



@ 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      : 4
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 *****

```
<config xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <users xmlns="urn:o-ran:user-mgmt:1.0">
    <user>
      <name>operator0217</name>
      <account-type>PASSWORD</account-type>
      <password>iwsMbmS5d09%u</password>
      <enabled>true</enabled>
    </user>
  </users>
</config>
```

Ok

***** NOTIFICATIONS *****

```
<?xml version="1.0" ?>
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
  <eventTime>2000-11-04T00:02:19Z</eventTime>
  <netconf-config-change xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-notifications">
    <changed-by>
      <username>root</username>
      <session-id>4</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='operator0217']</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='operator0217']/o-ran-user
mgmt: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='operator0217']/o-ran-user
mgmt: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='operator0217']/o-ran-user
mgmt: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='operator0217']/o-ran-user
mgmt: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 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>
    </user>
  </users>
</data>
```

```
<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>
</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>operator0217</user-name>
  </group>
</groups>
</nacm>
</config>
```

=====

Ok

=====

=====

***** NOTIFICATIONS *****

=====

```
<?xml version="1.0" ?>
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
  <eventTime>2000-11-04T00:02:19Z</eventTime>
  <netconf-config-change xmlns="urn:ietf:params:xml:ns:yang:ietf-netconf-notifications">
    <changed-by>
      <username>root</username>
      <session-id>4</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
tor0217']</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