal link
Remote router ID 10.18.130.96
BGP state = Established, up for 00:21:50
NSR State: None
Last read 00:00:19, Last read before reset 00:22:18
Hold time is 90, keepalive interval is 30 seconds
Configured hold time: 180, keepalive: 60, min acceptable hold time:

3
Last write 00:00:14, attempted 19, written 19
Second last write 00:00:44, attempted 19, written 19
Last write before reset 00:22:13, attempted 23, written 23
Second last write before reset 00:22:18, attempted 72, written 72
Last write pulse rcvd Oct 16 16:51:01.402 last full not set pulse count 1119
Last write pulse rcvd before reset 00:22:13
Socket not armed for io, armed for read, armed for write
Last write thread event before reset 00:22:13, second last 00:22:13
Last KA expiry before reset 00:00:00, second last 00:00:00
Last KA error before reset 00:00:00, KA not sent 00:00:00
Last KA start before reset 00:22:13, second last 00:00:00
Precedence: internet

Non-stop routing is enabled
Multi-protocol capability received
Neighbor capabilities:
Route refresh: advertised (old + new) and received (new)
4-byte AS: advertised and received
Address family IPv4 Unicast: advertised and received
Received 559 messages, 1 notifications, 0 in queue
Sent 563 messages, 2 notifications, 0 in queue
Minimum time between advertisement runs is 0 secs
Inbound message logging enabled, 3 messages buffered
Outbound message logging enabled, 3 messages buffered

For Address Family: IPv4 Unicast
BGP neighbor version 1
Update group: 0.2 Filter-group: 0.1 No Refresh request being processed

AF-dependent capabilities:
Additional-paths Send: received
Additional-paths Receive: received
Route refresh request: received 0, sent 0
0 accepted prefixes, 0 are bestpaths
Cumulative no. of prefixes denied: 0.
Prefix advertised 0, suppressed 0, withdrawn 0
Maximum prefixes allowed 1048576
Threshold for warning message 75%, restart interval 0 min
AIGP is enabled
An EoR was not received during read-only mode
Last ack version 1, Last synced ack version 0
Outstanding version objects: current 0, max 0
Additional-paths operation: None
Send Multicast Attributes
Advertise VPNv4 routes enabled with disable option
Advertise VPNv6 routes is enabled with disable option

Connections established 4; dropped 3
Local host: 10.18.132.191, Local port: 179, IF Handle: 0x00000000
Foreign host: 10.18.130.96, Foreign port: 49792
Last reset 00:22:00, due to User clear requested (CEASE notification sent - administrative reset)
Time since last notification sent to neighbor: 00:22:00
Error Code: administrative reset
Notification data sent:
None
Time since last notification received from neighbor: 2d19h
Error Code: cease: unknown subcode
Notification data received:
None

BGP neighbor is 10.18.130.107
Remote AS 100, local AS 100, internal link

Remote router ID 10.18.130.107
BGP state = Established, up for 00:21:50
NSR State: None
Last read 00:00:19, Last read before reset 00:22:18
Hold time is 90, keepalive interval is 30 seconds
Configured hold time: 180, keepalive: 60, min acceptable hold time:

3

Last write 00:00:14, attempted 19, written 19
Second last write 00:00:44, attempted 19, written 19
Last write before reset 00:22:13, attempted 23, written 23
Second last write before reset 00:22:18, attempted 72, written 72
Last write pulse rcvd Oct 16 16:51:01.402 last full not set pulse
count 16991
Last write pulse rcvd before reset 00:22:13
Socket not armed for io, armed for read, armed for write
Last write thread event before reset 00:22:13, second last 00:22:13
Last KA expiry before reset 00:00:00, second last 00:00:00
Last KA error before reset 00:00:00, KA not sent 00:00:00
Last KA start before reset 00:22:13, second last 00:00:00
Precedence: internet
Non-stop routing is enabled
Multi-protocol capability received
Neighbor capabilities:
Route refresh: advertised (old + new) and received (new)
4-byte AS: advertised and received
Address family IPv4 Unicast: advertised and received
Received 8495 messages, 1 notifications, 0 in queue
Sent 8508 messages, 4 notifications, 0 in queue
Minimum time between advertisement runs is 0 secs
Inbound message logging enabled, 3 messages buffered
Outbound message logging enabled, 3 messages buffered

For Address Family: IPv4 Unicast
BGP neighbor version 1
Update group: 0.2 Filter-group: 0.1 No Refresh request being
processed
AF-dependent capabilities:
Additional-paths Send: received
Additional-paths Receive: received
Route refresh request: received 0, sent 0
0 accepted prefixes, 0 are bestpaths
Cumulative no. of prefixes denied: 0.
Prefix advertised 0, suppressed 0, withdrawn 0
Maximum prefixes allowed 1048576
Threshold for warning message 75%, restart interval 0 min
AIGP is enabled
An EoR was not received during read-only mode
Last ack version 1, Last synced ack version 0
Outstanding version objects: current 0, max 0
Additional-paths operation: None

Send Multicast Attributes
Advertise VPNv4 routes enabled with disable option
Advertise VPNv6 routes is enabled with disable option

Connections established 6; dropped 5
Local host: 10.18.132.191, Local port: 179, IF Handle: 0x00000000
Foreign host: 10.18.130.107, Foreign port: 59561
Last reset 00:22:00, due to User clear requested (CEASE notification sent - administrative reset)
Time since last notification sent to neighbor: 00:22:00
Error Code: administrative reset
Notification data sent:
None
Time since last notification received from neighbor: 00:35:04
Error Code: cease: unknown subcode
Notification data received:
None
RP/0/0/CPU0:BGP-R1#

2) Check for Cluster requests to ensure the leader and followers are elected

```
~>./cluster_monitor.py
2017-10-16 09:48:53,969 INFO: Using http on port 8181 for jolokia.
2017-10-16 09:48:53,969 INFO: Using Basic Authentication with user
admin
2017-10-16 09:48:53,992 INFO: This host is 10.18.130.96
2017-10-16 09:48:53,992 INFO: Configured cluster members:
10.18.130.92, 10.18.130.96, 10.18.130.107
2017-10-16 09:48:54,015 INFO: Configured shards: default, toaster,
openconfig, inventory, prefix-configuration-shard, bgp_rib, topology
2017-10-16 09:48:54,015 INFO: Lumina SDN Controller Cluster Monitoring
2017-10-16 09:48:54,250 INFO: All replicated shards are up to date.
2017-10-16 09:48:54,251 INFO: The following shards are NOT replicated:
2017-10-16 09:48:54,251 INFO:     openconfig
2017-10-16 09:48:54,251 INFO:     bgp_rib
2017-10-16 09:48:54,251 INFO: Details for shard default-config
2017-10-16 09:48:54,251 INFO:     Leader: 10.18.130.96
2017-10-16 09:48:54,251 INFO:     Followers: 10.18.130.107(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,251 INFO: Details for shard toaster-config
2017-10-16 09:48:54,251 INFO:     Leader: 10.18.130.107
2017-10-16 09:48:54,251 INFO:     Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,251 INFO: Details for shard inventory-config
2017-10-16 09:48:54,252 INFO:     Leader: 10.18.130.107
2017-10-16 09:48:54,252 INFO:     Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,252 INFO: Details for shard prefix-configuration-
```

```

shard-config
2017-10-16 09:48:54,252 INFO:      Leader: 10.18.130.96
2017-10-16 09:48:54,252 INFO:      Followers: 10.18.130.107(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,252 INFO: Details for shard topology-config
2017-10-16 09:48:54,252 INFO:      Leader: 10.18.130.107
2017-10-16 09:48:54,252 INFO:      Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,252 INFO: Details for shard default-operational
2017-10-16 09:48:54,252 INFO:      Leader: 10.18.130.107
2017-10-16 09:48:54,252 INFO:      Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,252 INFO: Details for shard toaster-operational
2017-10-16 09:48:54,253 INFO:      Leader: 10.18.130.107
2017-10-16 09:48:54,253 INFO:      Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,253 INFO: Details for shard inventory-operational
2017-10-16 09:48:54,253 INFO:      Leader: 10.18.130.107
2017-10-16 09:48:54,253 INFO:      Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,253 INFO: Details for shard prefix-configuration-
shard-operational
2017-10-16 09:48:54,253 INFO:      Leader: 10.18.130.107
2017-10-16 09:48:54,253 INFO:      Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
2017-10-16 09:48:54,253 INFO: Details for shard topology-operational
2017-10-16 09:48:54,253 INFO:      Leader: 10.18.130.107
2017-10-16 09:48:54,253 INFO:      Followers: 10.18.130.96(Voting),
10.18.130.92(Voting)
~>

```

```

http://{{controller-ip}}:{{restconf-port}}/jolokia/read/akka:type=Cluster

```

```

{
  "request": {
    "mbean": "akka:type=Cluster",
    "type": "read"
  },
  "value": {
    "Leader": "akka.tcp://opendaylight-cluster-
data@10.18.130.107:2550",
    "Unreachable": "",
    "Singleton": false,
    "Available": true,
    "MemberStatus": "Up",
    "ClusterStatus": "{\n  \"self-address\": \"akka.tcp://
opendaylight-cluster-data@10.18.130.92:2550\",
\n  \"members\": [\n
{\n    \"address\": \"akka.tcp://opendaylight-cluster-

```

```

data@10.18.130.107:2550\", \n      \"status\": \"Up\", \n
\"roles\": [\n      \"member-3\" \n      ] \n      }, \n      { \n
\"address\": \"akka.tcp://opendaylight-cluster-
data@10.18.130.92:2550\", \n      \"status\": \"Up\", \n      \"roles\":
[\n      \"member-1\" \n      ] \n      }, \n      { \n      \"address\":
\"akka.tcp://opendaylight-cluster-data@10.18.130.96:2550\", \n
\"status\": \"Up\", \n      \"roles\": [\n      \"member-2\" \n      ]
\n      } \n      ], \n      \"unreachable\": [\n      \n      ] \n      },
      \"Members\": \"akka.tcp://opendaylight-cluster-
data@10.18.130.107:2550, akka.tcp://opendaylight-cluster-
data@10.18.130.92:2550, akka.tcp://opendaylight-cluster-
data@10.18.130.96:2550\"
    },
    \"timestamp\": 1508172714,
    \"status\": 200
  }
}

```

**http://{{controller-ip}}:{{restconf-port}}/jolokia/read/
org.opendaylight.controller:Category=Shards,name=member-1-shard-bgp_rib-
config,type=DistributedConfigDatastore**

```

{
  "request": {
    "mbean": "org.opendaylight.controller:Category=Shards,name=member-1-shard-
bgp_rib-config,type=DistributedConfigDatastore",
    "type": "read"
  },
  "value": {
    "ReadWriteTransactionCount": 0,
    "SnapshotIndex": -1,
    "InMemoryJournalLogSize": 0,
    "ReplicatedToAllIndex": -1,
    "Leader": "member-1-shard-bgp_rib-config",
    "LastIndex": -1,
    "RaftState": "Leader",
    "LastApplied": -1,
    "LastCommittedTransactionTime": "1969-12-31 16:00:00.000",
    "LastLogIndex": -1,
    "LastLeadershipChangeTime": "2017-10-16 09:31:10.697",
    "PeerAddresses": "",
    "WriteOnlyTransactionCount": 0,
    "FollowerInitialSyncStatus": false,
    "FollowerInfo": [],
    "FailedReadTransactionsCount": 0,
    "Voting": true,
    "StatRetrievalTime": "161.5 µs",
    "CurrentTerm": 4,
    "LastTerm": -1,
    "FailedTransactionsCount": 0,

```



```

    "PendingTxCommitQueueSize": 0,
    "VotedFor": "member-1-shard-bgp_rib-config",
    "SnapshotCaptureInitiated": false,
    "CommittedTransactionsCount": 0,
    "TxCohortCacheSize": 0,
    "PeerVotingStates": "",
    "LastLogTerm": -1,
    "StatRetrievalError": null,
    "CommitIndex": -1,
    "SnapshotTerm": -1,
    "AbortTransactionsCount": 0,
    "ReadOnlyTransactionCount": 0,
    "ShardName": "member-1-shard-bgp_rib-config",
    "LeadershipChangeCount": 1,
    "InMemoryJournalDataSize": 0
  },
  "timestamp": 1508172757,
  "status": 200
}

```

http://{{controller-ip}}:{{restconf-port}}/jolokia/read/org.opendaylight.controller:Category=Shards,name=member-1-shard-inventory-config,type=DistributedConfigDatastore

```

{
  "request": {
    "mbean": "org.opendaylight.controller:Category=Shards,name=member-1-shard-inventory-config,type=DistributedConfigDatastore",
    "type": "read"
  },
  "value": {
    "ReadWriteTransactionCount": 0,
    "SnapshotIndex": -1,
    "InMemoryJournalLogSize": 0,
    "ReplicatedToAllIndex": -1,
    "Leader": "member-3-shard-inventory-config",
    "LastIndex": -1,
    "RaftState": "Follower",
    "LastApplied": -1,
    "LastCommittedTransactionTime": "1969-12-31 16:00:00.000",
    "LastLogIndex": -1,
    "LastLeadershipChangeTime": "2017-10-16 09:31:10.592",
    "PeerAddresses": "member-2-shard-inventory-config: akka.tcp://opendaylight-cluster-data@10.18.130.96:2550/user/shardmanager-config/member-2-shard-inventory-config, member-3-shard-inventory-config: akka.tcp://opendaylight-cluster-data@10.18.130.107:2550/user/shardmanager-config/member-3-shard-inventory-config",

```

```

    "WriteOnlyTransactionCount": 0,
    "FollowerInitialSyncStatus": true,
    "FollowerInfo": [],
    "FailedReadTransactionsCount": 0,
    "Voting": true,
    "StatRetrievalTime": "145.4 µs",
    "CurrentTerm": 102,
    "LastTerm": -1,
    "FailedTransactionsCount": 0,
    "PendingTxCommitQueueSize": 0,
    "VotedFor": "member-3-shard-inventory-config",
    "SnapshotCaptureInitiated": false,
    "CommittedTransactionsCount": 0,
    "TxCohortCacheSize": 0,
    "PeerVotingStates": "member-2-shard-inventory-config: true, member-3-shard-
inventory-config: true",
    "LastLogTerm": -1,
    "StatRetrievalError": null,
    "CommitIndex": -1,
    "SnapshotTerm": -1,
    "AbortTransactionsCount": 0,
    "ReadOnlyTransactionCount": 0,
    "ShardName": "member-1-shard-inventory-config",
    "LeadershipChangeCount": 1,
    "InMemoryJournalDataSize": 0
  },
  "timestamp": 1508172807,
  "status": 200
}

```

BGP operational

```

http://{{controller-ip}}:{{restconf-port}}/restconf/operational/openconfig-network-
instance:network-instances/network-instance/global-bgp/openconfig-network-
instance:protocols/protocol/openconfig-policy-types:BGP/{{rib-id}}

```

10.18.130.92 and 96 have this issue...

```

<errors xmlns="urn:ietf:params:xml:ns:yang:ietf-restconf">
  <error>
    <error-type>application</error-type>
    <error-tag>data-missing</error-tag>
    <error-message>Request could not be completed because the relevant data
model content does not exist </error-message>
  </error>
</errors>

```

Cluster leader shows output 107

```
<protocol xmlns="http://openconfig.net/yang/network-instance">
  <identifier xmlns:x="http://openconfig.net/yang/policy-types">x:BGP</identifier>
  <name>bgp-rib-3</name>
  <bgp xmlns="urn:opendaylight:params:xml:ns:yang:bgp:openconfig-extensions">
    <global>
      <afi-safis>
        <afi-safi>
          <afi-safi-name>LINKSTATE</afi-safi-name>
          <state>
            <total-paths>0</total-paths>
            <total-prefixes>0</total-prefixes>
          </state>
        </afi-safi>
        <afi-safi>
          <afi-safi-name xmlns:x="http://openconfig.net/yang/bgp-types">x:IPv4-
UNICAST</afi-safi-name>
            <state>
              <total-paths>0</total-paths>
              <total-prefixes>0</total-prefixes>
            </state>
          </afi-safi>
        </afi-safis>
      <state>
        <total-paths>0</total-paths>
        <total-prefixes>0</total-prefixes>
        <as>100</as>
        <router-id>10.18.130.107</router-id>
      </state>
    </global>
    <neighbors>
      <neighbor>
        <neighbor-address>10.18.132.191</neighbor-address>
        <afi-safis>
          <afi-safi>
            <afi-safi-name>LINKSTATE</afi-safi-name>
            <state>
              <active>false</active>
            </state>
          <graceful-restart>
            <state>
              <received>false</received>
              <advertised>false</advertised>
            </state>
          </graceful-restart>
        </afi-safis>
      </neighbor>
    </neighbors>
  </bgp>
</protocol>
```

```

        </graceful-restart>
    </afi-safi>
    <afi-safi>
        <afi-safi-name xmlns:x="http://openconfig.net/yang/bgp-types">x:IPV4-
UNICAST</afi-safi-name>
        <state>
            <active>true</active>
            <prefixes>
                <received>0</received>
                <sent>0</sent>
                <installed>0</installed>
            </prefixes>
        </state>
        <graceful-restart>
            <state>
                <received>>false</received>
                <advertised>>false</advertised>
            </state>
        </graceful-restart>
    </afi-safi>
</afi-safis>
<graceful-restart>
    <state>
        <peer-restart-time>0</peer-restart-time>
        <peer-restarting>>false</peer-restarting>
        <local-restarting>>false</local-restarting>
    </state>
</graceful-restart>
<transport>
    <state>
        <local-port>59572</local-port>
        <remote-address>10.18.132.191</remote-address>
        <remote-port>179</remote-port>
    </state>
</transport>
<state>
    <session-state>ESTABLISHED</session-state>
    <supported-capabilities xmlns:x="http://openconfig.net/yang/bgp-
types">x:MPBGPP</supported-capabilities>
    <supported-capabilities xmlns:x="http://openconfig.net/yang/bgp-
types">x:ASN32</supported-capabilities>
    <supported-capabilities xmlns:x="http://openconfig.net/yang/bgp-
types">x:ROUTE-REFRESH</supported-capabilities>
    <messages>
        <received>
            <UPDATE>4</UPDATE>
            <NOTIFICATION>3</NOTIFICATION>

```

```
        </received>
        <sent>
          <UPDATE>0</UPDATE>
          <NOTIFICATION>0</NOTIFICATION>
        </sent>
      </messages>
    </state>
  <timers>
    <state>
      <uptime>557700</uptime>
      <negotiated-hold-time>90</negotiated-hold-time>
    </state>
  </timers>
  <error-handling>
    <state>
      <erroneous-update-messages>0</erroneous-update-messages>
    </state>
  </error-handling>
</neighbor>
</neighbors>
</bgp>
</protocol>
```