@ FILE NAME: M_CTC_ID_002.txt

@ TEST SCOPE: M PLANE O-RAN CONFORMANCE

@ Software Release for MCB1:   v1.0.1

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 does not trigger a SSH session establishment in reaction to Call Home initiated by THE O-RU NETCONF Server.

===
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 3400 bytes 420122 (420.1 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 3376 bytes 301201 (301.2 KB)
    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 125922 bytes 35840670 (35.8 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 455776 bytes 544336753 (544.3 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 16 memory 0xb1400000-b1420000

eth0.485: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.128.72 netmask 255.255.255.0 broadcast 192.168.128.255
    inet6 fe80::669d:99ff:feff:f512 prefixlen 64 scopeid 0x20<link>
    ether 64:9d:99:ff:f5:12 txqueuelen 1000 (Ethernet)
    RX packets 66 bytes 6197 (6.1 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 261 bytes 32380 (32.3 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth0.490: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.49.88 netmask 255.255.255.0 broadcast 192.168.49.255
    inet6 fe80::669d:99ff:feff:f512 prefixlen 64 scopeid 0x20<link>
    ether 64:9d:99:ff:f5:12 txqueuelen 1000 (Ethernet)
    RX packets 3288 bytes 360176 (360.1 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 3115 bytes 255833 (255.8 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 86495 bytes 2011339902 (2.0 GB)

RX errors 0 dropped 0 overruns 0 frame 0

TX packets 86495 bytes 2011339902 (2.0 GB)

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 2022-11-29 10:11:27 IST; 34min ago

   Docs: man:dhcpd(8)

 Main PID: 8639 (dhcpd)

   Tasks: 1 (limit: 4915)

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

     d -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/dhcpd.conf eth0.490

Nov 29 10:11:27 vvdn sh[8639]: Listening on LPF/eth0.490/64:9d:99:ff:f5:12/192.168.49.0/24

Nov 29 10:11:27 vvdn sh[8639]: Sending on   LPF/eth0.490/64:9d:99:ff:f5:12/192.168.49.0/24

Nov 29 10:11:27 vvdn sh[8639]: Sending on   Socket/fallback/fallback-net

Nov 29 10:11:27 vvdn dhcpd[8639]: Sending on   LPF/eth0.490/64:9d:99:ff:f5:12/192.168.49.0/24

Nov 29 10:11:27 vvdn dhcpd[8639]: Sending on   Socket/fallback/fallback-net

Nov 29 10:11:27 vvdn dhcpd[8639]: Server starting service.

Nov 29 10:11:45 vvdn dhcpd[8639]: DHCPDISCOVER from 98:ae:71:00:8a:c2 via eth0.490

Nov 29 10:11:46 vvdn dhcpd[8639]: DHCPOFFER on 192.168.49.37 to 98:ae:71:00:8a:c2 (mcb1) via eth0.490

Nov 29 10:11:46 vvdn dhcpd[8639]: DHCPREQUEST for 192.168.49.37 (192.168.49.88) from 98:ae:71:00:8a:c2 (mcb1) via eth0.490

Nov 29 10:11:46 vvdn dhcpd[8639]: DHCPACK on 192.168.49.37 to 98:ae:71:00:8a:c2 (mcb1) via eth0.490

===
Pinging
===

PING 192.168.49.37 (192.168.49.37) 56(84) bytes of data.

64 bytes from 192.168.49.37: icmp_seq=1 ttl=64 time=0.150 ms

64 bytes from 192.168.49.37: icmp_seq=2 ttl=64 time=0.130 ms

64 bytes from 192.168.49.37: icmp_seq=3 ttl=64 time=0.194 ms

64 bytes from 192.168.49.37: icmp_seq=4 ttl=64 time=0.196 ms

64 bytes from 192.168.49.37: icmp_seq=5 ttl=64 time=0.199 ms

--- 192.168.49.37 ping statistics ---

5 packets transmitted, 5 received, 0% packet loss, time 4075ms

rtt min/avg/max/mdev = 0.130/0.173/0.199/0.032 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 operator

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.49.37' 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)? no

    nc ERROR: Checking the host key failed.

    cmd_listen: Receiving SSH Call Home on port 4334 as user "operator" failed.

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==
    ############ SYSTEM LOGS #############
==

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

```
===========================================================================
   **************** Actual Result *****************
===========================================================================
```

```
============================================================================
```
Transport and Handshake in IPv4 Environment (negative case: refuse SSH Connection)   = SUCCESS

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