



**@ 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 748 bytes 138395 (138.3 KB)  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 766 bytes 96309 (96.3 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 333816 bytes 346067208 (346.0 MB)  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 315445 bytes 337478827 (337.4 MB)  
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
device interrupt 16 memory 0xb1400000-b1420000

eth0.448: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

inet 192.168.22.79 netmask 255.255.255.0 broadcast 192.168.22.255  
inet6 fe80::669d:99ff:feff:f512 prefixlen 64 scopeid 0x20<link>  
ether 64:9d:99:ff:f5:12 txqueuelen 1000 (Ethernet)  
RX packets 599 bytes 115517 (115.5 KB)  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 599 bytes 67025 (67.0 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 8379 bytes 654779 (654.7 KB)  
RX errors 0 dropped 0 overruns 0 frame 0  
TX packets 8379 bytes 654779 (654.7 KB)  
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

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**DHCP Status**

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**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 Thu 2022-11-24 17:16:36 IST; 4min 42s ago

Docs: man:dhcpcd(8)

Main PID: 6647 (dhcpcd)

Tasks: 1 (limit: 4915)

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

hcpd -user dhcpcd -group dhcpcd -f -4 -pf /run/dhcp-server/dhcpcd.pid -cf /etc/dhcp/dhcpcd.conf eth0.448

Nov 24 17:16:37 vvdn sh[6647]: Listening on LPF/eth0.448/64:9d:99:ff:f5:12/192.168.22.0/24

Nov 24 17:16:37 vvdn sh[6647]: Sending on LPF/eth0.448/64:9d:99:ff:f5:12/192.168.22.0/24

Nov 24 17:16:37 vvdn sh[6647]: Sending on Socket/fallback/fallback-net

Nov 24 17:16:37 vvdn dhcpcd[6647]: Sending on LPF/eth0.448/64:9d:99:ff:f5:12/192.168.22.0/24

Nov 24 17:16:37 vvdn dhcpcd[6647]: Sending on Socket/fallback/fallback-net

Nov 24 17:16:37 vvdn dhcpcd[6647]: Server starting service.

Nov 24 17:16:53 vvdn dhcpcd[6647]: DHCPDISCOVER from 98:ae:71:00:8a:c2 via eth0.448

Nov 24 17:16:54 vvdn dhcpcd[6647]: DHCPOFFER on 192.168.22.37 to 98:ae:71:00:8a:c2 (mcb1) via eth0.448

Nov 24 17:16:55 vvdn dhcpcd[6647]: DHCPREQUEST for 192.168.22.37 (192.168.22.79) from 98:ae:71:00:8a:c2 (mcb1) via eth0.448

Nov 24 17:16:55 vvdn dhcpcd[6647]: DHCPACK on 192.168.22.37 to 98:ae:71:00:8a:c2 (mcb1) via eth0.448

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**##### Pinging #####**

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PING 192.168.22.37 (192.168.22.37) 56(84) bytes of data.

64 bytes from 192.168.22.37: icmp\_seq=1 ttl=64 time=0.180 ms

64 bytes from 192.168.22.37: icmp\_seq=2 ttl=64 time=0.160 ms

64 bytes from 192.168.22.37: icmp\_seq=3 ttl=64 time=0.161 ms

64 bytes from 192.168.22.37: icmp\_seq=4 ttl=64 time=0.165 ms

64 bytes from 192.168.22.37: icmp\_seq=5 ttl=64 time=0.191 ms

--- 192.168.22.37 ping statistics ---

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

rtt min/avg/max/mdev = 0.160/0.171/0.191/0.016 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:192.168.22.37' 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

observer@::ffff:192.168.22.37 password:

nc ERROR: Unable to authenticate to the remote server (all attempts via supported authentication methods failed).

cmd\_listen: Receiving SSH Call Home on port 4334 as user "observer" failed.

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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:192.168.22.37' 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:192.168.22.37 password:

nc ERROR: Unable to authenticate to the remote server (all attempts via supported authentication methods failed).

cmd\_listen: Receiving SSH Call Home on port 4334 as user "operator" failed.

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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:192.168.22.37' 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

installerr@::ffff:192.168.22.37 password:

nc ERROR: Unable to authenticate to the remote server (all attempts via supported authentication methods failed).

cmd\_listen: Receiving SSH Call Home on port 4334 as user "installerr" failed.

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> listen --ssh --login installer

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.22.37' 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

installer@::ffff:192.168.22.37 password:

nc ERROR: Unable to authenticate to the remote server (all attempts via supported authentication methods failed).

cmd\_listen: Receiving SSH Call Home on port 4334 as user "installer" failed.

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> listen --ssh --login operator1

Waiting 60s for an SSH Call Home connection on port 4334...The authenticity of the host '::ffff:192.168.22.37' 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

operator1@::ffff:192.168.22.37 password:

nc ERROR: Unable to authenticate to the remote server (all attempts via supported authentication methods failed).

cmd\_listen: Receiving SSH Call Home on port 4334 as user "operator1" failed.

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**##### SYSTEM LOGS #####**

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Oct 29 23:07:49 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:49 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:07:50 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:50 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:07:51 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:51 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:07:52 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:52 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:07:52 mcb1 user.notice SYNCMNGR[1309]: Received message from S-Plane

Oct 29 23:07:53 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:53 mcb1 daemon.info netopeer2-server[980]: Successfully connected to 192.168.22.79:4334 over IPv4.

Oct 29 23:07:53 mcb1 daemon.info netopeer2-server[980]: Session 101 (user "root", CID 1) created.

Oct 29 23:07:53 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:07:53 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:07:53 mcb1 daemon.info netopeer2-server[980]: Failed user "observer" authentication attempt (#1).

Oct 29 23:07:53 mcb1 daemon.err netopeer2-server[980]: Communication SSH socket unexpectedly closed.

Oct 29 23:07:54 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:54 mcb1 daemon.info netopeer2-server[980]: Successfully connected to 192.168.22.79:4334 over IPv4.

Oct 29 23:07:54 mcb1 daemon.info netopeer2-server[980]: Session 102 (user "root", CID 1) created.

Oct 29 23:07:54 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:07:54 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:07:54 mcb1 daemon.info netopeer2-server[980]: Failed user "operator" authentication attempt (#1).

Oct 29 23:07:54 mcb1 daemon.err netopeer2-server[980]: Communication SSH socket unexpectedly closed.

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: Successfully connected to 192.168.22.79:4334 over IPv4.

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: Session 103 (user "root", CID 1) created.

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: User "installerr" not found locally.

Oct 29 23:07:55 mcb1 daemon.info netopeer2-server[980]: Failed user "installerr" authentication attempt (#1).

Oct 29 23:07:55 mcb1 daemon.err netopeer2-server[980]: Communication SSH socket unexpectedly closed.

Oct 29 23:07:56 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:56 mcb1 daemon.info netopeer2-server[980]: Successfully connected to 192.168.22.79:4334 over IPv4.

Oct 29 23:07:56 mcb1 daemon.info netopeer2-server[980]: Session 104 (user "root", CID 1) created.

Oct 29 23:07:56 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:07:56 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:07:56 mcb1 daemon.info netopeer2-server[980]: Failed user "installer" authentication attempt (#1).

Oct 29 23:07:56 mcb1 daemon.err netopeer2-server[980]: Communication SSH socket unexpectedly closed.

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.22.79:4334.

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: Successfully connected to 192.168.22.79:4334 over IPv4.

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: Session 105 (user "root", CID 1) created.

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: User "operator1" not found locally.

Oct 29 23:07:57 mcb1 daemon.info netopeer2-server[980]: Failed user "operator1" authentication attempt (#1).

Oct 29 23:07:57 mcb1 auth.info sshd[5642]: Accepted password for operator from 192.168.22.79 port 34244 ssh2

Oct 29 23:07:57 mcb1 authpriv.info sshd[5642]: pam\_unix(sshd:session): session opened for user operator by (uid=0)

Oct 29 23:07:57 mcb1 daemon.err netopeer2-server[980]: Communication SSH socket unexpectedly closed.

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/fw\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/nw\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/operations\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/pm\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/um\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/sys\_monitor

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/fault\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/file\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/supervision

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/sync\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/ald\_controller

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/log\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/radio\_manager

Oct 29 23:07:57 mcb1 user.notice wd\_manager[1441]: Value is 1 for Xpath /vvdn\_mcel-wdm:system-apps/cli\_manager

**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>Reject_SSH_Authentication_due_to_Incorrect_Credential</b>	<b>=</b>	<b>SUCCESS</b>
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