Perform Preliminary Checks

After successfully logging into the console, you must perform some preliminary checks to verify the default setup. If any setup issue is detected when these checks are performed, take corrective action before making further configurations. These preliminary checks are:

- Verify Status of Hardware Components, on page 1
- Verify Node Status, on page 5
- Verify Software Version, on page 7
- Verify Firmware Version, on page 8
- Verify Management Interface Status, on page 10
- Verify Alarms, on page 12
- Verify Environmental Parameters, on page 12
- Verify Inventory, on page 15

Verify Status of Hardware Components

To verify the status of all the hardware components installed on the NCS 1001, perform the following procedure.

Before you begin

Ensure that all the required hardware components have been installed on the NCS 1001. For installation details, see *Cisco Network Convergence System 1001 Hardware Installation Guide*.

SUMMARY STEPS

1. **show platform**
2. **admin**
3. **show platform**
4. **show platform detail**
5. **show inventory**

DETAILED STEPS

| Step 1 | **show platform** |

When you execute this command from the Cisco IOS XR EXEC mode, the status of the Cisco IOS XR is displayed.

Example:

```
RP/0/RP0/CPU0:ios# show platform
Sun Mar  5 02:33:53.075 CET
Node                Type                     State            Config state
-----------------------------------------------------------------------------

0/0                 NCS1001-K9               OPERATIONAL      NSHUT
0/3                 NCS1K-EDFA               OPERATIONAL      NSHUT
0/RP0/CPU0          NCS1K-CNTLR2(Active)     IOS XR RUN       NSHUT
0/FT0               NCS1K1-FAN               OPERATIONAL      NSHUT
0/FT1               NCS1K1-FAN               OPERATIONAL      NSHUT
0/FT2               NCS1K1-FAN               OPERATIONAL      NSHUT
0/FT3               NCS1K1-FAN               OPERATIONAL      NSHUT
```

a) If the Cisco IOS XR is not operational, no output is shown in the result. In this case, verify the state of service domain router (SDR) on the node using the **show sdr** command in Cisco IOS XR mode.

The following example shows sample output from the **show sdr** command in Cisco IOS XR mode.

```
RP/0/RP0/CPU0:ios# show sdr
Sun Mar  5 02:37:09.174 CET
Type                NodeName       NodeState      RedState      PartnerName
-----------------------------------------------------------------------------

NCS1001-K9          0/0            OPERATIONAL                  N/A

NCS1K-EDFA          0/3            OPERATIONAL                  N/A

RP                  0/RP0/CPU0     IOS XR RUN     ACTIVE        NONE

NCS1K-CNTLR2        0/RP0          OPERATIONAL                  N/A

NCS1K1-FAN          0/FT0          OPERATIONAL                  N/A

NCS1K1-FAN          0/FT1          OPERATIONAL                  N/A

NCS1K1-FAN          0/FT2          OPERATIONAL                  N/A

NCS1K1-FAN          0/FT3          OPERATIONAL                  N/A
```

Step 2   **admin**

Enters System Admin EXEC mode.

Example:

```
 RP/0/RP0/CPU0:ios# admin
```

Step 3   **show platform**

Displays information and status for each node in the system.

Example:

```
sysadmin-vm:0_RP0# show platform
Sun Mar  5  01:38:22.282 UTC
Location   Card Type            HW State      SW State    Config State
-----------------------------------------------------------------------------
0/0        NCS1001-K9           OPERATIONAL   N/A         NSHUT
0/3        NCS1K-EDFA           OPERATIONAL   N/A         NSHUT
0/RP0      NCS1K-CNTLR2         OPERATIONAL   OPERATIONAL NSHUT
0/FT0      NCS1K1-FAN           OPERATIONAL   N/A         NSHUT
0/FT1      NCS1K1-FAN           OPERATIONAL   N/A         NSHUT
```

```
0/FT2      NCS1K1-FAN               OPERATIONAL    N/A          NSHUT
0/FT3      NCS1K1-FAN               OPERATIONAL    N/A          NSHUT
```

Verify that all components of the NCS 1001 are displayed in the result. The software state and the hardware state must be in the OPERATIONAL state. The various hardware and software states are:

Hardware states:

- OPERATIONAL—Node is operating normally and is fully functional.

- POWERED_ON—Power is on and the node is booting up.

- FAILED—Node is powered on but has experienced some internal failure.

- PRESENT—Node is in the shutdown state.

- OFFLINE—User has changed the node state to OFFLINE. The node is accessible for diagnostics.

Software states:

- OPERATIONAL—Software is operating normally and is fully functional.

- SW_INACTIVE—Software is not completely operational.

- FAILED—Software is operational but the card has experienced some internal failure.

- N/A—Valid option for modules where software is not running.

Step 4   **show platform detail**

Displays the hardware and software states, and other details of the node.

Example:

```
sysadmin-vm:0_RP0# show platform detail
Sun Mar  5  01:39:45.411 UTC

Platform Information for 0/0
 PID :             NCS1001-K9
 Description :      "Network Convergence System 1001 line system 3 slots"
 VID/SN :          V00
 HW Oper State :   OPERATIONAL
 SW Oper State :   N/A
 Configuration :   "NSHUT RST"
 HW Version :      0.1
 Last Event :      HW_EVENT_OK
 Last Event Reason : "HW Event OK"

Platform Information for 0/3
 PID :             NCS1K-EDFA
 Description :      "Network Convergence System 1000 amplifier module"
 VID/SN :          V01
 HW Oper State :   OPERATIONAL
 SW Oper State :   N/A
 Configuration :   "NSHUT RST"
 HW Version :      0.1
 Last Event :      HW_EVENT_OK
 Last Event Reason : "HW Operational"

Platform Information for 0/RP0
 PID :             NCS1K-CNTLR2
 Description :      "Network Convergence System 1000 Controller 2"
 VID/SN :          V01
```

```
 HW Oper State :      OPERATIONAL
 SW Oper State :      OPERATIONAL
 Configuration :      "NSHUT RST"
 HW Version :         0.1
 Last Event :         HW_EVENT_OK
 Last Event Reason : UNKNOWN

Platform Information for 0/FT0
 PID :               NCS1K1-FAN
 Description :       "Network Convergence System 1001 Fan"
 VID/SN :            V01
 HW Oper State :     OPERATIONAL
 SW Oper State :     N/A
 Configuration :     "NSHUT RST"
 HW Version :        0.0
 Last Event :        HW_EVENT_OK
 Last Event Reason : "HW Operational"

Platform Information for 0/FT1
 PID :               NCS1K1-FAN
 Description :       "Network Convergence System 1001 Fan"
 VID/SN :            V01
 HW Oper State :     OPERATIONAL
 SW Oper State :     N/A
 Configuration :     "NSHUT RST"
 HW Version :        0.0
 Last Event :        HW_EVENT_OK
 Last Event Reason : "HW Operational"
```

Step 5   **show inventory**

Displays the details of the physical entities of the NCS 1001 when you execute this command in the Cisco IOS XR EXEC mode.

Example:

```
RP/0/RP0/CPU0:ios# show inventory
Sun Mar  5 02:42:04.865 CET
NAME: "0/0", DESCR: "Network Convergence System 1001 line system 3 slots"
PID: NCS1001-K9        , VID: V00, SN: CAT2018B033

NAME: "0/3", DESCR: "Network Convergence System 1000 amplifier module"
PID: NCS1K-EDFA        , VID: V01, SN: IIF2044002L

NAME: "0/3-PORT-0", DESCR: "Cisco SFP Pluggable Optics Module"
PID: ONS-SC-Z3-1510    , VID: V02 , SN: FNS200801EK

NAME: "0/RP0", DESCR: "Network Convergence System 1000 Controller 2"
PID: NCS1K-CNTLR2      , VID: V01, SN: CAT2051B0R5

NAME: "0/RP0-SFP-PORT", DESCR: "Unqualified SFP Pluggable Optics Module"
PID: UNQUALIFIED-SFP   , VID: N/A, SN: N/A

NAME: "Rack 0", DESCR: "Network Convergence System 1001 line system 3 slots"
PID: NCS1001-K9        , VID: V00, SN: CAT2018B033

NAME: "0/FT0", DESCR: "Network Convergence System 1001 Fan"
PID: NCS1K1-FAN        , VID: V01, SN: N/A

NAME: "0/FT1", DESCR: "Network Convergence System 1001 Fan"
PID: NCS1K1-FAN        , VID: V01, SN: N/A

NAME: "0/FT2", DESCR: "Network Convergence System 1001 Fan"
PID: NCS1K1-FAN        , VID: V01, SN: N/A
```

```
NAME: "0/FT3", DESCR: "Network Convergence System 1001 Fan"
PID: NCS1K1-FAN        , VID: V01, SN: N/A

NAME: "0/PM0", DESCR: "Network Convergence System 1000 2KW AC PSU 2"
PID: NCS1K-2KW-AC2     , VID: V01, SN: POG2049JT21

NAME: "0/PM1", DESCR: "Network Convergence System 1000 2KW AC PSU 2"
PID: NCS1K-2KW-AC2     , VID: V01, SN: POG2049JT01
```

Verify Node Status

You can verify the operational status of all the nodes using the **show platform** command. You can execute this command independently from both the Cisco IOS XR EXEC and System Admin EXEC modes.

To verify the operational status of all the nodes, perform the following procedure.

SUMMARY STEPS

1. **show platform**
2. **admin**
3. **show platform**
4. **show platform detail**

DETAILED STEPS

Step 1   **show platform**

When you execute this command from the XR EXEC mode, the status of the Cisco IOS XR is displayed.

Example:

```
RP/0/RP0/CPU0:ios# show platform
Sun Mar  5 02:53:27.755 CET
Node            Type                    State          Config state
--------------------------------------------------------------------------

0/0             NCS1001-K9              OPERATIONAL     NSHUT
0/3             NCS1K-EDFA              OPERATIONAL     NSHUT
0/RP0/CPU0      NCS1K-CNTLR2(Active)    IOS XR RUN      NSHUT
0/FT0           NCS1K1-FAN              OPERATIONAL     NSHUT
0/FT1           NCS1K1-FAN              OPERATIONAL     NSHUT
0/FT2           NCS1K1-FAN              OPERATIONAL     NSHUT
0/FT3           NCS1K1-FAN              OPERATIONAL     NSHUT
```

If the Cisco IOS XR is not operational, no output is shown in the result. In this case, verify the state of SDR on the node using the **show sdr** command in the System Admin EXEC mode.

Step 2   **admin**

Enters System Admin EXEC mode.

Example:

```
RP/0/RP0/CPU0:ios# admin
```

Step 3   **show platform**

Displays information and status for each node in the system.

Example:

```
sysadmin-vm:0_RP0# show platform
Sun Mar  5  01:56:15.749 UTC
Location   Card Type                HW State      SW State      Config State
--------------------------------------------------------------------
0/0        NCS1001-K9               OPERATIONAL   N/A           NSHUT
0/3        NCS1K-EDFA               OPERATIONAL   N/A           NSHUT
0/RP0      NCS1K-CNTLR2             OPERATIONAL   OPERATIONAL   NSHUT
0/FT0      NCS1K1-FAN               OPERATIONAL   N/A           NSHUT
0/FT1      NCS1K1-FAN               OPERATIONAL   N/A           NSHUT
0/FT2      NCS1K1-FAN               OPERATIONAL   N/A           NSHUT
0/FT3      NCS1K1-FAN               OPERATIONAL   N/A           NSHUT
```

Verify that all the modules of NCS 1001 are displayed in the result. The software state and the hardware state must be in the OPERATIONAL state. The various hardware and software states are:

Hardware states:

- OPERATIONAL—Node is operating normally and is fully functional.

- POWERED_ON—Power is on and the node is booting up.

- FAILED—Node is powered on but has experienced some internal failure.

- PRESENT—Node is in the shutdown state.

- OFFLINE—User has changed the node state to OFFLINE. The node is accessible for diagnostics.

Software states:

- OPERATIONAL—Software is operating normally and is fully functional.

- DIAG_MODE—User has changed the card state to OFFLINE for diagnosis.

- SW_INACTIVE—Software is not completely operational.

- FAILED—Software is operational but the card has experienced some internal failure.

- N/A—Valid option for modules where software is not running.

Step 4   **show platform detail**

Displays the hardware and software states, and other details of the node.

Example:

```
sysadmin-vm:0_RP0# show platform detail
Sun Mar  5  01:57:40.918 UTC

Platform Information for 0/0
 PID :              NCS1001-K9
 Description :      "Network Convergence System 1001 line system 3 slots"
 VID/SN :           V00
 HW Oper State :    OPERATIONAL
 SW Oper State :    N/A
 Configuration :    "NSHUT RST"
 HW Version :       0.1
 Last Event :       HW_EVENT_OK
```

```
 Last Event Reason : "HW Event OK"

Platform Information for 0/3
 PID :              NCS1K-EDFA
 Description :      "Network Convergence System 1000 amplifier module"
 VID/SN :           V01
 HW Oper State :    OPERATIONAL
 SW Oper State :    N/A
 Configuration :    "NSHUT RST"
 HW Version :       0.1
 Last Event :       HW_EVENT_OK
 Last Event Reason : "HW Operational"

Platform Information for 0/RP0
 PID :              NCS1K-CNTLR2
 Description :      "Network Convergence System 1000 Controller 2"
 VID/SN :           V01
 HW Oper State :    OPERATIONAL
 SW Oper State :    OPERATIONAL
 Configuration :    "NSHUT RST"
 HW Version :       0.1
 Last Event :       HW_EVENT_OK
 Last Event Reason : UNKNOWN

Platform Information for 0/FT0
 PID :              NCS1K1-FAN
 Description :      "Network Convergence System 1001 Fan"
 VID/SN :           V01
 HW Oper State :    OPERATIONAL
 SW Oper State :    N/A
 Configuration :    "NSHUT RST"
 HW Version :       0.0
 Last Event :       HW_EVENT_OK
 Last Event Reason : "HW Operational"

Platform Information for 0/FT1
 PID :              NCS1K1-FAN
 Description :      "Network Convergence System 1001 Fan"
 VID/SN :           V01
 HW Oper State :    OPERATIONAL
 SW Oper State :    N/A
 Configuration :    "NSHUT RST"
 HW Version :       0.0
 Last Event :       HW_EVENT_OK
 Last Event Reason : "HW Operational"
```

Verify Software Version

The NCS 1001 is shipped with the Cisco IOS XR software pre-installed. Verify that the latest version of the software is installed. If a newer version is available, perform a system upgrade. This will install the newer version of the software and provide the latest feature set on the NCS 1001.

To verify the version of Cisco IOS XR software running on the NCS 1001, perform the following procedure.

SUMMARY STEPS

1. **show version**

DETAILED STEPS

---

show version

Displays the software version and details such as system uptime.

Example:

```
RP/0/RP0/CPU0:ios# show version
Fri Aug 10 10:38:09.569 CEST
Cisco IOS XR Software, Version 6.5.1
Copyright (c) 2013-2018 by Cisco Systems, Inc.

Build Information:
Built By     : ahoang
Built On     : Wed Aug  8 16:47:10 PDT 2018
Built Host   : iox-ucs-027
Workspace    : /auto/srcarchive17/prod/6.5.1/ncs1001/ws
Version      : 6.5.1
Location     : /opt/cisco/XR/packages/

cisco NCS-1001 () processor
System uptime is 5 minutes
```

What to do next

Verify the result to ascertain whether a system upgrade is required. If the upgrade is required, see the Perform System Upgrade and Install Feature Packages chapter.

Verify Firmware Version

The firmware on various hardware components of the NCS 1001 must be compatible with the installed Cisco IOS XR image. Incompatibility may cause the NCS 1001 to malfunction.

To verify the firmware version, perform the following procedure.

SUMMARY STEPS

1. **show hw-module fpd**

DETAILED STEPS

---

show hw-module fpd

```
Sun Mar  5  02:10:42.676 UTC
                                                         FPD Versions
                                                         ===============
Location  Card type       HWver FPD device      ATR Status    Run     Programd
--------------------------------------------------------------------------------
0/0       NCS1001-K9      0.1   Control_BKP      B   CURRENT            1.10

0/0       NCS1001-K9      0.1   Control_FPGA         CURRENT   1.10    1.10
```

```
0/1        NCS1K-EDFA       0.0    FW_EDFAv1              CURRENT    1.43    1.43

0/2        NCS1K-PSM        0.0    FW_PSMv1              CURRENT    1.45    1.45

0/3        NCS1K-EDFA       0.0    FW_EDFAv1              CURRENT    1.43    1.43

0/RP0      NCS1K-CNTLR2     0.1    BIOS_Backup    BS    CURRENT            14.20

0/RP0      NCS1K-CNTLR2     0.1    BIOS_Primary   S     CURRENT   14.20   14.20

0/RP0      NCS1K-CNTLR2     0.1    Daisy_Duke_BKP  BS   CURRENT             0.17

0/RP0      NCS1K-CNTLR2     0.1    Daisy_Duke_FPGA S    CURRENT    0.17    0.17

0/PM0      NCS1K-2KW-AC2    0.0    PO-PriMCU             CURRENT    4.00    4.00

0/PM1      NCS1K-2KW-AC2    0.0    PO-PriMCU             CURRENT    4.00    4.00
```

Displays the firmware information of various hardware components of the NCS 1001 in the Cisco IOS XR EXEC mode.

In the above output, some of the significant fields are:

- FPD Device—Name of the hardware component such as FPD, CFP, and so on.

- ATR—Attribute of the hardware component. Some of the attributes are:

    - B—Backup Image

    - S—Secure Image

    - P—Protected Image

- Status— Upgrade status of the firmware. The different states are:

    - CURRENT—The firmware version is the latest version.

    - READY—The firmware of the FPD is ready for an upgrade.

    - NOT READY—The firmware of the FPD is not ready for an upgrade.

    - NEED UPGD—A newer firmware version is available in the installed image. It is recommended that an upgrade be performed.

    - RLOAD REQ—The upgrade has been completed, and the ISO image requires a reload.

    - UPGD DONE—The firmware upgrade is successful.

    - UPGD FAIL— The firmware upgrade has failed.

    - BACK IMG—The firmware is corrupted. Reinstall the firmware.

    - UPGD SKIP—The upgrade has been skipped because the installed firmware version is higher than the one available in the image.

- Running—Current version of the firmware running on the FPD.

What to do next

Upgrade all the FPDs using the **upgrade hw-module location all fpd all** command in the Cisco IOS XR EXEC mode. After an upgrade is completed, the Status column shows RLOAD REQ if the software requires reload.

If Reload is Required

If the FPGA location is 0/RP0, use the **admin hw-module location 0/RP0 reload** command. This command reboots only the control card. As a result, traffic is not impacted. If the FPGA location is 0/0, use the **admin hw-module location all reload** command. This command reboots the chassis. As a result, traffic is impacted. After the reload is completed, the new FPGA runs the current version.

If Firmware Upgrade Fails

If the firmware upgrade fails, use the **show logging** command to view the details and upgrade the firmware again using the above commands.

Verify Management Interface Status

To verify the management interface status, perform the following procedure.

SUMMARY STEPS

1. **show interfaces mgmtEth** *instance*

DETAILED STEPS

show interfaces mgmtEth *instance*

Displays the management interface configuration.

Example:

```
RP/0/RP0/CPU0:ios# show interfaces MgmtEth 0/RP0/CPU0/0
Sun Mar  5 03:21:33.272 CET
MgmtEth0/RP0/CPU0/0 is up, line protocol is up
  Interface state transitions: 1
  Hardware is Management Ethernet, address is 6c9c.ed50.2aa2 (bia 6c9c.ed50.2aa2
)
  Internet address is 10.58.229.131/22
  MTU 1514 bytes, BW 1000000 Kbit (Max: 1000000 Kbit)
     reliability 255/255, txload 0/255, rxload 0/255
  Encapsulation ARPA,
  Full-duplex, 1000Mb/s, CX, link type is autonegotiation
  loopback not set,
  Last link flapped 2d12h
  ARP type ARPA, ARP timeout 04:00:00
  Last input 00:00:00, output 00:00:00
  Last clearing of "show interface" counters never
  5 minute input rate 16000 bits/sec, 22 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     4959018 packets input, 462164262 bytes, 0 total input drops
     0 drops for unrecognized upper-level protocol
     Received 3531513 broadcast packets, 1419827 multicast packets
             0 runts, 0 giants, 0 throttles, 0 parity
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     20720 packets output, 1284846 bytes, 0 total output drops
```

```
Output 0 broadcast packets, 0 multicast packets
0 output errors, 0 underruns, 0 applique, 0 resets
0 output buffer failures, 0 output buffers swapped out
1 carrier transitions
```

In the above result, the management interface is administratively down.

You can also use the **show interfaces summary** and **show interfaces brief** commands in the Cisco IOS XR EXEC mode to verify the management interface status.

• The following example shows sample output from the **show interfaces summary** command.

```
RP/0/RP0/CPU0:ios# show interfaces summary
Sun Mar  5 03:22:45.830 CET
Interface Type      Total   UP      Down    Admin Down
--------------      -----   --      ----    ----------
ALL TYPES           2       2       0       0
--------------
IFT_ETHERNET        1       1       0       0
IFT_NULL            1       1       0       0
```

• The following example shows sample output from the **show interfaces brief** command.

```
RP/0/RP0/CPU0:ios# show interfaces brief
Sun Mar  5 03:23:55.330 CET

            Intf      Intf      LineP                  Encap  MTU       BW
            Name      State     State                  Type   (byte)    (Kbps)
-------------------------------------------------------------------------------

            Nu0       up        up                     Null   1500            0
   Mg0/RP0/CPU0/0     up        up                     ARPA   1514      1000000
```

What to do next

If the management interface is administratively down, perform the following steps:

• Check the Ethernet cable connection.

• Verify the IP configuration of the management interface. For details on configuring the management interface, see the *Bring-up NCS 1001* chapter.

• Verify whether the management interface is in the no shut state using the **show running-config interface mgmtEth** command.

The following example shows sample output from the **show running-config interface mgmtEth** command.

```
RP/0/RP0/CPU0:ios#show running-config interface mgmtEth 0/RP0/CPU0/0
Sun Mar  5 03:25:26.191 CET
interface MgmtEth0/RP0/CPU0/0
 ipv4 address 10.58.229.131 255.255.252.0
 !
```

In the above output, the management interface is in the no shut state.

Verify Alarms

You can view the alarm information using the **show alarms** command.

SUMMARY STEPS

1. show alarms [**brief** [**card** | **rack** | **system**] [**location** *location*] [**active** | **history**] | **detail** [**card** | **rack** | **system**] [**location** *location*] [**active** | **clients** | **history** | **stats**]]

DETAILED STEPS

show alarms [**brief** [**card** | **rack** | **system**] [**location** *location*] [**active** | **history**] | **detail** [**card** | **rack** | **system**] [**location** *location*] [**active** | **clients** | **history** | **stats**]]

Displays alarms in brief or detail.

Example:

```
RP/0/RP0/CPU0:ios# show alarms brief card location 0/RP0/CPU0 active
Sun Mar  5 03:27:57.137 CET

--------------------------------------------------------------------------------
Active Alarms
--------------------------------------------------------------------------------
Location        Severity    Group           Set Time                  Description


--------------------------------------------------------------------------------
0/3             Critical    Controller      03/02/2017 14:51:45 CET    Ots0/3/
0/2 - Output OTS Power Reading Below The Fail-Low Threshold

0/3             Minor       Controller      03/04/2017 06:32:27 CET    Optics0
/3/0/4 - Optics Low Receive Power
```

What to do next

For more information about alarms and steps to clear them, see the *Alarm Troubleshooting* chapter of the *Cisco NCS 1001 Troubleshooting Guide*.

Verify Environmental Parameters

The **show environment** command displays the environmental parameters of the NCS 1001.

To verify that the environmental parameters are as expected, perform the following procedure.

SUMMARY STEPS

1. **admin**

    2. show environment [**all** | **fan** | **power** | **voltages** | **current** | **temperatures**] [**location** | *location*]

DETAILED STEPS

Step 1   **admin**

Enters System Admin EXEC mode.

Example:

```
 RP/0/RP0/CPU0:ios# admin
```

Step 2   **show environment** [**all** | **fan** | **power** | **voltages** | **current** | **temperatures**] [**location** | *location*]

Displays the environmental parameters of the NCS 1001.

Example:

The following example shows sample output from the **show environment** command with the **fan** keyword.

```
sysadmin-vm:0_RP0# show environment fan
Sun Mar  5  02:33:51.700 UTC
===================================
                     Fan speed (rpm)
Location     FRU Type        FAN_0
-----------------------------------
0/FT0        NCS1K1-FAN       11640
0/FT1        NCS1K1-FAN       11640
0/FT2        NCS1K1-FAN       11400
0/FT3        NCS1K1-FAN       11640
0/PM0        NCS1K-2KW-AC2     9696
0/PM1        NCS1K-2KW-AC2     9760
```

The following example shows sample output from the **show environment** command with the **temperatures** keyword.

```
sysadmin-vm:0_RP0# show environment temperatures location 0/RP0
Sun Mar  5  02:34:55.985 UTC
================================================================================

Location   TEMPERATURE                   Value   Crit Major Minor Minor Major  Crit

           Sensor                       (deg C)  (Lo) (Lo)  (Lo)  (Hi)  (Hi)   (Hi)

--------------------------------------------------------------------------------

0/RP0
           Thermistor 1                    40    -10    0     0    55    55     85

           Thermistor 2                    41    -10    0     0    55    55     85

           Hot Spot Temperature            40    -10    0     0    55    55     85
```

The following example shows sample output from the **show environment** command with the **power** keyword.

```
sysadmin-vm:0_RP0# show environment power
Sun Mar  5  02:36:17.380 UTC
================================================================================

CHASSIS LEVEL POWER INFO: 0
```

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

    Total output power capacity (N + 1)          :    2000W +    2000W
    Total output power required                   :     269W
    Total power input                             :     211W
    Total power output                            :      67W

Power Group 0:
===============================================================================

    Power       Supply     ------Input----   ------Output---      Status
    Module      Type        Volts    Amps     Volts    Amps
===============================================================================

    0/PM0       2kW-AC      235.0     0.4     12.0     1.1     OK

Total of Power Group 0:         94W/  0.4A          13W/  1.1A

Power Group 1:
===============================================================================

    Power       Supply     ------Input----   ------Output---      Status
    Module      Type        Volts    Amps     Volts    Amps
===============================================================================

    0/PM1       2kW-AC      234.5     0.5     12.0     4.5     OK

Total of Power Group 1:        117W/  0.5A          54W/  4.5A


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

    Location    Card Type           Power      Power        Status
                                     Allocated  Used
                                     Watts      Watts
===============================================================================

    0/0         NCS1001-K9           30          -          ON
    0/1         -                    68          -          RESERVED
    0/2         -                    68          -          RESERVED
    0/3         NCS1K-EDFA           68          -          ON
    0/RP0       NCS1K-CNTLR2         35          -          ON
    0/FT0       NCS1K1-FAN            0          -          ON
    0/FT1       NCS1K1-FAN            0          -          ON
    0/FT2       NCS1K1-FAN            0          -          ON
    0/FT3       NCS1K1-FAN            0          -          ON
```

The following example shows sample output from the **show environment** command with the **voltages** keyword.

```
sysadmin-vm:0_RP0# show environment voltages location 0/RP0
Sun Mar  5 02:37:24.468 UTC
===============================================================================

Location  VOLTAGE                    Value   Crit Minor Minor  Crit
          Sensor                     (mV)    (Lo) (Lo) (Hi)   (Hi)
-------------------------------------------------------------------------------

0/RP0
          VP1P0_CPU                  1002    900   950  1050   1100
          CPU_CORE_VCC                713    400   450  1350   1400
          CPU_CORE_VNN                952    400   450  1350   1400
          VP1P1                      1077    990  1050  1160   1210
          VP1P2                      1206   1080  1140  1260   1320
          VP1P35_DDR                 1353   1220  1280  1420   1490
          VP1P35                     1346   1220  1280  1420   1490
          VP1P5                      1503   1350  1430  1580   1650
```

```
VP1P8_CPU                      1801   1620   1710   1890   1980
VP3P3_STBY                     3323   2970   3140   3470   3630
VP3P3                          3346   2970   3140   3470   3630
VP5P0                          5029   4500   4750   5250   5500
VP12P0                        12047  10800  11400  12600  13200
VREF                           1224   1190   1200   1240   1250
12V Input Voltage             11208   8000  10000  14000  16000
```

What to do next

Environment parameter anomalies are logged in the syslog. As a result, if an environment parameter displayed in the **show environment** command output is not as expected, check the syslog using the **show logging** command. The syslog provides details on any logged problems.

Verify Inventory

The **show inventory** command displays details of the hardware inventory of the NCS 1001.

To verify the inventory information for all the physical entities, perform the following procedure.

SUMMARY STEPS

1. **show inventory**
2. **admin**
3. **show inventory**

DETAILED STEPS

Step 1   **show inventory**

Displays the details of the NCS 1001 when you execute this command in the Cisco IOS XR EXEC mode.

Example:

```
RP/0/RP0/CPU0:ios# show inventory

Sun Mar  5  02:42:57.359 UTC

Name: Rack 0             Descr: Network Convergence System 1001 line system 3 slots
PID: NCS1001-K9          VID: V00              SN: CAT2018B033

Name: 0/0               Descr: Network Convergence System 1001 line system 3 slots
PID: NCS1001-K9          VID: V00              SN: CAT2018B033

Name: 0/3               Descr: Network Convergence System 1000 amplifier module
PID: NCS1K-EDFA          VID: V01              SN: IIF2044002L

Name: 0/RP0-SFP-PORT     Descr: Unqualified SFP Pluggable Optics Module
PID: UNQUALIFIED-SFP     VID:                  SN:

Name: 0/RP0             Descr: Network Convergence System 1000 Controller 2
PID: NCS1K-CNTLR2        VID: V01              SN: CAT2051B0R5

Name: 0/FT0             Descr: Network Convergence System 1001 Fan
```

```
 PID: NCS1K1-FAN            VID: V01                  SN: N/A

 Name: 0/FT1                Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN            VID: V01                  SN: N/A

 Name: 0/FT2                Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN            VID: V01                  SN: N/A

 Name: 0/FT3                Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN            VID: V01                  SN: N/A

 Name: 0/PM0                Descr: Network Convergence System 1000 2KW AC PSU 2
 PID: NCS1K-2KW-AC2         VID: V01                  SN: POG2049JT21

 Name: 0/PM1                Descr: Network Convergence System 1000 2KW AC PSU 2
 PID: NCS1K-2KW-AC2         VID: V01                  SN: POG2049JT01
```

Step 2 **admin**

Enters System Admin EXEC mode.

Example:

```
RP/0/RP0/CPU0:router# admin
```

Step 3 **show inventory**

Displays inventory information for all the physical entities of the NCS 1001.

Example:

```
sysadmin-vm:0_RP0# show inventory
Sun Mar  5  02:44:30.350 UTC

 Name: Rack 0                Descr: Network Convergence System 1001 line system 3 slots
 PID: NCS1001-K9             VID: V00                  SN: CAT2018B033

 Name: 0/0                   Descr: Network Convergence System 1001 line system 3 slots
 PID: NCS1001-K9             VID: V00                  SN: CAT2018B033

 Name: 0/3                   Descr: Network Convergence System 1000 amplifier module
 PID: NCS1K-EDFA             VID: V01                  SN: IIF2044002L

 Name: 0/RP0-SFP-PORT        Descr: Unqualified SFP Pluggable Optics Module
 PID: UNQUALIFIED-SFP        VID:                      SN:

 Name: 0/RP0                 Descr: Network Convergence System 1000 Controller 2
 PID: NCS1K-CNTLR2           VID: V01                  SN: CAT2051B0R5

 Name: 0/FT0                 Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN             VID: V01                  SN: N/A

 Name: 0/FT1                 Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN             VID: V01                  SN: N/A

 Name: 0/FT2                 Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN             VID: V01                  SN: N/A

 Name: 0/FT3                 Descr: Network Convergence System 1001 Fan
 PID: NCS1K1-FAN             VID: V01                  SN: N/A

 Name: 0/PM0                 Descr: Network Convergence System 1000 2KW AC PSU 2
 PID: NCS1K-2KW-AC2          VID: V01                  SN: POG2049JT21
```

```
 Name: 0/PM1                      Descr: Network Convergence System 1000 2KW AC PSU 2
 PID: NCS1K-2KW-AC2               VID: V01                    SN: POG2049JT01
```

In the above output, the significant fields are:

- PID—Physical model name of the chassis or node.

- VID—Physical hardware revision of the chassis or node.

- SN—Physical serial number for the chassis or node.