



**@ FILE NAME: M\_CTC\_ID\_001\_.txt**

**@ TEST SCOPE: M PLANE O-RAN CONFORMANCE**

**@ Software Release for Garuda\_RevD: v5.0.0**

**This scenario validates that the O-RU properly executes the session establishment procedure**

**with VLANs and a DHCPv4 server. This test is applicable to IPv4 environments.**

### Interfaces Present in DU Side

```
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.4.15 netmask 255.255.255.0 broadcast 192.168.4.255
    ether 64:9d:99:b1:7e:62 txqueuelen 1000 (Ethernet)
    RX packets 150218 bytes 71344218 (71.3 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 364600 bytes 417262803 (417.2 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.17.95.65 netmask 255.255.240.0 broadcast 172.17.95.255
    inet6 fe80::c497:d862:b9f8:4409 prefixlen 64 scopeid 0x20<link>
    ether 4c:d9:8f:69:23:2b txqueuelen 1000 (Ethernet)
    RX packets 585772 bytes 266982435 (266.9 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 391299 bytes 234020708 (234.0 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 17

eth2: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 64:9d:99:b1:7e:63 txqueuelen 1000 (Ethernet)
    RX packets 15 bytes 3516 (3.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 54 bytes 4958 (4.9 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth3: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 4c:d9:8f:69:23:2c txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 18

eth0.22: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.74.67 netmask 255.255.255.0 broadcast 192.168.74.255
    inet6 fe80::669d:99ff:feb1:7e62 prefixlen 64 scopeid 0x20<link>
    ether 64:9d:99:b1:7e:62 txqueuelen 1000 (Ethernet)
    RX packets 152 bytes 36779 (36.7 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 202 bytes 32862 (32.8 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
```

```
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 164448 bytes 14688260 (14.6 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 164448 bytes 14688260 (14.6 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

### DHCP Status

#### ● isc-dhcp-server.service - ISC DHCP IPv4 server

Loaded: loaded (/lib/systemd/system/isc-dhcp-server.service; enabled; vendor preset: enabled)

Active: active (running) since Tue 2022-08-02 16:28:38 IST; 1min 11s ago

Docs: man:dhcpcd(8)

Main PID: 32661 (dhcpcd)

Tasks: 1 (limit: 4915)

CGroup: /system.slice/isc-dhcp-server.service

└─32661 dhcpcd -user dhcpcd -group dhcpcd -f -4 -pf /run/dhcp-server/dhcpcd.pid -cf /etc/dhcp/dhcpcd.conf eth0.22

Aug 02 16:29:31 vvdn dhcpcd[32661]: DHCPDISCOVER from 98:ae:71:01:64:d8 via eth0.22

Aug 02 16:29:32 vvdn dhcpcd[32661]: DHCPOFFER on 192.168.74.37 to 98:ae:71:01:64:d8 (garuda) via eth0.22

Aug 02 16:29:32 vvdn dhcpcd[32661]: DHCPREQUEST for 192.168.74.37 (192.168.74.67) from 98:ae:71:01:64:d8 (garuda) via eth0.22

Aug 02 16:29:32 vvdn dhcpcd[32661]: DHCPACK on 192.168.74.37 to 98:ae:71:01:64:d8 (garuda) via eth0.22

Aug 02 16:29:33 vvdn dhcpcd[32661]: reuse\_lease: lease age 1 (secs) under 25% threshold, reply with unaltered, existing lease for 192.168.74.37

Aug 02 16:29:33 vvdn dhcpcd[32661]: DHCPDISCOVER from 98:ae:71:01:64:d8 (garuda) via eth0.22

Aug 02 16:29:33 vvdn dhcpcd[32661]: DHCPOFFER on 192.168.74.37 to 98:ae:71:01:64:d8 (garuda) via eth0.22

Aug 02 16:29:33 vvdn dhcpcd[32661]: reuse\_lease: lease age 1 (secs) under 25% threshold, reply with unaltered, existing lease for 192.168.74.37

Aug 02 16:29:33 vvdn dhcpcd[32661]: DHCPREQUEST for 192.168.74.37 (192.168.74.67) from 98:ae:71:01:64:d8 (garuda) via eth0.22

Aug 02 16:29:33 vvdn dhcpcd[32661]: DHCPACK on 192.168.74.37 to 98:ae:71:01:64:d8 (garuda) via eth0.22

### ##### Pinging #####

PING 192.168.74.37 (192.168.74.37) 56(84) bytes of data.

64 bytes from 192.168.74.37: icmp\_seq=1 ttl=64 time=0.125 ms

64 bytes from 192.168.74.37: icmp\_seq=2 ttl=64 time=0.159 ms

64 bytes from 192.168.74.37: icmp\_seq=3 ttl=64 time=0.164 ms

64 bytes from 192.168.74.37: icmp\_seq=4 ttl=64 time=0.190 ms

64 bytes from 192.168.74.37: icmp\_seq=5 ttl=64 time=0.123 ms

--- 192.168.74.37 ping statistics ---

5 packets transmitted, 5 received, 0% packet loss, time 4068ms

rtt min/avg/max/mdev = 0.123/0.152/0.190/0.026 ms

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**The O-RU NETCONF Serve establishes TCP connection and performs a Call Home procedure towards the NETCONF Client and establishes a SSH.**

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> listen --ssh --login operator

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.74.37' cannot be established.

ssh-rsa key fingerprint is 59:9e:90:48:f1:d7:6e:35:e8:d1:f6:1e:90:aa:a3:83:a0:6b:98:5a.

Are you sure you want to continue connecting (yes/no)? yes

operator@::ffff:192.168.74.37 password:

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**TER NETCONF Client and O-RU NETCONF Server exchange capabilities through the NETCONF <hello> messages**

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> status

Current NETCONF session:

ID : 4

Host : 192.168.74.37

Port : 47334

Transport : SSH

Capabilities:urn:ietf:params:netconf:base:1.0urn:ietf:params:netconf:base:1.1urn:ietf:params:netconf:capability:writable-running:1.0

urn:ietf:params:netconf:capability:candidate:1.0urn:ietf:params:netconf:capability:rollback-on-error:1.0

urn:ietf:params:netconf:capability:validate:1.1urn:ietf:params:netconf:capability:startup:1.0urn:ietf:params:netconf:capability:xpath:1.0

urn:ietf:params:netconf:capability:with-defaults:1.0?basic-mode=explicit&also-supported=report-all,report-all-tagged,trim,explicit

urn:ietf:params:netconf:capability:notification:1.0urn:ietf:params:netconf:capability:interleave:1.0

urn:ietf:params:xml:ns:yang:ietf-yang-metadata?module=ietf-yang-metadata&revision=2016-08-05

urn:ietf:params:xml:ns:yang:1?module=yang&revision=2017-02-20

urn:ietf:params:xml:ns:yang:ietf-inet-types?module=ietf-inet-types&revision=2013-07-15

urn:ietf:params:xml:ns:yang:ietf-yang-types?module=ietf-yang-types&revision=2013-07-15

urn:ietf:params:netconf:capability:yang-library:1.1?revision=2019-01-04&content-id=61

urn:sysrepo:plugind?module=sysrepo-plugind&revision=2020-12-10

urn:ietf:params:xml:ns:yang:ietf-netconf-acm?module=ietf-netconf-acm&revision=2018-02-14

urn:ietf:params:xml:ns:netconf:base:1.0?module=ietf-netconf&revision=2013-09-29&features=writable-running,candidate,rollback-on-error,valida

te,startup,url,xpathurn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults?module=ietf-netconf-with-defaults&revision=2011-06-01

urn:ietf:params:xml:ns:yang:ietf-netconf-notifications?module=ietf-netconf-notifications&revision=2012-02-06

urn:ietf:params:xml:ns:yang:ietf-netconf-monitoring?module=ietf-netconf-monitoring&revision=2010-10-04

urn:ietf:params:xml:ns:netconf:notification:1.0?module=notifications&revision=2008-07-14

urn:ietf:params:xml:ns:netmod:notification?module=nc-notifications&revision=2008-07-14

urn:ietf:params:xml:ns:yang:ietf-x509-cert-to-name?module=ietf-x509-cert-to-name&revision=2014-12-10

urn:ietf:params:xml:ns:yang:iana-crypt-hash?module=iana-crypt-hash&revision=2014-08-06urn:notification\_history?module=notification\_history

urn:ietf:params:xml:ns:yang:iana-if-type?module=iana-if-type&revision=2017-01-19

### ##### SYSTEM LOGS #####

```
Jul 28 09:54:10 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:10 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:11 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:11 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:12 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:12 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:13 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:13 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:14 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:14 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:15 garuda user.notice SYNCMNGR[1162]: Received message from S-Plane
Jul 28 09:54:15 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:15 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:16 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:16 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:17 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:17 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:18 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:18 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:19 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:19 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:20 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:20 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:21 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:21 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:22 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:22 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:23 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:23 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:24 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:24 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:25 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:25 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:26 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:26 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:27 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:27 garuda daemon.info netopeer2-server[849]: getsockopt() error (Connection refused).
Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Trying to connect via IPv4 to 192.168.74.67:4334.
Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Successfully connected to 192.168.74.67:4334 over IPv4.
Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Session 87 (user "root", CID 1) created.
Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Received an SSH message "request-service" of subtype "ssh-userauth".
Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Received an SSH message "request-auth" of subtype "password".
Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: User "operator" authenticated.
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Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Received an SSH message "request-channel-open" of subtype "session".

Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Received an SSH message "request-channel" of subtype "subsystem".

Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Call Home client "default-client" session 4 established.

Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Session 88 (user "root", CID 1) created.

Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: There are no subscribers for "ietf-netconf-notifications" notifications.

Jul 28 09:54:28 garuda daemon.info netopeer2-server[849]: Generated new event (netconf-session-start).

Jul 28 09:54:29 garuda user.notice SYNCMNGR[1162]: Received message from S-Plane

Jul 28 09:54:38 garuda authpriv.debug sshd[2609]: pam\_unix(sshd:account): account operator has password changed in future

Jul 28 09:54:38 garuda auth.info sshd[2609]: Accepted password for operator from 192.168.74.67 port 33482 ssh2

Jul 28 09:54:38 garuda authpriv.info sshd[2609]: pam\_unix(sshd:session): session opened for user operator by (uid=0)

**Expected Result : The TER NETCONF Client and O-RU NETCONF Server exchange capabilities through NETCONF <hello> messages.**

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**\*\*\*\*\* Actual Result \*\*\*\*\***

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<b>Perform_Call_Home</b>	<b>=</b>	<b>SUCCESS</b>
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