@ FILE NAME:    M_CTC_ID_023.txt

@ TEST SCOPE:    M PLANE O-RAN CONFORMANCE

@ Software Release for MCB1:   v1.0.7

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

**This test validates that the O-RU can successfully start up with activated software.**

**This scenario corresponds to the following chapters in [3]:**

**3.3 SSH Connection Establishment**

**3.4 NETCONF Access Control**

**3.7 closing a NETCONF Session**

===============================================================================

**\*\*\*\*\*\*\*\*\* Connect to the NETCONF Server \*\*\*\*\*\*\*\*\*\***

===============================================================================

===============================================================================

## Step 1 and 2: The TER NETCONF Client establishes connection and creates an account for new user using o-ran-user9 mgmt.yang

===============================================================================

> connect --ssh --host 192.168.3.38 --port 830 --login operator

      ssh-rsa key fingerprint is c0:7c:63:5d:4b:85:e7:27:e0:7e:f0:44:38:4e:ab:83

      Interactive SSH Authentication done.

    > status

    Current NETCONF session:

    ID     : 5

    Host    : 192.168.3.38

    Port    : 830

    Transport   : SSH

    Capabilities:

    urn:ietf:params:netconf:base:1.0 urn:ietf:params:netconf:base:1.1 urn:ietf:params:netconf:capability:writable-running:1.0 urn:ietf:params:netconf:capability:candidate:1.0 urn:ietf:params:netconf:capability:rollback-on-error:1.0 urn:ietf:params:netconf:capability:validate:1.1 urn:ietf:params:netconf:capability:startup:1.0 urn:ietf:params:netconf:capability:xpath:1.0 urn:ietf:params:netconf:capability:with-defaults:1.0?basic-mode=explicit&also-supported=report-all,report-all-tagged,trim,explicit urn:ietf:params:netconf:capability:notification:1.0 urn:ietf:params:netconf:capability:interleave:1.0 urn:ietf:params:xml:ns:yang:ietf-yang-metadata?module=ietf-yang-metadata&revision=2016-08-05 urn:ietf:params:xml:ns:yang:1?module=yang&revision=2017-02-20 urn:ietf:params:xml:ns:yang:ietf-inet-types?module=ietf-inet-types&revision=2013-07-15 urn:ietf:params:xml:ns:yang:ietf-yang-types?module=ietf-yang-types&revision=2013-07-15 urn:ietf:params:netconf:capability:yang-library:1.1?revision=2019-01-04&content-id=63 urn:sysrepo:plugind?module=sysrepo-plugind&revision=2020-12-10 urn:ietf:params:xml:ns:yang:ietf-netconf-acm?module=ietf-netconf-acm&revision=2018-02-14 urn:ietf:params:xml:ns:netconf:base:1.0?module=ietf-netconf&revision=2013-09-29&features=writable-running,candidate,rollback-on-error,validate,startup,url,xpath urn:ietf:params:xml:ns:yang:ietf-netconf-with-defaults?module=ietf-netconf-with-defaults&revision=2011-06-01 urn:ietf:params:xml:ns:yang:ietf-netconf-notifications?module=ietf-netconf-notifications&revision=2012-02-06 urn:ietf:params:xml:ns:yang:ietf-netconf-monitoring?module=ietf-netconf-monitoring&revision=2010-10-04 urn:ietf:params:xml:ns:netconf:notification:1.0?module=notifications&revision=2008-07-14 urn:ietf:params:xml:ns:netmod:notification?module=nc-notifications&revision=2008-07-14 urn:ietf:params:xml:ns:yang:ietf-x509-cert-to-name?module=ietf-x509-cert-to-name&revision=2014-12-10 urn:ietf:params:xml:ns:yang:iana-crypt-hash?module=iana-crypt-hash&revision=2014-08-06 urn:notification_history?module=notification_history urn:ietf:params:xml:ns:yang:iana-if-type?module=iana-if-type&revision=2017-01-19

===============================================================================

## > subscribe --filter-xpath /ietf-netconf-notifications:*

===============================================================================

Ok

===============================================================================

## > edit-config  --target running --config --defop merge

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

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

******* **Replace with below xml** ********

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

```xml
<config xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<users xmlns="urn:o-ran:user-mgmt:1.0">
  <user>
    <name>operator7460405868</name>
    <account-type>PASSWORD</account-type>
    <password>zesLm_^A)mdP</password>
    <enabled>true</enabled>
  </user>
</users>
</config>
```

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

**Ok**

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

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

****** **NOTIFICATIONS** *******

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

```xml
<?xml version="1.0" ?>
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
 <eventTime>2000-11-04T00:09:04Z</eventTime>
 <netconf-config-change xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-notifications">
 <changed-by>
  <username>root</username>
  <session-id>5</session-id>
 </changed-by>
 <datastore>running</datastore>
 <edit>
  <target
xmlns:o-ran-usermgmt="urn:o-ran:user-mgmt:1.0">/o-ran-usermgmt:users/o-ran-usermgmt:user[o-ran-usermgmt:name='operator7460405868']</target>
  <operation>create</operation>
 </edit>
 <edit>
  <target
xmlns:o-ran-usermgmt="urn:o-ran:user-mgmt:1.0">/o-ran-usermgmt:users/o-ran-usermgmt:user[o-ran-usermgmt:name='operator7460405868']/o-ran-usermgmt:name</target>
  <operation>create</operation>
 </edit>
 <edit>
  <target
xmlns:o-ran-usermgmt="urn:o-ran:user-mgmt:1.0">/o-ran-usermgmt:users/o-ran-usermgmt:user[o-ran-usermgmt:name='operator7460405868']/o-r
```

an-usermgmt:account-type</target>
  <operation>create</operation>
 </edit>
 <edit>
  <target
xmlns:o-ran-usermgmt="urn:o-ran:user-mgmt:1.0">/o-ran-usermgmt:users/o-ran-usermgmt:user[o-ran-usermgmt:name='operator7460405868']/o-r
an-usermgmt:password</target>
  <operation>create</operation>
 </edit>
 <edit>
  <target
xmlns:o-ran-usermgmt="urn:o-ran:user-mgmt:1.0">/o-ran-usermgmt:users/o-ran-usermgmt:user[o-ran-usermgmt:name='operator7460405868']/o-r
an-usermgmt:enabled</target>
  <operation>create</operation>
 </edit>
 </netconf-config-change>
</notification>

===========================================================================

## Step 3 and 4: The TER NETCONF Client retrieves a list of users

===========================================================================

===========================================================================

## > 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>user1</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>User2</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>User3</name>
   <account-type>PASSWORD</account-type>
   <enabled>true</enabled>
  </user>
  <user>
   <name>user2</name>
   <account-type>PASSWORD</account-type>
```

```xml
  <enabled>true</enabled>
 </user>
 <user>
  <name>user3</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>user4</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>operator9272416</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>operator08457170344525021180394</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>operator1767096287497333</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>operator450724443082658</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>operator0217</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 <user>
  <name>operator7460405868</name>
  <account-type>PASSWORD</account-type>
  <enabled>true</enabled>
 </user>
 </users>
</data>
```

```
===============================================================================
> edit-config  --target running --config --defop merge
===============================================================================
```

========================================================================
******* **Replace with below xml** ********
========================================================================

```
<config xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
<nacm xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-acm">
  <groups>
   <group>
    <name>sudo</name>
    <user-name>operator7460405868</user-name>
   </group>
  </groups>
</nacm>
</config>
```

========================================================================

**Ok**

========================================================================

========================================================================
******* **NOTIFICATIONS** *******
========================================================================

```
<?xml version="1.0" ?>
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
 <eventTime>2000-11-04T00:09:05Z</eventTime>
 <netconf-config-change xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-notifications">
  <changed-by>
   <username>root</username>
   <session-id>5</session-id>
  </changed-by>
  <datastore>running</datastore>
  <edit>
   <target
xmlns:nacm="urn:ietf:params:xml:ns:yang:ietf-netconf-acm">/nacm:nacm/nacm:groups/nacm:group[nacm:name='sudo']/nacm:user-name[.='opera
tor7460405868']</target>
   <operation>create</operation>
  </edit>
 </netconf-config-change>
</notification>
```

=============================================================================
**Step 5 and 6: NETCONF Server establishes a TCP connection and performs the Call Home procedure to the TER NETCONF Client using the same IP and VLAN.**
=============================================================================

Error : timed out

=============================================================================
**local variable 'new_session' referenced before assignment**
=============================================================================

Error occured in line number 393