



@ FILE NAME: M_CTC_ID_015_.txt

@ TEST SCOPE: M PLANE O-RAN CONFORMANCE

@ Software Release for Garuda_RevD: v5.0.0

Test Description : This test validates that the O-RU can successfully perform a software download and software install procedure.

This scenario corresponds the following chapters in [3]:

5. Software Management

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

```
> connect --ssh --host 192.168.4.46 --port 830 --login operator
```

Interactive SSH Authentication

Type your password:

Password:

> status

Current NETCONF session:

ID : 59

Host : 192.168.4.46

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=61

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
```

Ok

Initial Get Filter

> get --filter-xpath /o-ran-software-management:software-inventory

```
<?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">
  <software-inventory xmlns="urn:o-ran:software-management:1.0">
    <software-slot>
      <name>swSlot1</name>
      <status>VALID</status>
      <active>true</active>
      <running>true</running>
      <access>READ_WRITE</access>
      <product-code>STL O-RU</product-code>
      <vendor-code>VN</vendor-code>
      <build-id>90f0b6c</build-id>
      <build-name>Beta Release</build-name>
      <build-version>5.0.0</build-version>
      <files>
        <name>boot</name>
        <version>1.0.0</version>
        <local-path>/media/sd-mmcb1k0p1/BOOT0001.BIN</local-path>
        <integrity>OK</integrity>
      </files>
      <files>
        <name>kernel</name>
        <version>1.0.0</version>
        <local-path>/media/sd-mmcb1k0p1/image0001.ub</local-path>
        <integrity>OK</integrity>
      </files>
      <files>
        <name>rootfs</name>
        <version>1.0.0</version>
        <local-path>/media/sd-mmcb1k0p2/</local-path>
        <integrity>OK</integrity>
      </files>
    </software-slot>
    <software-slot>
      <name>swSlot2</name>
      <status>VALID</status>
      <active>false</active>
      <running>false</running>
```

```
<access>READ_WRITE</access>
<product-code>STL O-RU</product-code>
<vendor-code>VN</vendor-code>
<build-id>90f0b6c</build-id>
<build-name>Beta Release</build-name>
<build-version>4.0.3</build-version>
<files>
  <name>boot</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p1/BOOT0002.BIN</local-path>
  <integrity>OK</integrity>
</files>
<files>
  <name>kernel</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p1/image0002.ub</local-path>
  <integrity>OK</integrity>
</files>
<files>
  <name>rootfs</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p3</local-path>
  <integrity>OK</integrity>
</files>
</software-slot>
<software-slot>
  <name>swRecoverySlot</name>
  <status>VALID</status>
  <active>false</active>
  <running>false</running>
  <access>READ_ONLY</access>
  <product-code>STL=O-RU</product-code>
  <vendor-code>VN</vendor-code>
  <build-id>factory_img</build-id>
  <build-name>Beta Release</build-name>
  <build-version>1.3.4</build-version>
  <files>
    <name>boot</name>
    <version>1.0.0</version>
    <local-path>/media/sd-mmcb1k0p1/BOOT0003.BIN</local-path>
    <integrity>OK</integrity>
  </files>
  <files>
    <name>kernel</name>
    <version>1.0.0</version>
    <local-path>/media/sd-mmcb1k0p1/golden.ub</local-path>
    <integrity>OK</integrity>
```

```
</files>
<files>
  <name>rootfs</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p1/golden.ub</local-path>
  <integrity>OK</integrity>
</files>
</software-slot>
</software-inventory>
</data>
```

Step 1 : TER NETCONF Client triggers <rpc><software-download>

> user-rpc

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

```
<software-download xmlns="urn:o-ran:software-management:1.0">
  <remote-file-path>sftp://vvdn@192.168.4.15:22/home/vvdn/Downloads/garuda_image/corrupt_giru_v4.0.9.zip</remote-file-path>
  <password>
    <password>vvdntech</password>
  </password>
  <server>
    <keys>
      <algorithm>secp256r1</algorithm>
      <public-key>AAAAB3NzaC1yc2EAAAADAQABAAQDec3KRv/wVHKzQqs1k4hZQUGns52IZKQZmncEyR37mFGUK08FTBHSWXzu1
sSwkO7ZeW4zeMAOGNzADveiiwJWweZRn9/Yu/zSI22+j64kfoI7/+VoeSqazHFi/Xw03eHHAxPG7w474Ut1KOO6Mwh19xVy9S8rTwokYfPp
1NhUdAIusMsF6WMSV40bTFQVMMJTqrGINY3r9AfXaoUWhSpG0hmCoQLbYAf3wRNKyduZE0s8zoKgnszBJ28a+UvPTPz9jdX87yQ1hW
GGr9Vhx6cH1TIHF3fe5iGZdbnJoZYaA/EYJUIwOZfD9DbdgAH/14aYSUiNvo8oSqod/2iz+0tMR</public-key>
    </keys>
  </server>
</software-download>
```

***** RPC Reply *****

```
<nc:rpc-reply xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="urn:uuid:3d67bf05-7e48-48e8-9127-191dd5a7d97f"><status
xmlns="urn:o-ran:software-management:1.0">STARTED</status><notification-timeout
xmlns="urn:o-ran:software-management:1.0">30</notification-timeout></nc:rpc-reply>
```

=====
Step 2 : O-RU NETCONF Server sends <notification><download-event> with status COMPLETED to TER NETCONF Client
=====

```
<?xml version="1.0" ?>
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
  <eventTime>2022-08-02T18:59:21Z</eventTime>
  <download-event xmlns="urn:o-ran:software-management:1.0">
    <file-name>currpt_giru_v4.0.9.zip</file-name>
    <status>COMPLETED</status>
  </download-event>
</notification>
```

=====
Step 3 : TER NETCONF Client triggers <rpc><software-install> Slot must have attributes active = FALSE, running = FALSE.
=====

=====
> user-rpc
=====

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

```
<software-install xmlns="urn:o-ran:software-management:1.0">
  <slot-name>swSlot2</slot-name>
  <file-names>/home/vvvn/Downloads/garuda_image/currpt_giru_v4.0.9.zip</file-names>
</software-install>
```

=====
******* RPC Reply *******
=====

```
<nc:rpc-reply xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="urn:uuid:9be37d6c-9e44-474e-8167-0ade99a88dbb"><status
xmlns="urn:o-ran:software-management:1.0">STARTED</status></nc:rpc-reply>
```

Step 4 : O-RU NETCONF Server sends <notification><install-event> with status INTEGRITY ERROR or FILE ERROR

```
<?xml version="1.0" ?>
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">
  <eventTime>2022-08-02T18:59:30Z</eventTime>
  <install-event xmlns="urn:o-ran:software-management:1.0">
    <slot-name>swSlot2</slot-name>
    <status>INTEGRITY_ERROR</status>
    <error-message>md5sum mismatch</error-message>
  </install-event>
</notification>
```

POST GET AFTER INSTALL SW

> get --filter-xpath /o-ran-software-management:software-inventory

```
<?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">
  <software-inventory xmlns="urn:o-ran:software-management:1.0">
    <software-slot>
      <name>swSlot1</name>
      <status>VALID</status>
      <active>true</active>
      <running>true</running>
      <access>READ_WRITE</access>
      <product-code>STL O-RU</product-code>
      <vendor-code>VN</vendor-code>
      <build-id>90f0b6c</build-id>
      <build-name>Beta Release</build-name>
      <build-version>5.0.0</build-version>
      <files>
        <name>boot</name>
        <version>1.0.0</version>
        <local-path>/media/sd-mmcb1k0p1/BOOT0001.BIN</local-path>
        <integrity>OK</integrity>
      </files>
      <files>
        <name>kernel</name>
        <version>1.0.0</version>
        <local-path>/media/sd-mmcb1k0p1/image0001.ub</local-path>
      </files>
    </software-slot>
  </software-inventory>
</data>
```

```
<integrity>OK</integrity>
</files>
<files>
  <name>rootfs</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p2</local-path>
  <integrity>OK</integrity>
</files>
</software-slot>
<software-slot>
  <name>swSlot2</name>
  <status>VALID</status>
  <active>false</active>
  <running>false</running>
  <access>READ_WRITE</access>
  <product-code>STL O-RU</product-code>
  <vendor-code>VN</vendor-code>
  <build-id>90f0b6c</build-id>
  <build-name>Beta Release</build-name>
  <build-version>4.0.3</build-version>
  <files>
    <name>boot</name>
    <version>1.0.0</version>
    <local-path>/media/sd-mmcb1k0p1/BOOT0002.BIN</local-path>
    <integrity>OK</integrity>
  </files>
  <files>
    <name>kernel</name>
    <version>1.0.0</version>
    <local-path>/media/sd-mmcb1k0p1/image0002.ub</local-path>
    <integrity>OK</integrity>
  </files>
  <files>
    <name>rootfs</name>
    <version>1.0.0</version>
    <local-path>/media/sd-mmcb1k0p3</local-path>
    <integrity>OK</integrity>
  </files>
</software-slot>
<software-slot>
  <name>swRecoverySlot</name>
  <status>VALID</status>
  <active>false</active>
  <running>false</running>
  <access>READ_ONLY</access>
  <product-code>STL=O-RU</product-code>
  <vendor-code>VN</vendor-code>
```



```
<build-id>factory_img</build-id>
<build-name>Beta Release</build-name>
<build-version>1.3.4</build-version>
<files>
  <name>boot</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p1/BOOT0003.BIN</local-path>
  <integrity>OK</integrity>
</files>
<files>
  <name>kernel</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p1/golden.ub</local-path>
  <integrity>OK</integrity>
</files>
<files>
  <name>rootfs</name>
  <version>1.0.0</version>
  <local-path>/media/sd-mmcb1k0p1/golden.ub</local-path>
  <integrity>OK</integrity>
</files>
</software-slot>
</software-inventory>
</data>
```

SYSTEM LOGS

```
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Session 58: thread 0 event new RPC.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Session 58: thread 0 event session terminated.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: There are no subscribers for "ietf-netconf-notifications" notifications.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Generated new event (netconf-session-end).
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Accepted a connection on :::830.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Session 2063 (user "root", CID 1) created.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Received an SSH message "request-service" of subtype "ssh-userauth".
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Received an SSH message "request-auth" of subtype "password".
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: User "operator" authenticated.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Received an SSH message "request-channel-open" of subtype "session".
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Received an SSH message "request-channel" of subtype "subsystem".
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Session 2064 (user "root", CID 1) created.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: There are no subscribers for "ietf-netconf-notifications" notifications.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Generated new event (netconf-session-start).
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Published event "rpc" "/notifications:create-subscription" with ID 12 priority 0 for 1 subscribers.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Processing "/notifications:create-subscription" "rpc" event with ID 12 priority 0 (remaining 1 subscribers).
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Successful processing of "rpc" event with ID 12 priority 0 (remaining 0 subscribers).
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Event "rpc" with ID 12 priority 0 succeeded.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Session 59: thread 0 event new RPC.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Published event "rpc" "/ietf-netconf:get" with ID 789 priority 0 for 1 subscribers.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Processing "/ietf-netconf:get" "rpc" event with ID 789 priority 0 (remaining 1 subscribers).
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 15.
Aug 2 18:59:15 garuda user.notice fw_manager[914]: RPC #15 recieved. xpath -> /o-ran-software-management:software-inventory
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Event "operational" with ID 15 succeeded.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: 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.
Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: 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.
```

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Successful processing of "rpc" event with ID 789 priority 0 (remaining 0 subscribers).

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Event "rpc" with ID 789 priority 0 succeeded.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:15 garuda daemon.info netopeer2-server[846]: Session 59: thread 3 event new RPC.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Published event "rpc" "/o-ran-software-management:software-download" with ID 1 priority 0 for 1 subscribers.

Aug 2 18:59:16 garuda user.notice fw_manager[914]: RPC #1 recieved. xpath -> /o-ran-software-management:software-download

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Event "rpc" with ID 1 priority 0 succeeded.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Session 59: thread 1 event new RPC.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:16 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:17 garuda user.notice SYNCMNGR[1160]: Received message from S-Plane

Aug 2 18:59:17 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:17 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:18 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:18 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:19 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:19 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:20 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:20 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:21 garuda user.notice fw_manager[914]: Function isDownloadCompleted setting error code 0

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Processing "notif" "o-ran-software-management" event with ID 1.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Successful processing of "notif" event with ID 1 priority 0 (remaining 0 subscribers).

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Must condition "/software-inventory/software-slot[name = current()][active = 'false' and running = 'false']" not satisfied, but it is not required.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 16.

Aug 2 18:59:21 garuda user.notice fw_manager[914]: RPC #16 recieved. xpath -> /o-ran-software-management:software-inventory

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Event "operational" with ID 16 succeeded.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Published event "rpc" "/o-ran-software-management:software-install" with ID 1 priority 0 for 1 subscribers.

Aug 2 18:59:21 garuda user.notice fw_manager[914]: RPC #1 recieved. xpath -> /o-ran-software-management:software-install

Aug 2 18:59:21 garuda user.notice fw_manager[914]: swSlot2 selected

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Event "rpc" with ID 1 priority 0 succeeded.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Session 59: thread 1 event new RPC.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:21 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:22 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:22 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:23 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:23 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:24 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:24 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:25 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:25 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:26 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:26 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:27 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:27 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:28 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:28 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:29 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:29 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:30 garuda user.notice fw_manager[914]: RPC #17 recieved. xpath -> /o-ran-software-management:software-inventory

Aug 2 18:59:30 garuda user.err FAULT MANAGER[860]: sendData : Source ID: 17

Aug 2 18:59:30 garuda user.err FAULT MANAGER[860]: sendData : Fault ID: 23

Aug 2 18:59:30 garuda user.err FAULT MANAGER[860]: sendData : FAULT_IS_CLEARED: FALSE

Aug 2 18:59:30 garuda user.err FAULT MANAGER[860]: sendData : FAULT_SEVERITY: 2

Aug 2 18:59:30 garuda user.err FAULT MANAGER[860]: sendData : FAULT_TIME: 2022-08-02T18:59:30Z

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: There is no instance of

"/notification_history:history/module-notification[module-name='Module']/notif-error", but it is not required.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Processing "notif" "ietf-netconf-notifications" event with ID 1.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Successful processing of "notif" event with ID 1 priority 0 (remaining 0 subscribers).

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: There is no instance of
"/notification_history:history/module-notification[module-name='Module']/alert", but it is not required.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Processing "notif" "ietf-netconf-notifications" event with ID 2.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Successful processing of "notif" event with ID 2 priority 0 (remaining 0 subscribers).

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: There is no instance of
"/notification_history:history/module-notification[module-name='Module']/epochtime", but it is not required.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Processing "notif" "ietf-netconf-notifications" event with ID 3.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Successful processing of "notif" event with ID 3 priority 0 (remaining 0 subscribers).

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Processing "notif" "o-ran-fm" event with ID 1.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Successful processing of "notif" event with ID 1 priority 0 (remaining 0 subscribers).

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: There is no leafref "/software-inventory/software-slot/name" with the value "swSlot2", but it is not required.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Processing "notif" "o-ran-software-management" event with ID 2.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Successful processing of "notif" event with ID 2 priority 0 (remaining 0 subscribers).

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Published event "rpc" "/ietf-netconf:get" with ID 790 priority 0 for 1 subscribers.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Processing "/ietf-netconf:get" "rpc" event with ID 790 priority 0 (remaining 1 subscribers).

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 18.

Aug 2 18:59:30 garuda user.notice fw_manager[914]: RPC #18 recieved. xpath -> /o-ran-software-management:software-inventory

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: Trying to connect via IPv4 to 192.168.4.15:4334.

Aug 2 18:59:30 garuda daemon.info netopeer2-server[846]: getsockopt() error (Connection refused).

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Event "operational" with ID 18 succeeded.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Successful processing of "rpc" event with ID 790 priority 0 (remaining 0 subscribers).

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Event "rpc" with ID 790 priority 0 succeeded.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Resolving unresolved data nodes and their constraints...

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: 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.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: All data nodes and constraints resolved.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Session 59: thread 2 event new RPC.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Session 59: thread 0 event new RPC.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Session 59: thread 0 event session terminated.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: There are no subscribers for "ietf-netconf-notifications" notifications.

Aug 2 18:59:31 garuda daemon.info netopeer2-server[846]: Generated new event (netconf-session-end).

Aug 2 18:59:31 garuda user.notice SYNCMNGR[1160]: Received message from S-Plane

Aug 2 18:59:31 garuda auth.info sshd[21977]: Accepted password for operator from 192.168.4.15 port 59868 ssh2

Aug 2 18:59:31 garuda authpriv.info sshd[21977]: pam_unix(sshd:session): session opened for user operator by (uid=0)

Expected Result : The O-RU NETCONF Server determines that the software file is invalid and sends <notification><install event><status> to the TER NETCONF Client. The Field <status> is correctly updated with one of the following status: FILE_ERROR or INTEGRITY_ERROR.

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***** Actual Result *****

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O-RU Software Update (negative case)	=	SUCCESS
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