@ **FILE NAME: M_CTC_ID_021.txt**

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

@ **Software Release for MCB1:   v1.0.1**

Test Description : This scenario is MANDATORY for an O-RU supporting the Hybrid M-plane architecture model.

This test validates that the O-RU correctly implements NETCONF Access Control user privileges.

The scenario corresponds to the following chapters in [3]:

3.4 NETCONF Access Control

==
********** Initial Get ***********
==
> connect --ssh --host 192.168.170.37 --port 830 --login operator
                Interactive SSH Authentication
                Type your password:
                Password:

==
> **get --filter-xpath /o-ran-usermgmt:users/user**
==

```xml
<?xml version="1.0" ?>
<data xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0">
 <users xmlns="urn:o-ran:user-mgmt:1.0">
  <user>
   <name>oranuser</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>operator</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>observer</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>installer</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>garuda</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>operator11302326379</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>operator44567591</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
```

```xml
   </user>
   <user>
    <name>operator8075861281902</name>
    <account-type>PASSWORD</account-type>
    <enabled>true</enabled>
   </user>
   <user>
    <name>operator17619020756748090</name>
    <account-type>PASSWORD</account-type>
    <enabled>true</enabled>
   </user>
   <user>
    <name>operator86938204120707827368</name>
    <account-type>PASSWORD</account-type>
    <enabled>true</enabled>
   </user>
  </users>
 </data>
```

==
'eth1.448'
==

Error occured in line number 267

==
  ############ SYSTEM LOGS #############
==
Oct 29 23:21:27 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.170.85:4334.

Oct 29 23:21:27 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:21:28 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.170.85:4334.

Oct 29 23:21:28 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.170.85:4334.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Successfully connected to 192.168.170.85:4334 over IPv4.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Session 152 (user "root", CID 1) created.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: User "observer" authenticated.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-channel-open" of subtype "session".

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-channel" of subtype "subsystem".

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Call Home client "default-client" session 9 established.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Session 153 (user "root", CID 1) created.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: There are no subscribers for "ietf-netconf-notifications" notifications.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Generated new event (netconf-session-start).

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:get" with ID 13 priority 0 for 1 subscribers.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:get" "rpc" event with ID 13 priority 0 (remaining 1 subscribers).

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Successful processing of "rpc" event with ID 13 priority 0 (remaining 0 subscribers).

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Event "rpc" with ID 13 priority 0 succeeded.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Session 9: thread 0 event new RPC.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:get" with ID 14 priority 0 for 1 subscribers.

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:get" "rpc" event with ID 14 priority 0 (remaining 1 subscribers).

Oct 29 23:21:29 mcb1 daemon.info netopeer2-server[980]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 6.

Oct 29 23:21:29 mcb1 user.notice fw_manager[1064]: RPC #6 recieved. xpath -> /o-ran-software-management:software-inventory

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Event "operational" with ID 6 succeeded.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "STL=O-RU", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "STL=O-RU", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref

"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "STL=O-RU", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Successful processing of "rpc" event with ID 14 priority 0 (remaining 0 subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Event "rpc" with ID 14 priority 0 succeeded.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref

"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "STL=O-RU", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref

"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "STL=O-RU", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref

"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "STL=O-RU", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 9: thread 3 event new RPC.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:get-config" with ID 11 priority 0 for 1 subscribers.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:get-config" "rpc" event with ID 11 priority 0 (remaining 1 subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Successful processing of "rpc" event with ID 11 priority 0 (remaining 0 subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Event "rpc" with ID 11 priority 0 succeeded.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref

"/ietf-hardware:hardware/ietf-hardware:component/ietf-hardware:name" with the value "ru-port1", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref

"/ietf-hardware:hardware/ietf-hardware:component/ietf-hardware:name" with the value "ru-port1", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 9: thread 0 event new RPC.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Accepted a connection on :::830.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 158 (user "root", CID 1) created.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-service" of subtype "ssh-userauth".

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-auth" of subtype "password".

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: User "operator" authenticated.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-channel-open" of subtype "session".

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Received an SSH message "request-channel" of subtype "subsystem".

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 159 (user "root", CID 1) created.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There are no subscribers for "ietf-netconf-notifications" notifications.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Generated new event (netconf-session-start).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:get" with ID 15 priority 0 for 1 subscribers.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:get" "rpc" event with ID 15 priority 0 (remaining 1

subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Successful processing of "rpc" event with ID 15 priority 0 (remaining 0 subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Event "rpc" with ID 15 priority 0 succeeded.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 10: thread 0 event new RPC.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Published event "rpc" "/ietf-netconf:get-config" with ID 12 priority 0 for 1 subscribers.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Processing "/ietf-netconf:get-config" "rpc" event with ID 12 priority 0 (remaining 1 subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Successful processing of "rpc" event with ID 12 priority 0 (remaining 0 subscribers).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Event "rpc" with ID 12 priority 0 succeeded.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Resolving unresolved data nodes and their constraints...

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/ietf-hardware:name" with the value "ru-port1", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/ietf-hardware:name" with the value "ru-port1", but it is not required.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: All data nodes and constraints resolved.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 10: thread 0 event new RPC.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 10: thread 0 event new RPC.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 10: thread 0 event session terminated.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There are no subscribers for "ietf-netconf-notifications" notifications.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Generated new event (netconf-session-end).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 9: thread 3 event new RPC.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Session 9: thread 3 event session terminated.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: There are no subscribers for "ietf-netconf-notifications" notifications.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Generated new event (netconf-session-end).

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Call Home client "default-client" session terminated.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: Trying to connect via IPv4 to 192.168.170.85:4334.

Oct 29 23:21:30 mcb1 daemon.info netopeer2-server[980]: getsockopt() error (Connection refused).

Oct 29 23:21:30 mcb1 auth.info sshd[14913]: Accepted password for observer from 192.168.170.85 port 49538 ssh2

Oct 29 23:21:30 mcb1 authpriv.info sshd[14913]: pam_unix(sshd:session): session opened for user observer by (uid=0)

Expected Result : The NETCONF server replies rejecting the protocol operation with an

"access-denied" error.

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


===============================================================================
******************* FAIL_REASON *******************
===============================================================================
'eth1.448'
===============================================================================
```

Access Control FM-PM (negative case)   =   FAIL

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