



@ FILE NAME: M_CTC_ID_003.txt

@ TEST SCOPE: M PLANE O-RAN CONFORMANCE

@ Software Release for MCB1: v1.0.1

Test Description : 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. Two negative flows are included in this test:

The TER NETCONF Client uses improper credentials when trying to establish a SSH session with the RU NETCONF Server.

Interfaces Present in DU Side

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

ether 64:9d:99:ff:f5:12 txqueuelen 1000 (Ethernet)
RX packets 16404 bytes 5873577 (5.8 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 14134 bytes 1434552 (1.4 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500

ether 64:9d:99:ff:f5:13 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

eth2: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

inet 172.25.96.163 netmask 255.255.254.0 broadcast 172.25.97.255
inet6 fe80::a7de:bea9:9091:a5f0 prefixlen 64 scopeid 0x20<link>
ether b4:2e:99:60:73:8c txqueuelen 1000 (Ethernet)
RX packets 609617 bytes 149220488 (149.2 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 616133 bytes 411298763 (411.2 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
device interrupt 16 memory 0xb1400000-b1420000

eth0.453: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

inet 192.168.170.85 netmask 255.255.255.0 broadcast 192.168.170.255
inet6 fe80::669d:99ff:feff:f512 prefixlen 64 scopeid 0x20<link>
ether 64:9d:99:ff:f5:12 txqueuelen 1000 (Ethernet)
RX packets 15273 bytes 5564570 (5.5 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 14063 bytes 1382220 (1.3 MB)
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 14257 bytes 1989189 (1.9 MB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 14257 bytes 1989189 (1.9 MB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

```
=====
```

DHCP Status

```
=====
```

```
=====
```

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 Fri 2022-11-25 13:05:28 IST; 7min ago

Docs: man:dhcpcd(8)

Main PID: 11663 (dhcpcd)

Tasks: 1 (limit: 4915)

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

pd -user dhcpcd -group dhcpcd -f -4 -pf /run/dhcp-server/dhcpcd.pid -cf /etc/dhcp/dhcpcd.conf eth0.453

Nov 25 13:05:28 vvdn sh[11663]: Listening on LPF/eth0.453/64:9d:99:ff:f5:12/192.168.170.0/24

Nov 25 13:05:28 vvdn sh[11663]: Sending on LPF/eth0.453/64:9d:99:ff:f5:12/192.168.170.0/24

Nov 25 13:05:28 vvdn sh[11663]: Sending on Socket/fallback/fallback-net

Nov 25 13:05:28 vvdn dhcpcd[11663]: Sending on LPF/eth0.453/64:9d:99:ff:f5:12/192.168.170.0/24

Nov 25 13:05:28 vvdn dhcpcd[11663]: Sending on Socket/fallback/fallback-net

Nov 25 13:05:28 vvdn dhcpcd[11663]: Server starting service.

Nov 25 13:06:50 vvdn dhcpcd[11663]: DHCPDISCOVER from 98:ae:71:00:8a:c2 (mcb1) via eth0.453

Nov 25 13:06:51 vvdn dhcpcd[11663]: DHCPOFFER on 192.168.170.38 to 98:ae:71:00:8a:c2 (mcb1) via eth0.453

Nov 25 13:06:51 vvdn dhcpcd[11663]: DHCPREQUEST for 192.168.170.38 (192.168.170.85) from 98:ae:71:00:8a:c2 (mcb1) via eth0.453

Nov 25 13:06:51 vvdn dhcpcd[11663]: DHCPACK on 192.168.170.38 to 98:ae:71:00:8a:c2 (mcb1) via eth0.453

```
=====
```

Pinging

```
=====
```

PING 192.168.170.38 (192.168.170.38) 56(84) bytes of data.

64 bytes from 192.168.170.38: icmp_seq=1 ttl=64 time=0.133 ms

64 bytes from 192.168.170.38: icmp_seq=2 ttl=64 time=0.195 ms

64 bytes from 192.168.170.38: icmp_seq=3 ttl=64 time=0.179 ms

64 bytes from 192.168.170.38: icmp_seq=4 ttl=64 time=0.200 ms

64 bytes from 192.168.170.38: icmp_seq=5 ttl=64 time=0.199 ms

--- 192.168.170.38 ping statistics ---

5 packets transmitted, 5 received, 0% packet loss, time 4042ms

rtt min/avg/max/mdev = 0.133/0.181/0.200/0.026 ms

=====

The O-RU NETCONF Serve establishes TCP connection and performs a Call Home procedure towards the NETCONF Client and not establishes a SSH.

=====

> listen --ssh --login observer

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.170.38' 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

observer@::ffff:192.168.170.38 password:

Error occurred in line number 116timed out-----

> listen --ssh --login operator

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.170.38' 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:192.168.170.38 password:

Error occurred in line number 116[Errno 98] Address already in use

> listen --ssh --login installerr

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.170.38' 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

installerr@::ffff:192.168.170.38 password:

Error occurred in line number 116[Errno 98] Address already in use

> listen --ssh --login installer

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.170.38' 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

installer@::ffff:192.168.170.38 password:

Error occurred in line number 116[Errno 98] Address already in use

> listen --ssh --login operator1

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.170.38' 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

operator1@::ffff:192.168.170.38 password:

Error occurred in line number 116[Errno 98] Address already in use

=====

SYSTEM LOGS

=====

Oct 29 23:08:51 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:edit-config" with ID 4 priority 0 for 1 subscribers.

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:edit-config" "rpc" event with ID 4 priority 0 (remaining 1 subscribers).

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: edit-config error-option "stop-on-error" not supported, rollback-on-error will be performed.

Oct 29 23:08:55 mcb1 daemon.err netopeer2-server[980]: Unknown element "statistics".
(/ietf-interfaces:interfaces/interface[name='eth0']/statistics)

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Failed processing of "rpc" event with ID 4 priority 0 (remaining 1 subscribers).

Oct 29 23:08:55 mcb1 daemon.err netopeer2-server[980]: Unknown element "statistics".

Oct 29 23:08:55 mcb1 daemon.warn netopeer2-server[980]: Event "rpc" with ID 4 priority 0 failed (libyang error).

Oct 29 23:08:55 mcb1 daemon.err netopeer2-server[980]: Failed to send an RPC (User callback failed).

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Session 2: thread 4 event new RPC.

Oct 29 23:08:55 mcb1 daemon.info netopeer2-server[980]: Session 2: thread 4 event reply error.

Oct 29 23:09:05 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane

Oct 29 23:09:19 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/fw_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/nw_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/operations_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/pm_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/um_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/sys_monitor

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/fault_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/file_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/supervision

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/sync_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/ald_controller

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/log_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/radio_manager

Oct 29 23:09:24 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/cli_manager

Oct 29 23:09:33 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane

Oct 29 23:09:47 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane

Oct 29 23:10:01 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/fw_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/nw_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/operations_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/pm_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/um_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/sys_monitor

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/fault_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/file_manager

Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/supervision
Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/sync_manager
Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/ald_controller
Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/log_manager
Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/radio_manager
Oct 29 23:10:07 mcb1 user.notice wd_manager[1442]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/cli_manager
Oct 29 23:10:15 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane
Oct 29 23:10:29 mcb1 user.notice SYNCMNGR[1310]: Received message from S-Plane
Oct 29 23:10:40 mcb1 auth.info sshd[7037]: Accepted password for operator from 192.168.170.85 port 51684 ssh2
Oct 29 23:10:40 mcb1 authpriv.info sshd[7037]: 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.

=====

***** Actual Result *****

=====

=====

***** FAIL_REASON *****

=====

Call home initiated..

=====

Reject SSH Authentication due to Incorrect Credential = FAIL

=====