@ **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.

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  Interfaces Present in DU Side
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eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 64:9d:99:ff:f5:12 txqueuelen 1000 (Ethernet)
    RX packets 14429 bytes 4837155 (4.8 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12107 bytes 1237008 (1.2 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 539611 bytes 137161354 (137.1 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 539312 bytes 352940361 (352.9 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 13481 bytes 4565314 (4.5 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12039 bytes 1196178 (1.1 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 12724 bytes 1714553 (1.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 12724 bytes 1714553 (1.7 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

===

DHCP Status

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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 12:42:29 IST; 15min ago

Docs: man:dhcpd(8)

Main PID: 10811 (dhcpd)

Tasks: 1 (limit: 4915)

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

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

Nov 25 12:42:29 vvdn sh[10811]: Sending on   Socket/fallback/fallback-net

Nov 25 12:42:29 vvdn dhcpd[10811]: Sending on   LPF/eth0.453/64:9d:99:ff:f5:12/192.168.170.0/24

Nov 25 12:42:29 vvdn dhcpd[10811]: Sending on   Socket/fallback/fallback-net

Nov 25 12:42:29 vvdn dhcpd[10811]: Server starting service.

Nov 25 12:46:09 vvdn dhcpd[10811]: reuse_lease: lease age 571 (secs) under 25% threshold, reply with unaltered, existing lease for 192.168.170.38

Nov 25 12:46:09 vvdn dhcpd[10811]: DHCPDISCOVER from 98:ae:71:00:8a:c2 (mcb1) via eth0.453

Nov 25 12:46:10 vvdn dhcpd[10811]: DHCPOFFER on 192.168.170.38 to 98:ae:71:00:8a:c2 (mcb1) via eth0.453

Nov 25 12:46:10 vvdn dhcpd[10811]: reuse_lease: lease age 572 (secs) under 25% threshold, reply with unaltered, existing lease for 192.168.170.38

Nov 25 12:46:10 vvdn dhcpd[10811]: DHCPREQUEST for 192.168.170.38 (192.168.170.85) from 98:ae:71:00:8a:c2 (mcb1) via eth0.453

Nov 25 12:46:10 vvdn dhcpd[10811]: DHCPACK on 192.168.170.38 to 98:ae:71:00:8a:c2 (mcb1) via eth0.453

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Pinging

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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=0.148 ms

64 bytes from 192.168.170.38: icmp_seq=2 ttl=64 time=0.171 ms

64 bytes from 192.168.170.38: icmp_seq=3 ttl=64 time=0.177 ms

64 bytes from 192.168.170.38: icmp_seq=4 ttl=64 time=0.142 ms

64 bytes from 192.168.170.38: icmp_seq=5 ttl=64 time=0.229 ms

--- 192.168.170.38 ping statistics ---

5 packets transmitted, 5 received, 0% packet loss, time 4092ms

rtt min/avg/max/mdev = 0.142/0.173/0.229/0.032 ms

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

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> 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 occured 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 occured in line number 116[Errno 98] Address already in use

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> 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 occured 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 occured 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 occured in line number 116[Errno 98] Address already in use

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================================================================================
  ############ SYSTEM LOGS #############
================================================================================
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Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:edit-config" with ID 4 priority 0 for 1 subscribers.

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:edit-config" "rpc" event with ID 4 priority 0 (remaining 1 subscribers).

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: edit-config error-option "stop-on-error" not supported, rollback-on-error will be performed.

Oct 29 23:14:40 mcb1 daemon.err netopeer2-server[980]: Invalid value "123" in "account-type" element. (/o-ran-usermgmt:users/user/account-type)

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Failed processing of "rpc" event with ID 4 priority 0 (remaining 1 subscribers).

Oct 29 23:14:40 mcb1 daemon.err netopeer2-server[980]: Invalid value "123" in "account-type" element.

Oct 29 23:14:40 mcb1 daemon.warn netopeer2-server[980]: Event "rpc" with ID 4 priority 0 failed (libyang error).

Oct 29 23:14:40 mcb1 daemon.err netopeer2-server[980]: Failed to send an RPC (User callback failed).

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Session 2: thread 0 event new RPC.

Oct 29 23:14:40 mcb1 daemon.info netopeer2-server[980]: Session 2: thread 0 event reply error.

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:edit-config" with ID 5 priority 0 for 1 subscribers.

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:edit-config" "rpc" event with ID 5 priority 0 (remaining 1 subscribers).

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: edit-config error-option "stop-on-error" not supported, rollback-on-error will be performed.

Oct 29 23:14:49 mcb1 daemon.err netopeer2-server[980]: Invalid value "123" in "account-type" element. (/o-ran-usermgmt:users/user/account-type)

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Failed processing of "rpc" event with ID 5 priority 0 (remaining 1 subscribers).

Oct 29 23:14:49 mcb1 daemon.err netopeer2-server[980]: Invalid value "123" in "account-type" element.

Oct 29 23:14:49 mcb1 daemon.warn netopeer2-server[980]: Event "rpc" with ID 5 priority 0 failed (libyang error).

Oct 29 23:14:49 mcb1 daemon.err netopeer2-server[980]: Failed to send an RPC (User callback failed).

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Session 2: thread 1 event new RPC.

Oct 29 23:14:49 mcb1 daemon.info netopeer2-server[980]: Session 2: thread 1 event reply error.

Oct 29 23:14:53 mcb1 user.notice SYNCMNGR[1309]: Received message from S-Plane

Oct 29 23:15:07 mcb1 user.notice SYNCMNGR[1309]: Received message from S-Plane

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/fw_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/nw_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/operations_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/pm_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/um_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/sys_monitor

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/fault_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/file_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/supervision

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/sync_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/ald_controller

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/log_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/radio_manager

Oct 29 23:15:07 mcb1 user.notice wd_manager[1441]: Value is 1 for Xpath /vvdn_mcel-wdm:system-apps/cli_manager

Oct 29 23:15:21 mcb1 user.notice SYNCMNGR[1309]: Received message from S-Plane

Oct 29 23:15:35 mcb1 user.notice SYNCMNGR[1309]: Received message from S-Plane

Oct 29 23:15:44 mcb1 auth.info sshd[10225]: Accepted password for operator from 192.168.170.85 port 50364 ssh2

Oct 29 23:15:44 mcb1 authpriv.info sshd[10225]: 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 *****************
================================================================


================================================================
****************** FAIL_REASON ******************
================================================================
Call home initiated..
================================================================
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Reject_SSH_Authentication_due_to_Incorrect_Credential   =   FAIL

```
================================================================
```