



@ FILE NAME: M_CTC_ID_014.txt

@ TEST SCOPE: M PLANE O-RAN CONFORMANCE

@ Software Release for LPRU: v1.0.16

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

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

```
> listen --ssh --login operator
```

```
Waiting 60s for an SSH Call Home connection on port 4334...
```

```
The authenticity of the host '192.168.98.37' cannot be established.
```

```
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     : 192.168.98.37
```

```
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,valid
```

```
ate,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>false</active>
      <running>false</running>
      <access>READ_WRITE</access>
      <product-code>VVDN=O-RU</product-code>
      <vendor-code>VN</vendor-code>
      <build-id>factory_img</build-id>
      <build-name>Beta Release</build-name>
      <build-version>1.0.7</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>true</active>
      <running>true</running>
      <access>READ_WRITE</access>
      <product-code>VVDN O-RU</product-code>
```

```
<vendor-code>VN</vendor-code>
<build-id>90f0b6c</build-id>
<build-name>Beta Release</build-name>
<build-version>1.0.16</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>VVDN=O-RU</product-code>
  <vendor-code>VN</vendor-code>
  <build-id>factory_img</build-id>
  <build-name>Beta Release</build-name>
  <build-version>1.0.7</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-mmcbk0p1/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@192.168.98.88:22/home/vvdn/Downloads/lpru_logs/M_CTC_ID_016_16_42_19_21_11_2022.pdf</remote-file-path>
<password>
<password>vvdntech</password>
</password>
<server>
<keys>
<algorithm>secp256r1</algorithm>
<public-key>AAAAB3NzaC1yc2EAAAADAQABAAQCAQC0EVfAv8MI4ZsCWkGxxv36AwuOewJuHXxsiJDNYet2n02N9cbZgifa+Lt0ni4dG
jERFEq2YZCnaX4cuFnsLq8bUjBAuy0hyU2ACb5FohzIbZnMW4cUGkkFu453vTMA/SIZU47wK7Q5HbrTcJefuDkiUwPb+tnP7iT9T7YMx4c6
2h6I9O/wt2hq8RMAC8PT1JAeVebylIrKbcI5g3N2NI6D8OGD0Coick7iczIlor/9ylshjdgIQdi8Bxnq9NhZD0zA2WvQI9eytlvut/uA6KWaiwF9C+O
C7FhIf1O7jDoYXvZUIQa90c0EG4O962JB3SYxWchl4gYxmr6zAtu3TT4j</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:b54fc0ca-d4c2-4c27-91d7-d3b838cfba35"><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>2000-11-04T00:24:51Z</eventTime>
  <download-event xmlns="urn:o-ran:software-management:1.0">
    <file-name>M_CTC_ID_016_16_42_19_21_11_2022.pdf</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.

=====

=====

SR_NO	Slot_Name	Active	Running
1	swSlot1	false	false
2	swSlot2	true	true

=====

> user-rpc

=====

=====

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

=====

```
<software-install xmlns="urn:o-ran:software-management:1.0">
  <slot-name>swSlot1</slot-name>
  <file-names>/home/vvvn/Downloads/lpru_logs/M_CTC_ID_016_16_42_19_21_11_2022.pdf</file-names>
</software-install>
```

=====

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

=====

```
<nc:rpc-reply xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="urn:uuid:eb725b41-df3f-41ea-9171-d73c30e9405a"><status
xmlns="urn:o-ran:software-management:1.0">STARTED</status></nc:rpc-reply>
```

=====

Step 4 and 5 : O-RU NETCONF Server sends <notification><install-event> with status COMPLETED to TER NETCONF Client

=====

```
<?xml version="1.0" ?>
```

```
<notification xmlns="urn:ietf:params:xml:ns:netconf:notification:1.0">  
  <eventTime>2000-11-04T00:24:51Z</eventTime>  
  <install-event xmlns="urn:o-ran:software-management:1.0">  
    <slot-name>swSlot1</slot-name>  
    <status>FILE_ERROR</status>  
    <error-message>unzip failed</error-message>  
  </install-event>  
</notification>
```

=====

SYSTEM LOGS

=====

Nov 4 00:24:41 vvdn_lpru daemon.info netopeer2-server[858]: Trying to connect via IPv4 to 192.168.98.88:4334.

Nov 4 00:24:41 vvdn_lpru daemon.info netopeer2-server[858]: getsockopt() error (Connection refused).

Nov 4 00:24:42 vvdn_lpru daemon.info netopeer2-server[858]: Trying to connect via IPv4 to 192.168.98.88:4334.

Nov 4 00:24:42 vvdn_lpru daemon.info netopeer2-server[858]: getsockopt() error (Connection refused).

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Trying to connect via IPv4 to 192.168.98.88:4334.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Successfully connected to 192.168.98.88:4334 over IPv4.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Session 149 (user "root", CID 1) created.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Received an SSH message "request-service" of subtype "ssh-userauth".

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Received an SSH message "request-auth" of subtype "password".

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: User "operator" authenticated.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Received an SSH message "request-channel-open" of subtype "session".

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Received an SSH message "request-channel" of subtype "subsystem".

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Call Home client "default-client" session 5 established.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Session 150 (user "root", CID 1) created.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: There are no subscribers for "ietf-netconf-notifications" notifications.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Generated new event (netconf-session-start).

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/ietf-netconf:get" with ID 10 priority 0 for 1 subscribers.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Processing "/ietf-netconf:get" "rpc" event with ID 10 priority 0 (remaining 1 subscribers).

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "rpc" event with ID 10 priority 0 (remaining 0 subscribers).

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 10 priority 0 succeeded.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 1 event new RPC.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/ietf-netconf:get" with ID 11 priority 0 for 1 subscribers.

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Processing "/ietf-netconf:get" "rpc" event with ID 11 priority 0 (remaining 1 subscribers).

Nov 4 00:24:43 vvdn_lpru daemon.info netopeer2-server[858]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 11.

Nov 4 00:24:43 vvdn_lpru user.notice fw_manager[928]: RPC #11 recieved. xpath -> /o-ran-software-management:software-inventory

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Event "operational" with ID 11 succeeded.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref

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

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref

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

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "rpc" event with ID 11 priority 0 (remaining 0 subscribers).

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 11 priority 0 succeeded.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN O-RU", but it is not required.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 2 event new RPC.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/ietf-netconf:get-config" with ID 4 priority 0 for 1 subscribers.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Processing "/ietf-netconf:get-config" "rpc" event with ID 4 priority 0 (remaining 1 subscribers).

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "rpc" event with ID 4 priority 0 (remaining 0 subscribers).

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 4 priority 0 succeeded.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/ietf-hardware:name" with the value "ru-port0", but it is not required.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/ietf-hardware:name" with the value "ru-port0", but it is not required.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 4 event new RPC.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/notifications:create-subscription" with ID 3 priority 0 for 1 subscribers.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Processing "/notifications:create-subscription" "rpc" event with ID 3 priority 0 (remaining 1 subscribers).

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "rpc" event with ID 3 priority 0 (remaining 0 subscribers).

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 3 priority 0 succeeded.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 2 event new RPC.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/ietf-netconf:get" with ID 12 priority 0 for 1 subscribers.

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Processing "/ietf-netconf:get" "rpc" event with ID 12 priority 0 (remaining 1 subscribers).

Nov 4 00:24:44 vvdn_lpru daemon.info netopeer2-server[858]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 12.

Nov 4 00:24:44 vvdn_lpru user.notice fw_manager[928]: RPC #12 recieved. xpath -> /o-ran-software-management:software-inventory

Nov 4 00:24:44 vvdn_lpru user.notice SYNCMNGR[1174]: Received message from S-Plane

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Event "operational" with ID 12 succeeded.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "rpc" event with ID 12 priority 0 (remaining 0 subscribers).

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 12 priority 0 succeeded.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN O-RU", but it is not required.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 0 event new RPC.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/o-ran-software-management:software-download" with ID 3 priority 0 for 1 subscribers.

Nov 4 00:24:45 vvdn_lpru user.notice fw_manager[928]: RPC #3 recieved. xpath -> /o-ran-software-management:software-download

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 3 priority 0 succeeded.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:45 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 3 event new RPC.

Nov 4 00:24:51 vvdn_lpru user.notice fw_manager[928]: Function isDownloadCompleted setting error code 0

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Processing "notif" "o-ran-software-management" event with ID 1.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "notif" event with ID 1 priority 0 (remaining 0 subscribers).

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Must condition "/software-inventory/software-slot[name = current()][active = 'false' and running = 'false']" not satisfied, but it is not required.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Published event "operational" "/o-ran-software-management:software-inventory" with ID 13.

Nov 4 00:24:51 vvdn_lpru user.notice fw_manager[928]: RPC #13 recieved. xpath -> /o-ran-software-management:software-inventory

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Event "operational" with ID 13 succeeded.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN O-RU", but it is not required.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref
"/ietf-hardware:hardware/ietf-hardware:component/o-ran-hardware:product-code" with the value "VVDN=O-RU", but it is not required.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Published event "rpc" "/o-ran-software-management:software-install" with ID 3 priority 0 for 1 subscribers.

Nov 4 00:24:51 vvdn_lpru user.notice fw_manager[928]: RPC #3 recieved. xpath -> /o-ran-software-management:software-install

Nov 4 00:24:51 vvdn_lpru user.notice fw_manager[928]: swSlot1 selected

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Event "rpc" with ID 3 priority 0 succeeded.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:51 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 2 event new RPC.

Nov 4 00:24:51 vvdn_lpru user.err fw_manager[928]: swInstall : Unzip failed with code 256

Nov 4 00:24:51 vvdn_lpru user.err fw_manager[928]: swInstall failed :Reason: unzip failed

Nov 4 00:24:51 vvdn_lpru user.notice fw_manager[928]: RPC #14 recieved. xpath -> /o-ran-software-management:software-inventory

Nov 4 00:24:52 vvdn_lpru daemon.info netopeer2-server[858]: Resolving unresolved data nodes and their constraints...

Nov 4 00:24:52 vvdn_lpru daemon.info netopeer2-server[858]: There is no leafref "/software-inventory/software-slot/name" with the value "swSlot1", but it is not required.

Nov 4 00:24:52 vvdn_lpru daemon.info netopeer2-server[858]: All data nodes and constraints resolved.

Nov 4 00:24:52 vvdn_lpru daemon.info netopeer2-server[858]: Processing "notif" "o-ran-software-management" event with ID 2.

Nov 4 00:24:52 vvdn_lpru daemon.info netopeer2-server[858]: Successful processing of "notif" event with ID 2 priority 0 (remaining 0 subscribers).

Nov 4 00:24:54 vvdn_lpru user.notice SYNCMNGR[1174]: Received message from S-Plane

Nov 4 00:24:55 vvdn_lpru user.err FAULT MANAGER[872]: sendData : Source ID: 17

Nov 4 00:24:55 vvdn_lpru user.err FAULT MANAGER[872]: sendData : Fault ID: 23

Nov 4 00:24:55 vvdn_lpru user.err FAULT MANAGER[872]: sendData : FAULT_IS_CLEARED: FALSE

Nov 4 00:24:55 vvdn_lpru user.err FAULT MANAGER[872]: sendData : FAULT_SEVERITY: 2

Nov 4 00:24:55 vvdn_lpru user.err FAULT MANAGER[872]: sendData : FAULT_TIME: 2000-11-04T00:24:55Z

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 0 event new RPC.

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: Session 5: thread 0 event session terminated.

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: There are no subscribers for "ietf-netconf-notifications" notifications.

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: Generated new event (netconf-session-end).

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: Call Home client "default-client" session terminated.

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: Trying to connect via IPv4 to 192.168.98.88:4334.

Nov 4 00:24:57 vvdn_lpru daemon.info netopeer2-server[858]: getsockopt() error (Connection refused).

Nov 4 00:24:57 vvdn_lpru authpriv.debug sshd[20696]: pam_unix(sshd:account): account operator has password changed in future
Nov 4 00:24:57 vvdn_lpru auth.info sshd[20696]: Accepted password for operator from 192.168.98.88 port 35720 ssh2
Nov 4 00:24:57 vvdn_lpru authpriv.info sshd[20696]: pam_unix(sshd:session): session opened for user operator by (uid=0)

Expected Result : The O-RU NETCONF Server sends

<notification><install-event><status> to the TER NETCONF Client. Field <status>

contains the value COMPLETED to indicate the successful installation of software to the desired slot.

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

```
=====
***** FAIL_REASON *****
=====
```

```
=====
FILE_ERROR
=====
```

```
=====
O-RU Software Update and Install = FAIL
=====
```