



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, take corrective action before making further configurations.



Note The output of the examples in the procedures is not from the latest software release. The output will change for any explicit references to the current release.



Note • Refer to [System Health Check](#) for monitoring systems in a network to proactively prevent potential issues and take preventative steps.

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Inventory Support in NCS 1014

Table 1: Feature History

Feature Name	Release Information	Description
Inventory Support	Cisco IOS XR Release 7.11.1	Inventory support and pluggable optics support for QSFP28, QSFP-DD and Coherent Interface Module (CIM 8) are enabled in NCS 1014 system.

The NCS 1014 inventory model consists of the following components.

- One NCS 1014 controller card.
- NCS 1014 chassis.
- Two AC or DC power supply units (PSU) of 2KW and 2.5KW.
- Three FAN trays.
- Four line cards.

The components are connected to a 2RU chassis. NCS 1014 can support upto four line cards at once at any given point in time. The line cards supported are 1.2T, NCS1K4-2.4T-K9, CCMD-16-C and CCMD-16-L cards.



Note **CCMD-16-C**: refers to the NCS1K14-CCMD-16-C card.

CCMD-16-L: refers to the NCS1K14-CCMD-16-L card.

1.2T : refers to the NCS1K4-1.2T-K9 C-band card.

2.4T: refers to the NCS1K4-2.4T-K9 C-band card.

The `show inventory` command retrieves and displays the inventory information about each Cisco product in the form of a Unique Device Identifier (UDI). The UDI is a combination of three separate data elements: a product identifier (PID), a version identifier (VID), and the serial number (SN). The PID is the name by which the product is ordered. It is also known as product name or part number.

The VID is the version of the product. Whenever a product is upgraded the VID gets incremented according to the changes added. The SN is the vendor based unique serial number assigned to any product. It is used to identifying any specific product.

Verify Inventory

The **show inventory** command displays the details of the hardware inventory of NCS 1014.

To verify the inventory information for all the physical entities, use the following command.

show inventory [**all** | **details** | **fan** | **power** | **vendor-type** | **raw** | **chasis** | **word**] [**location** | *location*].



Note The various options available under **show inventory** command are listed below.

- **Word:** Partially qualified location specification
- **All:** Inventory information for all the physical entities
- **Chassis:** Inventory information about chassis
- **Details:** Detailed entity information
- **Fan:** Inventory information about fan
- **Location:** Location of node for inventory
- **Power:** Inventory information about power
- **Raw:** Raw information
- **Vendor-type:** Vendor type information

Example

```
RP/0/RP0/CPU0:ios#show inventory ?
WORD          Partially qualified location specification
all           Inventory information for all the physical entities
chassis       Inventory information about chassis
details       detailed entity information
fan           Inventory information about fan
location      Location of node for inventory
power         Inventory information about power
raw           raw information
vendor-type   vendor-type information
|            Output Modifiers
<cr>
```

show inventory

When you execute this command in the Cisco IOS XR EXEC mode, it displays the summary of NCS 1014 inventory based on different card and optics pluggables on all the slots or ports.

Example:

```
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios# show inventory
Thu Oct  5 02:32:14.231 UTC

NAME: "Rack 0", DESCR: "Network Convergence System 1014 chassis with timing support"
PID: NCS1014          , VID: V00, SN: FCB2717B151

NAME: "0/RP0/CPU0", DESCR: "Network Convergence System 1014 Controller"
PID: NCS1K14-CNTRLR-K9 , VID: V00, SN: FCB2718B1AX

NAME: "0/0/NXR0", DESCR: "NCS1K4 12x QSFP28 2 Trunk C-Band DWDM card"
PID: NCS1K4-1.2T-K9   , VID: V00, SN: CAT2250B0B9

NAME: "0/1/NXR0", DESCR: "Network Convergence System 1014 2.4T Line Card"
PID: NCS1K14-2.4T-K9 , VID: V00, SN: FCB2710B0L5

NAME: "Optics0/1/0/0", DESCR: "Cisco CIM8 C K9 Pluggable Optics Module"
```

Verify Inventory

PID: CIM8-C-K9 , VID: VES1, SN: SIM-AX12-SW

NAME: "Optics0/1/0/1", DESCR: "Cisco 100G QSFP28 SR4-S Pluggable Optics Module"
 PID: QSFP-100G-SR4-S , VID: ES1 , SN: AVF1933G18C

NAME: "Optics0/1/0/2", DESCR: "Non-Cisco UNKNOWN TYPE Pluggable Optics Module"
 PID: TR-IQ13L-N00 , VID: 1B, SN: INFBH1940242

NAME: "Optics0/1/0/3", DESCR: "Cisco UNKNOWN TYPE Pluggable Optics Module"
 PID: ONS-QSFP-4X10-MLR , VID: V01 , SN: INL21010375

NAME: "Optics0/1/0/4", DESCR: "Cisco 100G QSFP28 SR4-S Pluggable Optics Module"
 PID: QSFP-100G-SR4-S , VID: ES1 , SN: AVF1933G16A

NAME: "Optics0/1/0/6", DESCR: "Cisco QSFP DD 400G FR4 S Pluggable Optics Module"
 PID: QDD-400G-FR4-S , VID: V01 , SN: FIW250504DL

NAME: "Optics0/1/0/7", DESCR: "Cisco CIM8 C K9 Pluggable Optics Module"
 PID: CIM8-C-K9 , VID: VES1, SN: ACA27370055

NAME: "0/2/NXR0", DESCR: "NCS1K4 12x QSFP28 2 Trunk C-Band DWDM card"
 PID: NCS1K4-1.2T-K9 , VID: V03, SN: CAT2329B32K

NAME: "Optics0/2/0/10", DESCR: "Cisco QSFP28 100G CU1M Pluggable Optics Module"
 PID: QSFP-100G-CU1M , VID: V01 , SN: LCC2402GKJ3-B

NAME: "Optics0/2/0/11", DESCR: "Cisco 100G QSFP28 LR-S Pluggable Optics Module"
 PID: QSFP-100G-LR-S , VID: ES0 , SN: FBN2321A013

NAME: "Optics0/2/0/12", DESCR: "Cisco 100G QSFP28 AOC Pluggable Optics Module"
 PID: QSFP-100G-AOC3M , VID: V03 , SN: INL23302076-B

NAME: "Optics0/2/0/13", DESCR: "Cisco 100G QSFP28 LR-S Pluggable Optics Module"
 PID: QSFP-100G-LR-S , VID: ES0 , SN: FBN2321A024

NAME: "Optics0/2/0/3", DESCR: "Cisco QSFP28 100G CU1M Pluggable Optics Module"
 PID: QSFP-100G-CU1M , VID: V01 , SN: LCC2402GKJ3-A

NAME: "Optics0/2/0/4", DESCR: "Cisco 100G QSFP28 CWDM4 Pluggable Optics Module"
 PID: QSFP-100G-CWDM4-S , VID: V02 , SN: JFQ2210800T

NAME: "Optics0/2/0/5", DESCR: "Cisco 100G QSFP28 AOC Pluggable Optics Module"
 PID: QSFP-100G-AOC3M , VID: V03 , SN: INL23302076-A

NAME: "Optics0/2/0/6", DESCR: "Non-Cisco 100G QSFP28 CWDM4 Pluggable Optics Module"
 PID: FTLC1152RGPL2-G2 , VID: A0, SN: UYL0AL9

NAME: "Optics0/2/0/7", DESCR: "Non-Cisco 100G QSFP28 LR4 Pluggable Optics Module"
 PID: FIM37700/171 , VID: 01, SN: 37700171ZZ00PK

NAME: "Optics0/2/0/8", DESCR: "Cisco 100G QSFP28 LR4 Pluggable Optics Module"
 PID: ONS-QSFP28-LR4 , VID: V01 , SN: FNS2052ORM6

NAME: "0/3/NXR0", DESCR: "Network Convergence System 1014 Filler"
 PID: NCS1K14-BLANK , VID: V01, SN: N/A

NAME: "0/FT0", DESCR: "Network Convergence System 1014 FAN Module"
 PID: NCS1K14-FAN , VID: V00, SN: FCB2720B15J

NAME: "0/FT1", DESCR: "Network Convergence System 1014 FAN Module"
 PID: NCS1K14-FAN , VID: V00, SN: FCB2720B15L

NAME: "0/FT2", DESCR: "Network Convergence System 1014 FAN Module"
 PID: NCS1K14-FAN , VID: V00, SN: FCB2720B15E

```

NAME: "0/PM0", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU      , VID: V00, SN: POG2221CLOZ

NAME: "0/PM1", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU      , VID: V01, SN: POG2505CL53
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#

RP/0/RP0/CPU0:ios#show inventory all
Mon Nov 27 11:01:53.452 UTC

NAME: "Rack 0", DESCR: "Network Convergence System 1014 chassis with timing support"
PID: NCS1014            , VID: V00, SN: FCB2717B13C

NAME: "0/RP0/CPU0", DESCR: "Network Convergence System 1014 Controller"
PID: NCS1K14-CNTRLR-K9  , VID: V00, SN: FCB2723B0CX

NAME: "0/0/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK      , VID: V01, SN: N/A

NAME: "0/1/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK      , VID: V01, SN: N/A

NAME: "0/2/NXR0", DESCR: "Network Convergence System 1014 2.4T Line Card"
PID: NCS1K14-2.4T-K9    , VID: V00, SN: FCB2726B067

NAME: "Optics0/2/0/4", DESCR: "Cisco QSFP DD 400G DR4 S Pluggable Optics Module"
PID: QDD-400G-DR4-S     , VID: V01 , SN: CGC25512003

NAME: "Optics0/2/0/5", DESCR: "Cisco QSFP DD 400G FR4 S Pluggable Optics Module"
PID: QDD-400G-FR4-S     , VID: V01 , SN: CGC26371408

NAME: "Optics0/2/0/7", DESCR: "Cisco CIM8 C K9 Pluggable Optics Module"
PID: CIM8-C-K9          , VID: VES1, SN: ACA274500CR

NAME: "0/3/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK      , VID: V01, SN: N/A

NAME: "0/FT0", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN        , VID: V00, SN: FCB2720B192

NAME: "0/FT1", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN        , VID: V00, SN: FCB2720B197

NAME: "0/FT2", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN        , VID: V00, SN: FCB2720B19U

NAME: "0/PM0", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU      , VID: V01, SN: POG2727CLP6

NAME: "0/PM1", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU      , VID: V01, SN: POG2727CLKS
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#

```

To display location based inventory details use this command.

```

RP/0/RP0/CPU0:ios#show inventory location 0/2/NXR0
Thu Oct 5 02:35:30.251 UTC

NAME: "0/2/NXR0", DESCR: "NCS1K4 12x QSFP28 2 Trunk C-Band DWDM card"

```

```

PID: NCS1K4-1.2T-K9      , VID: V03, SN: CAT2329B32K

NAME: "Optics0/2/0/10", DESCR: "Cisco QSFP28 100G CUIM Pluggable Optics Module"
PID: QSFP-100G-CUIM      , VID: V01 , SN: LCC2402GKJ3-B

NAME: "Optics0/2/0/11", DESCR: "Cisco 100G QSFP28 LR-S Pluggable Optics Module"
PID: QSFP-100G-LR-S      , VID: ES0 , SN: FBN2321A013

NAME: "Optics0/2/0/12", DESCR: "Cisco 100G QSFP28 AOC Pluggable Optics Module"
PID: QSFP-100G-AOC3M     , VID: V03 , SN: INL23302076-B

NAME: "Optics0/2/0/13", DESCR: "Cisco 100G QSFP28 LR-S Pluggable Optics Module"
PID: QSFP-100G-LR-S      , VID: ES0 , SN: FBN2321A024

NAME: "Optics0/2/0/3",  DESCR: "Cisco QSFP28 100G CUIM Pluggable Optics Module"
PID: QSFP-100G-CUIM      , VID: V01 , SN: LCC2402GKJ3-A

NAME: "Optics0/2/0/4",  DESCR: "Cisco 100G QSFP28 CWDM4 Pluggable Optics Module"
PID: QSFP-100G-CWDM4-S   , VID: V02 , SN: JFQ2210800T

NAME: "Optics0/2/0/5",  DESCR: "Cisco 100G QSFP28 AOC Pluggable Optics Module"
PID: QSFP-100G-AOC3M     , VID: V03 , SN: INL23302076-A

NAME: "Optics0/2/0/6",  DESCR: "Non-Cisco 100G QSFP28 CWDM4 Pluggable Optics Module"
PID: FTLC1152RGPL2-G2    , VID: A0 , SN: UYL0AL9

NAME: "Optics0/2/0/7",  DESCR: "Non-Cisco 100G QSFP28 LR4 Pluggable Optics Module"
PID: FIM37700/171        , VID: 01 , SN: 37700171Z00PK

NAME: "Optics0/2/0/8",  DESCR: "Cisco 100G QSFP28 LR4 Pluggable Optics Module"
PID: ONS-QSFP28-LR4      , VID: V01 , SN: FNS20520RM6
RP/0/RP0/CPU0:ios#

RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#show inventory location 0/1/NXR0
Thu Oct  5 02:38:13.791 UTC

NAME: "0/1/NXR0", DESCR: "Network Convergence System 1014 2.4T Line Card"
PID: NCS1K14-2.4T-K9     , VID: V00, SN: FCB2710B0L5

NAME: "Optics0/1/0/0",  DESCR: "Cisco CIM8 C K9 Pluggable Optics Module"
PID: CIM8-C-K9           , VID: VES1, SN: SIM-AX12-SW

NAME: "Optics0/1/0/1",  DESCR: "Cisco 100G QSFP28 SR4-S Pluggable Optics Module"
PID: QSFP-100G-SR4-S     , VID: ES1 , SN: AVF1933G18C

NAME: "Optics0/1/0/2",  DESCR: "Non-Cisco UNKNOWN TYPE Pluggable Optics Module"
PID: TR-IQ13L-N00        , VID: 1B , SN: INFBH1940242

NAME: "Optics0/1/0/3",  DESCR: "Cisco UNKNOWN TYPE Pluggable Optics Module"
PID: ONS-QSFP-4X10-MLR   , VID: V01 , SN: INL21010375

NAME: "Optics0/1/0/4",  DESCR: "Cisco 100G QSFP28 SR4-S Pluggable Optics Module"
PID: QSFP-100G-SR4-S     , VID: ES1 , SN: AVF1933G16A

NAME: "Optics0/1/0/6",  DESCR: "Cisco QSFP DD 400G FR4 S Pluggable Optics Module"
PID: QDD-400G-FR4-S      , VID: V01 , SN: FIW250504DL

NAME: "Optics0/1/0/7",  DESCR: "Cisco CIM8 C K9 Pluggable Optics Module"
PID: CIM8-C-K9           , VID: VES1, SN: ACA27370055
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#

```

To display chassis based inventory details use this command.

```
RP/0/RP0/CPU0:ios#show inventory chassis
Mon Nov 27 11:02:05.083 UTC
```

```
NAME: "Rack 0", DESCR: "Network Convergence System 1014 chassis with timing support"
PID: NCS1014 , VID: V00, SN: FCB2717B13C
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#sh inventory details
Mon Nov 27 11:02:23.095 UTC
```

```
NAME: "Rack 0", DESCR: "Network Convergence System 1014 chassis with timing support"
PID: NCS1014 , VID: V00, SN: FCB2717B13C
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 8384513 , Type: Rack
PN: 800-111211-01, HW Ver: 0.1
```

```
NAME: "0/RP0/CPU0", DESCR: "Network Convergence System 1014 Controller"
PID: NCS1K14-CNTRLR-K9 , VID: V00, SN: FCB2723B0CX
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 16385 , Type: Module
PN: 800-111209-01, HW Ver: 0.2
```

```
NAME: "0/0/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK , VID: V01, SN: N/A
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 1 , Type: Module
PN: 800-39505-01, HW Ver: 0.1
```

```
NAME: "0/1/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK , VID: V01, SN: N/A
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 4097 , Type: Module
PN: 800-39505-01, HW Ver: 0.1
```

```
NAME: "0/2/NXR0", DESCR: "Network Convergence System 1014 2.4T Line Card"
PID: NCS1K14-2.4T-K9 , VID: V00, SN: FCB2726B067
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 8193 , Type: Module
PN: 800-51107-01, HW Ver: 0.1
```

```
NAME: "Optics0/2/0/4", DESCR: "Cisco QSFP DD 400G DR4 S Pluggable Optics Module"
PID: QDD-400G-DR4-S , VID: V01 , SN: CGC25512003
MFG_NAME: CISCO-CIG , SNMP_IDX: 3129345 , Type: Module
PN: 10-3320-01, HW Ver: 0.0
```

```
NAME: "Optics0/2/0/5", DESCR: "Cisco QSFP DD 400G FR4 S Pluggable Optics Module"
PID: QDD-400G-FR4-S , VID: V01 , SN: CGC26371408
MFG_NAME: CISCO-CIG , SNMP_IDX: 3133441 , Type: Module
PN: 10-3321-01, HW Ver: 0.0
```

```
NAME: "Optics0/2/0/7", DESCR: "Cisco CIM8 C K9 Pluggable Optics Module"
PID: CIM8-C-K9 , VID: VES1, SN: ACA274500CR
MFG_NAME: CISCO-ACACIA , SNMP_IDX: 3141633 , Type: Module
PN: 10-100471-01, HW Ver: 0.0
```

```
NAME: "0/3/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK , VID: V01, SN: N/A
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 12289 , Type: Module
PN: 800-39505-01, HW Ver: 0.1
```

```
NAME: "0/FT0", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN , VID: V00, SN: FCB2720B192
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 28673 , Type: Fantray
PN: 800-111210-01, HW Ver: 0.1
```

```
NAME: "0/FT1", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN , VID: V00, SN: FCB2720B197
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 32769 , Type: Fantray
```

```
PN: 800-111210-01, HW Ver: 0.1
```

```
NAME: "0/FT2", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN      , VID: V00, SN: FCB2720B19U
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 36865      , Type: Fantray
PN: 800-111210-01, HW Ver: 0.1
```

```
NAME: "0/PM0", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU   , VID: V01, SN: POG2727CLP6
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 20481      , Type: Power Supply
PN: 341-100825-01, HW Ver: 0.1
```

```
NAME: "0/PM1", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU   , VID: V01, SN: POG2727CLKS
MFG_NAME: Cisco Systems, Inc., SNMP_IDX: 24577      , Type: Power Supply
PN: 341-100825-01, HW Ver: 0.1
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#
```

To display fan based inventory details use this command.

```
RP/0/RP0/CPU0:ios#show inventory fan
Mon Nov 27 11:02:39.811 UTC
```

```
NAME: "0/FT0", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN      , VID: V00, SN: FCB2720B192
```

```
NAME: "0/FT1", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN      , VID: V00, SN: FCB2720B197
```

```
NAME: "0/FT2", DESCR: "Network Convergence System 1014 FAN Module"
PID: NCS1K14-FAN      , VID: V00, SN: FCB2720B19U
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#sh inventory location 0/3/NXR0
Mon Nov 27 11:02:46.903 UTC
```

```
NAME: "0/3/NXR0", DESCR: "Network Convergence System 1014 Filler"
PID: NCS1K14-BLANK    , VID: V01, SN: N/A
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#
RP/0/RP0/CPU0:ios#sh inventory power
Mon Nov 27 11:03:04.566 UTC
```

```
NAME: "0/PM0", DESCR: "Network Convergence System 1004 AC Power Supply Unit"
PID: NCS1K4-AC-PSU   , VID: V01, SN: POG2727CLP6
```

Verify Status of Hardware Components

To verify the status of all the hardware components installed on NCS 1014, perform the following procedure.

Before you begin

Ensure that all the required hardware components are installed on NCS 1014. For installation details, see *Cisco Network Convergence System 1014 Hardware Installation Guide*.

Step 1 **show platform**

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

Example:

```
RP/0/RP0/CPU0:ios#show platform
Node                               Type                               State                               Config state
-----
0/RP0/CPU0                         NCS1K14-CNTRLR-K9 (Active)       IOS XR RUN                         NSHUT,NMON
0/PM0                               NCS1K4-AC-PSU                   OPERATIONAL                       NSHUT,NMON
0/PM1                               NCS1K4-AC-PSU                   OPERATIONAL                       NSHUT,NMON
0/FT0                               NCS1K14-FAN                     OPERATIONAL                       NSHUT,NMON
0/FT1                               NCS1K14-FAN                     OPERATIONAL                       NSHUT,NMON
0/FT2                               NCS1K14-FAN                     OPERATIONAL                       NSHUT,NMON
0/0/NXR0                           NCS1K4-1.2T-K9                 OPERATIONAL                       NSHUT,NMON
0/1/NXR0                           NCS1K4-2.4T-K9                 OPERATIONAL                       NSHUT,NMON
0/2/NXR0                           NCS1K4-1.2T-K9                 OPERATIONAL                       NSHUT,NMON
0/3/NXR0                           NCS1K4-1.2T-K9                 OPERATIONAL                       NSHUT,NMON
```

Step 2 **show inventory**

Displays details of the physical entities of NCS 1014 along with the details of QSFPs when you execute this command in Cisco IOS XR EXEC mode.

Example:

```
RP/0/RP0/CPU0:ios#show platform
Node                               Type                               State                               Config state
-----
0/RP0/CPU0                         NCS1K14-CNTRLR-K9 (Active)       IOS XR RUN                         NSHUT,NMON
0/PM0                               NCS1K4-AC-PSU                   OPERATIONAL                       NSHUT,NMON
0/PM1                               NCS1K4-AC-PSU                   OPERATIONAL                       NSHUT,NMON
0/FT0                               NCS1K14-FAN                     OPERATIONAL                       NSHUT,NMON
0/FT1                               NCS1K14-FAN                     OPERATIONAL                       NSHUT,NMON
0/FT2                               NCS1K14-FAN                     OPERATIONAL                       NSHUT,NMON
0/0/NXR0                           NCS1K4-1.2T-K9                 OPERATIONAL                       NSHUT,NMON
0/1/NXR0                           NCS1K4-2.4T-K9                 OPERATIONAL                       NSHUT,NMON
0/2/NXR0                           NCS1K4-1.2T-K9                 OPERATIONAL                       NSHUT,NMON
0/3/NXR0                           NCS1K4-1.2T-K9                 OPERATIONAL                       NSHUT,NMON
```

Step 2 show inventory

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

```
NAME: "Rack 0", DESCR: "Network Convergence System 1014 chassis with timing support"
PID: NCS1014 , VID: V00, SN: FCB2726B0AR
```

```
NAME: "0/RP0/CPU0", DESCR: "Network Convergence System 1014 Controller"
PID: NCS1K14-CNTRLR-K9 , VID: V00, SN: FCB2726B0LR
```

```
NAME: "0/0/NXR0", DESCR: "NCS1K4 12x QSFP28 2 Trunk C-Band DWDM card"
PID: NCS1K4-1.2T-K9 , VID: V00, SN: CAT2250B0C4
```

```
NAME: "Optics0/0/0/9", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2638A153
```

```
NAME: "Optics0/0/0/10", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2638A6J0
```

```
NAME: "Optics0/0/0/11", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2638A73V
```

```

NAME: "Optics0/0/0/12", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2544A687

NAME: "Optics0/0/0/13", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2638A2D4

NAME: "Optics0/0/0/2", DESCR: "Cisco 100G QSFP28 LR4 Pluggable Optics Module"
PID: ONS-QSFP28-LR4 , VID: V01 , SN: FNS2333080H

NAME: "Optics0/0/0/3", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2638A6J2

NAME: "Optics0/0/0/4", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V01 , SN: INL23243050

NAME: "Optics0/0/0/5", DESCR: "Cisco 100G QSFP28 LR4 Pluggable Optics Module"
PID: ONS-QSFP28-LR4 , VID: V01 , SN: FNS23320DZF

NAME: "Optics0/0/0/6", DESCR: "Cisco 100G QSFP28 LR4 Pluggable Optics Module"
PID: ONS-QSFP28-LR4 , VID: V01 , SN: FNS26140JRK

NAME: "Optics0/0/0/7", DESCR: "Cisco 100G QSFP28 LR4-S Pluggable Optics Module"
PID: QSFP-100G-LR4-S , VID: V02 , SN: FNS263509QL

NAME: "Optics0/0/0/8", DESCR: "Cisco 100G QSFP28 FR-S Pluggable Optics Module"
PID: QSFP-100G-FR-S , VID: V02 , SN: FBN2638A5G5

NAME: "0/1/NXR0", DESCR: "Network Convergence System 1014 2.4T Line Card"
PID: NCS1K14-2.4T-K9 , VID: V00, SN: FCB2726B072

```

Verify Software Version

NCS 1014 is shipped with the Cisco IOS XR Software preinstalled. Verify that the latest version of the software is installed.

show version

Displays the software version and details such as system uptime.

Example:

```

RP/0/RP0/CPU0:ios#sh version
Cisco IOS XR Software, Version 7.11.1.49I LNT
Copyright (c) 2013-2023 by Cisco Systems, Inc.

Build Information:
  Built By      : sajshah
  Built On     : Sun Nov 19 20:31:06 UTC 2023
  Build Host   : iox-ucs-077
  Workspace    : /auto/ioxdepot6/GISO/giso_build_lindt/giso_eng_create/yshivapp_2023-11-20_04-28-49_UTC

  Version     : 7.11.1.49I
  Label      : 7.11.1.49I-Weekly

cisco NCS1010 (C3758R @ 2.40GHz)
cisco NCS1014 (C3758R @ 2.40GHz) processor with 32GB of memory

```

```
KEPLER_PF6 uptime is 1 hour, 40 minutes
NCS 1014 - Chassis
```

Verify Environmental Parameters

The **show environment** command displays the environmental parameters of NCS 1014.

To verify the environmental parameters use the following commands **show environment [all | altitude | fan | power | voltage | current | temperature] [location | location]**.

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

```
RP/0/RP0/CPU0:ios#show environment fan
=====
Location          FRU Type                               Fan speed (rpm)
-----
FAN_0             FAN_1
-----
0/PM0             NCS1K4-DC-PSU-2                       11520    11216
0/PM1             NCS1K4-DC-PSU-2                       12256    12128
0/FT0             NCS1K14-FAN                            11400     9960
0/FT1             NCS1K14-FAN                            11340     9960
0/FT2             NCS1K14-FAN                            11400     9960
```

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

```
RP/0/RP0/CPU0:ios#sh environment power
Tue Nov 28 14:14:52.169 UTC
=====
CHASSIS LEVEL POWER INFO: 0
=====
Total output power capacity (Group 0 + Group 1) :    2000W +    2000W
Total output power required                    :    1896W
Total power input                              :    741W
Total power output                            :    653W

Power Group 0:
=====
Power      Supply      -----Input-----  -----Output---  Status
Module     Type                Volts   Amps   Volts   Amps
=====
0/PM0      NCS1K4-AC-PSU      224.0   1.8    12.1    28.9   OK

Total of Group 0:                403W/1.8A          349W/28.9A

Power Group 1:
=====
Power      Supply      -----Input-----  -----Output---  Status
Module     Type                Volts   Amps   Volts   Amps
=====
0/PM1      NCS1K4-AC-PSU      225.2   1.5    12.1    25.2   OK

Total of Group 1:                337W/1.5A          304W/25.2A

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

		Watts	Watts	
0/FT0	NCS1K14-FAN	170	27	ON
0/FT1	NCS1K14-FAN	170	27	ON
0/FT2	NCS1K14-FAN	170	28	ON
0/0/NXR0	NCS1K4-1.2T-K9	260	220	ON
0/1/NXR0	NCS1K4-1.2T-K9	260	221	ON
0/2/NXR0	NCS1K4-1.2T-K9	260	54	ON
0/3/NXR0	NCS1K14-2.4T-K9	460	15	ON
0/Rack	NCS1014	73	14	ON

The following example shows sample output of the **show environment** command with the **temperature** keyword.

```
RP/0/RP0/CPU0:ios#show environment temperature location 0/rp0/CPU0
```

```
=====
```

Location	TEMPERATURE			Value	Crit	Major	Minor
	Minor Sensor	Major	Crit	(deg C)	(Lo)	(Lo)	(Lo)
	(Hi)	(Hi)	(Hi)				

0/RP0/CPU0	RP_TEMP_PCB			38	-10	-5	0
	80	85	90				
	RP_TEMP_HOT_SPOT			38	-10	-5	0
	80	85	90				
	RP_TEMP_LTM4638_0			38	-10	-5	0
	85	90	95				
	RP_TEMP_LTM4644_0			37	-10	-5	0
	85	90	95				
	RP_TEMP_LTM4644_1			38	-10	-5	0
	85	90	95				
	RP_TEMP_LTM4638_1			37	-10	-5	0
	80	90	95				
	RP_TEMP_LTM4644_2			38	-10	-5	0
	85	90	95				
	RP_TEMP_LTM4638_2			38	-10	-5	0
	80	90	95				
	TEMP_CPU_DIE			39	-10	-5	0
	80	85	90				
	TEMP_DDR_DIMM			39	-10	-5	0
	80	85	90				
	TEMP_CPU_SSD			48	-10	-5	0
	70	75	80				
	TEMP_EITU_SSD			39	-10	-5	0
	70	75	80				

The following example shows sample output of the **show environment** command with the **voltage** keyword.

```
RP/0/RP0/CPU0:ios#show environment voltage location 0/rp0/cpu0
```

Location	VOLTAGE Sensor	Value (mV)	Crit (Lo)	Minor (Lo)	Minor (Hi)	Crit (Hi)
0/RP0/CPU0						
	RP_ADM1266_12V0	12035	10800	11280	12720	13200
	RP_ADM1266_1V8_CPU	1801	1670	1750	1850	1930
	RP_ADM1266_1V24_VCCREF	1238	1150	1200	1280	1330
	RP_ADM1266_1V05_CPU	1053	980	1020	1080	1120
	RP_ADM1266_1V2_DDR_VDDQ	1205	1120	1160	1240	1280
	RP_ADM1266_1V0_VCC_RAM	1123	650	700	1250	1300
	RP_ADM1266_1V0_VNN	946	550	600	1250	1300
	RP_ADM1266_1V0_VCCP	704	450	500	1250	1300
	RP_ADM1266_0V6_DDR_VTT	600	560	580	620	640
	RP_ADM1266_12V0_DB	12028	10800	11280	12720	13200
	RP_ADM1266_3V3_STAND_BY_DB	3302	3069	3201	3399	3531
	RP_ADM1266_3V3_STAND_BY	3306	3070	3200	3400	3530
	RP_ADM1266_5V0_DB	5000	4650	4850	5150	5350
	RP_ADM1266_3V3_DB	3328	3069	3201	3399	3531
	RP_ADM1266_2V5_DB	2507	2325	2425	2575	2675
	RP_ADM1266_1V8_DB	1804	1674	1746	1854	1926
	RP_ADM1266_1V0_PHY	997	930	970	1030	1070
	RP_ADM1266_5V0	5048	4650	4850	5150	5350
	RP_ADM1266_3V3	3330	3070	3200	3400	3530
	RP_ADM1266_2V5_PLL	2516	2330	2430	2580	2680
	RP_ADM1266_2V5_FPGA	2505	2330	2430	2580	2680
	RP_ADM1266_1V2_FPGA	1196	1120	1160	1240	1280
	RP_ADM1266_3V3_CPU	3332	3070	3200	3400	3530
	RP_ADM1266_2V5_CPU	2498	2330	2430	2580	2680

The following example shows sample output of the **show environment** command with the **current** keyword.

```
RP/0/RP0/CPU0:ios#show environment current
```

Location	CURRENT Sensor	Value (mA)
0/RP0/CPU0		
	RP_JMAC_1V0_VCCP_IMON	0
	RP_JMAC_1V0_VNN_IMON	93
	RP_JMAC_1V0_VCC_RAM_IMON	0
	RP_JMAC_1V2_DDR_VDDQ_IMON	156
	RP_CURRMON_LTM4638_0	345
	RP_CURRMON_LTM4644_0	145
	RP_CURRMON_LTM4644_1	250
	RP_CURRMON_LTM4638_1	199
	RP_CURRMON_DB	455
0/0/NXR0		
	IMON_CLI	2979
	IMON_CTLPL	974
	IMON_MODULE	11270
	IMON_CDR	3357
	SA_ADM1275_12V_IMON_LC	18624
0/1/NXR0		
	IMON_CTLPL	887
	IMON_CLI	4587
	IMON_META0_IN0	807
	IMON_META0_CORE_IOUT0	5648
	IMON_META0_CORE_IOUT1	4570

```

IMON_META0_IN2                669
IMON_META0_CORE_IOUT2         3726
IMON_META0_AVD_IOUT           5085
IMON_META1_IN0                326
IMON_META1_CORE_IOUT0         2566
IMON_META1_CORE_IOUT1         1578
IMON_META1_IN2                650
IMON_META1_CORE_IOUT2         3718
IMON_META1_AVD_IOUT           4593
SA_ADM1275_12V_IMON_LC        9433
0/2/NXR0
IMON_OPTM                      867
IMON_CTLPL                     512
SA_ADM1275_12V_IMON_LC        1209
0/3/NXR0
IMON_CLI                       2867
IMON_CTLPL                     1017
IMON_MODULE                    11153
IMON_CDR                       3457
SA_ADM1275_12V_IMON_LC        17582
0/Rack
SA_ADM1275_12V_IMON_CPU       1843
--More--

```

Verify Management Interface Status

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

show interfaces mgmtEth instance

Displays the management interface configuration.

Example:

```

RP/0/RP0/CPU0:ios#show interfaces MgmtEth 0/RP0/CPU0/0
MgmtEth0/RP0/CPU0/0 is up, line protocol is up
  Interface state transitions: 3
  Hardware is Management Ethernet, address is 4014.82ba.d26e (bia 4014.82ba.d26e)
  Internet address is 10.105.57.37/25
  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 00:09:12
  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 1000 bits/sec, 2 packets/sec
  5 minute output rate 5000 bits/sec, 1 packets/sec
    6715 packets input, 640515 bytes, 0 total input drops
    0 drops for unrecognized upper-level protocol
    Received 2213 broadcast packets, 4430 multicast packets
      0 runts, 0 giants, 0 throttles, 0 parity
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  944 packets output, 355004 bytes, 0 total output drops
  Output 94 broadcast packets, 114 multicast packets
  0 output errors, 0 underruns, 0 applique, 0 resets
  0 output buffer failures, 0 output buffers swapped out
  3 carrier transitions

```

In the previous output, 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
Interface Type          Total   UP      Down    Admin Down
-----
ALL TYPES                5       2       0       3
-----
IFT_ETHERNET            2       1       0       1
IFT_NULL                1       1       0       0
IFT_PTP_ETHERNET       2       0       0       2
```

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

```
RP/0/RP0/CPU0:KEPLER_Pf6#show interfaces brief

          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
Mg0/RP0/CPU0/1  admin-down  admin-down  ARPA  1514    1000000
PT0/RP0/CPU0/0  admin-down  admin-down  ARPA  1514    1000000
PT0/RP0/CPU0/1  admin-down  admin-down  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 [Configure Management Interface](#).
- 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
interface MgmtEth0/RP0/CPU0/0
 ip4 address 10.105.57.37 255.255.255.128
!
```

Verify Firmware Version

The firmware on various hardware components of NCS 1014 must be compatible with the installed Cisco IOS XR image. Incompatibility may cause the NCS 1014 to malfunction.

To verify the firmware version, perform the following procedure.

Before you begin

Step 1 show hw-module fpd

Example:

```
RP/0/RP0/CPU0:ios#show hw-module fpdAuto-upgrade:Enabled
Attribute codes: B golden, P protect, S secure, A Anti Theft aware
```

Location	Card type	HWver	FPD device	ATR	Status	FPD Versions		Reload Loc
						Running	Programd	
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	ADM-DB		CURRENT	2.10	2.10	NOT REQ
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	ADM-MB		CURRENT	2.30	2.30	NOT REQ
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	BIOS	S	CURRENT	4.70	4.70	0/RP0
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	BIOS-Golden	BS	CURRENT		4.70	0/RP0
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	CpuFpga	S	CURRENT	1.09	1.09	0/RP0
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	CpuFpgaGolden	BS	NEED UPGD		1.03	0/RP0
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	SsdMicron5300	S	CURRENT	0.01	0.01	0/RP0
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	TamFw	S	CURRENT	9.04	9.04	0/RP0
0/RP0/CPU0	NCS1K14-CNTLR-K9	0.2	TamFwGolden	BS	CURRENT		9.04	0/RP0
0/PM0	NCS1K4-AC-PSU	0.1	PO-PrimMCU		CURRENT	2.04	2.04	NOT REQ
0/PM0	NCS1K4-AC-PSU	0.1	PO-SecMCU		CURRENT	2.06	2.06	NOT REQ
0/PM1	NCS1K4-AC-PSU	0.1	PO-PrimMCU		CURRENT	2.04	2.04	NOT REQ
0/PM1	NCS1K4-AC-PSU	0.1	PO-SecMCU		CURRENT	2.06	2.06	NOT REQ
0/0/NXR0	NCS1K4-1.2T-K9	0.1	CpuModFw	S	CURRENT	234.10	234.10	NOT REQ
0/0/NXR0	NCS1K4-1.2T-K9	0.1	OptModFw	S	CURRENT	1.38	1.38	NOT REQ
0/1/NXR0	NCS1K14-2.4T-K9	0.1	CpuModFw	S	CURRENT	234.10	234.10	NOT REQ
0/2/NXR0	NCS1K4-1.2T-K9	0.1	CpuModFw	S	CURRENT	234.10	234.10	NOT REQ
0/2/NXR0	NCS1K4-1.2T-K9	0.1	OptModFw	S	CURRENT	1.38	1.38	NOT REQ
0/3/NXR0	NCS1K4-1.2T-K9	0.1	CpuModFw	S	CURRENT	234.10	234.10	NOT REQ
0/3/NXR0	NCS1K4-1.2T-K9	0.1	OptModFw	S	CURRENT	1.38	1.38	NOT REQ
0/Rack	NCS1014	0.1	ADM-CHASSIS		CURRENT	0.21	0.21	NOT REQ
0/Rack	NCS1014	0.1	IoFpga	S	CURRENT	1.10	1.10	NOT REQ
0/Rack	NCS1014	0.1	IoFpgaGolden	BS	CURRENT		1.05	NOT REQ
0/Rack	NCS1014	0.1	SsdIntelSC2KB	S	CURRENT	1.20	1.20	0/Rack

- Status—Upgrade status of the firmware. The different states are:
 - CURRENT—The firmware version is the latest version.
 - NOT READY—The firmware of the FPD is not ready for upgrade.
 - NEED UPGD—A newer firmware version is available in the installed image. We recommended that upgrade be performed.
 - UPGD PREP—The firmware of the FPD is preparing for upgrade.
 - RLOAD REQ—The upgrade is completed, and the card requires a reload.
 - UPGD DONE—The firmware upgrade is successful.
 - UPGD FAIL—The firmware upgrade has failed.
 - UPGD SKIP—The upgrade is skipped because the installed firmware version is higher than the version available in the image.
 - Running—Current version of the firmware running on the FPD.

Step 2 show fpd package

Use the **show fpd package** command to display the FPD image version available with this software release for each hardware component.

Example:

```
RP/0/RP0/CPU0:ios#show fpd package
```

```
=====
```

Field Programmable Device Package					
Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
NCS1014-SA	ADM-CHASSIS	NO	0.21	0.21	0.0
	IoFpga	NO	1.10	1.10	0.0
	IoFpgaGolden	NO	1.05	1.05	0.0
	SsdIntelSC2KB	YES	1.20	1.20	0.0
NCS1K14-2.4T-K9	CpuModFw	NO	234.10	234.10	0.0
NCS1K14-2.4T-L-K9	CpuModFw	NO	234.10	234.10	0.0
NCS1K14-CCMD-16-C	CpuModFw	NO	234.10	234.10	0.0
	OptModFw	NO	15.01	15.01	0.0
NCS1K14-CCMD-16-L	CpuModFw	NO	234.10	234.10	0.0
	OptModFw	NO	15.01	15.01	0.0
NCS1K14-CNTRLR-K9	ADM-DB	NO	2.10	2.10	0.2
	ADM-MB	NO	2.30	2.30	0.2
	BIOS	YES	4.70	4.70	0.0
	BIOS-Golden	YES	4.70	0.01	0.0
	CpuFpga	YES	1.09	1.09	0.0
	CpuFpgaGolden	YES	1.09	1.09	0.0
	SsdIntelS4510	YES	11.32	11.32	0.0
	SsdIntelSC2KB	YES	1.20	1.20	0.0
	SsdMicron5300	YES	0.01	0.01	0.0
	TamFw	YES	9.04	9.04	0.0
TamFwGolden	YES	9.04	9.04	0.0	
NCS1K14-CTLR-B-K9	ADM-DB	NO	2.10	2.10	0.2
	ADM-MB	NO	2.30	2.30	0.2
	BIOS	YES	4.70	4.70	0.0
	BIOS-Golden	YES	4.70	0.01	0.0
	CpuFpga	YES	1.09	1.09	0.0
	CpuFpgaGolden	YES	1.09	1.09	0.0
	SsdIntelS4510	YES	11.32	11.32	0.0
	SsdIntelSC2KB	YES	1.20	1.20	0.0
	SsdMicron5300	YES	0.01	0.01	0.0
	TamFw	YES	9.04	9.04	0.0
TamFwGolden	YES	9.04	9.04	0.0	
NCS1K4-1.2T-K9	CpuModFw	NO	234.10	234.10	0.0
	OptModFw	NO	1.38	1.38	0.0
NCS1K4-AC-PSU	PO-PrimMCU	NO	2.04	2.04	0.1
	PO-SecMCU	NO	2.06	2.06	0.1
NCS1K4-AC-PSU-2	PO-PrimMCU	NO	1.03	1.03	0.1
	PO-SecMCU	NO	1.05	1.05	0.1

```
=====
```

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



Note You can upgrade the firmware version of power modules, only when both the power modules are present and powered on.

Verify Alarms

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

```
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
```

```
-----  
Active Alarms  
-----
```

Location	Severity	Group	Set Time	Description
0/0 Carrier Loss On The LAN	Major	Ethernet	11/21/2023 11:11:35 UTC	HundredGigECtrlr0/0/0/2 -
0/3 Remote Fault	Major	Ethernet	11/21/2023 11:11:37 UTC	HundredGigECtrlr0/3/0/2 -
0/0 Local Fault	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/0/0/4 -
0/3	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/3/0/3 -

Local Fault					
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/3/0/4	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/0/0/5	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/0/0/6	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/0/0/7	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:39 UTC	HundredGigECtrlr0/3/0/5	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:39 UTC	HundredGigECtrlr0/3/0/6	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:38 UTC	HundredGigECtrlr0/3/0/7	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:11:43 UTC	HundredGigECtrlr0/0/0/3	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:57 UTC	HundredGigECtrlr0/3/0/8	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:57 UTC	HundredGigECtrlr0/3/0/9	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:59 UTC	HundredGigECtrlr0/3/0/12	-
0/3 Local Fault	Major	Ethernet	11/21/2023 11:11:59 UTC	HundredGigECtrlr0/3/0/13	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:12:03 UTC	HundredGigECtrlr0/0/0/9	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:12:04 UTC	HundredGigECtrlr0/0/0/8	-
0/0 Local Fault	Major	Ethernet	11/21/2023 11:12:04 UTC	HundredGigECtrlr0/0/0/10	-
0/0	Major	Ethernet	11/21/2023 11:12:04 UTC	HundredGigECtrlr0/0/0/11	-

```

Local Fault

0/0          Major      Ethernet      11/21/2023 11:12:04 UTC   HundredGigEctrlr0/0/0/12 -
Local Fault

0/0          Major      Ethernet      11/21/2023 11:12:04 UTC   HundredGigEctrlr0/0/0/13 -
Local Fault

0/3          Major      Ethernet      11/21/2023 11:12:04 UTC   HundredGigEctrlr0/3/0/11 -
Local Fault

0/3          Major      Ethernet      11/21/2023 11:12:05 UTC   HundredGigEctrlr0/3/0/10 -
Local Fault

```

Note In the maintenance mode, all the alarms are suppressed and the **show alarms** command will not show the alarms details. Use the **show controllers controllertype R/S/I/P** command to view the client and trunk alarms.

Verify Context

The **show context** command displays core dump context information of NCS 1014.

show context

When you execute the **show context** command in Cisco IOS XR EXEC mode, the output displays the core dump context information of any process on the NCS 1014 as well as up to 10 last instances.

Example:

```
RP/0/RP0/CPU0:ios#sh context
```

```
node: node0_RP0_CPU0
Context number: 1
```

```
-----
Core location: 0/RP0/CPU0:/misc/disk1
```

```
Core for pid = 6232 (Terminal_Device)
Core for process: opt_terminal_device_6232.by.11.20231204-170249.node0_RP0_CPU0.877b9.core.gz
Core dump time: 2023-12-04 17:02:50.144240146 +0000
```

```
Process:
Core was generated by `opt_terminal_device'.
```

```
Build information:
### XR Information
```

```
User = deenayak
Host = iox-ucs-061
Workspace = /auto/iox-ucs-061-san1/prod/24.1.1.32I.SIT_IMAGE/ncs1010/ws/
Built on = Fri Nov 17 17:17:31 UTC 2023
Lineup = r241x.lu%EFR-00000453356
XR version = 24.1.1.32I
```

```
### Leaba Information
```

```
Platform information:
card_product_id: NCS1014
platform: ncs1010
```

```
Signal information:
Program terminated with signal 11, Segmentation fault.
```

```
Faulting thread: 6232
```

```
Registers for Thread 6232
```

```
rax: 0x7f2d0d7be000
rbx: 0x0
rcx: 0x0
rdx: 0x7f
rsi: 0x0
rdi: 0x7fff2f3d3420
rbp: 0x0
rsp: 0x7fff2f3d3410
r8: 0x0
r9: 0x7fff2f3d3510
r10: 0xffffffffffffff80
r11: 0x5287
r12: 0x7f
r13: 0x7fff2f3d3420
r14: 0x7f2d0dac4684
r15: 0x7fff2f3d3598
rip: 0x7f2d0d6701ca
eflags: 0x10206
cs: 0x33
ss: 0x2b
ds: 0x0
es: 0x0
fs: 0x0
gs: 0x0
```

```
Backtrace for Thread 6232
```

```
#0 0x00007f2d0d6701ca in ?? () from /lib64/libc-2.31.so
#1 0x00007f2d0d64b4d5 in sprintf+0x85 from /lib64/libc-2.31.so
#2 0x00007f2d0dadf5cf in ?? () from /opt/cisco/install-iosxr/base/lib/libopenconfig_cmn.so
#3 0x00007f2d0dade7a2 in ?? () from /opt/cisco/install-iosxr/base/lib/libopenconfig_cmn.so
#4 0x00007f2d0dfd6b35 in ?? () from
/opt/cisco/install-iosxr/base/lib/libinfra_sysdb_combine_82eb6a4d2fa15d0e.so
#5 0x00007f2d0dfd4b0e in sysdb_process_pending_pulse+0x512 from
/opt/cisco/install-iosxr/base/lib/libinfra_sysdb_combine_82eb6a4d2fa15d0e.so
#6 0x00007f2d0e11e3bd in ?? () from
/opt/cisco/install-iosxr/base/lib/libinfra_combine_82eb6a4d2fa15d0e.so
#7 0x00007f2d0e12831e in xr_event_dispatch+0x48 from
/opt/cisco/install-iosxr/base/lib/libinfra_combine_82eb6a4d2fa15d0e.so
#8 0x00005607924be6a9 in ?? ()
#9 0x00007f2d0d61cd1b in __libc_start_main+0xeb from /lib64/libc-2.31.so
#10 0x00005607924be31a in ?? ()
```

```
-----
node: node0_RP0_CPU0
Context number: 2
```

```
-----
Core location: 0/RP0/CPU0:/misc/disk1
```

```
Core for pid = 5155 (sh_proc_mem_edm)
Core for process: sh_proc_mem_edm_5155.by.user.20231204-105935.node0_RP0_CPU0.4b884.core.gz
Core Dump time: Mon Dec 4 10:59:35 2023
```

Verify Context

```

Process:
Core was generated by: user requested dump of pid 5155

Build information:
### XR Information

User = deenayak
Host = iox-ucs-061
Workspace = /auto/iox-ucs-061-san1/prod/24.1.1.32I.SIT_IMAGE/ncs1010/ws/
Built on = Fri Nov 17 17:17:31 UTC 2023
Lineup = r241x.lu%EFR-00000453356
XR version = 24.1.1.32I

### Leaba Information

Registers for Thread (LWP 5155)
rax: 0xfffffffffffffc
rbx: 0x5570ec6edd60
rcx: 0x7f0239431cd6
rdx: 0x20
rsi: 0x5570ec6ee060
rdi: 0x1b
rbp: 0x7ffca2a8b690
rsp: 0x7ffca2a8b4e0
r8: 0x0
r9: 0x436
r10: 0xffffffff
r11: 0x293
r12: 0x5570ec6ee020
r13: 0x5570ec6ede70
r14: 0x5570ec6ee060
r15: 0x5570ec6edd60
rip: 0x7f0239431cd6
eflags: 0x293
cs: 0x33
ss: 0x2b
ds: 0x0
es: 0x0
fs: 0x0
gs: 0x0

Backtrace for Thread (LWP 5155)
#0 0x00007f0239431cd6 in ?? () from /lib64/libc-2.31.so
#1 0x00007f0238fed2a in event_del_nolock+0x3a from /usr/lib64/libevent-2.1.so.7.0.0
#2 0x00007f0238fe3dbe in ?? () from /usr/lib64/libevent-2.1.so.7.0.0
#3 0x00007f0239799034 in event_block+0x204 from
/opt/cisco/install-iosxr/base/lib/libinfra_combine_82eb6a4d2fa15d0e.so
#4 0x00005570ec41fba8 in ?? () from /opt/cisco/install-iosxr/base/bin/sh_proc_mem_edm
#5 0x00007f023935ed1b in ?? () from /lib64/libc-2.31.so
#6 0x00005570ec41f8fa in ?? () from /opt/cisco/install-iosxr/base/bin/sh_proc_mem_edm

-----

node: node0_RP0_CPU0
Context number: 3
-----

Core location: 0/RP0/CPU0:/misc/disk1

Core for pid = 4316 (sysdb_mc_main)
Core for process: sysdb_mc_4316.by.user.20231203-161922.node0_RP0_CPU0.3f09d.core.gz
Core Dump time: Sun Dec 3 16:19:22 2023

```

```
Process:
Core was generated by: user requested dump of pid 4316

Build information:
### XR Information

User = deenayak
Host = iox-ucs-061
Workspace = /auto/iox-ucs-061-san1/prod/24.1.1.32I.SIT_IMAGE/ncs1010/ws/
Built on = Fri Nov 17 17:17:31 UTC 2023
Lineup = r241x.lu%EFR-00000453356
XR version = 24.1.1.32I

### Leaba Information

Registers for Thread (LWP 4316)
rax: 0xfffffffffffffffffc
rbx: 0x0
rcx: 0x7f46904eca92
rdx: 0x0
rsi: 0x0
rdi: 0x7ffd281477c0
rbp: 0x7ffd28147a00
rsp: 0x7ffd281476e0
r8: 0x0
r9: 0x0
r10: 0x8
r11: 0x293
r12: 0x1
r13: 0x0
r14: 0x0
r15: 0x7ffd281477c0
rip: 0x7f46904eca92
eflags: 0x293
cs: 0x33
ss: 0x2b
ds: 0x0
es: 0x0
fs: 0x0
gs: 0x0

Backtrace for Thread (LWP 4316)
#0 0x00007f46904eca92 in ?? () from /lib64/libc-2.31.so
#1 0x00005583860ea640 in ?? () from /opt/cisco/install-iosxr/base/sbin/sysdb_mc
#2 0x00005583860bbbd1 in ?? () from /opt/cisco/install-iosxr/base/sbin/sysdb_mc
#3 0x00007f46904d7d1b in ?? () from /lib64/libc-2.31.so
#4 0x00005583860bbada in ?? () from /opt/cisco/install-iosxr/base/sbin/sysdb_mc

-----
node: node0_RP0_CPU0
Context number: 4
-----
Core location: 0/RP0/CPU0:/misc/disk1

Core for pid = 4212 (sysdb_svr_local)
Core for process: sysdb_svr_local_4212.by.user.20231203-161920.node0_RP0_CPU0.bf2d1.core.gz
Core Dump time: Sun Dec 3 16:19:20 2023

Process:
Core was generated by: user requested dump of pid 4212
```

```

Build information:
### XR Information

User = deenayak
Host = iox-ucs-061
Workspace = /auto/iox-ucs-061-san1/prod/24.1.1.32I.SIT_IMAGE/ncs1010/ws/
Built on = Fri Nov 17 17:17:31 UTC 2023
Lineup = r241x.lu%EFR-00000453356
XR version = 24.1.1.32I

### Leaba Information

Registers for Thread (LWP 4212)
rax: 0xffffffffffffc
rbx: 0x0
rcx: 0x7f1fcb1c4a92
rdx: 0x0
rsi: 0x0
rdi: 0x7fff60339f50
rbp: 0x7fff6033a200
rsp: 0x7fff60339e80
r8: 0x0
r9: 0x0
r10: 0x8
r11: 0x293
r12: 0x0
r13: 0x0
r14: 0x7fff60339f50
r15: 0x7f1fcb50da9e
rip: 0x7f1fcb1c4a92
eflags: 0x293
cs: 0x33
ss: 0x2b
ds: 0x0
es: 0x0
fs: 0x0
gs: 0x0

Backtrace for Thread (LWP 4212)
#0 0x00007f1fcb1c4a92 in ?? () from /lib64/libc-2.31.so
#1 0x00007f1fcb5af472 in sysdb_svr_main+0xd15 from
/opt/cisco/install-iosxr/base/lib/libsysdbsvr_only.so
#2 0x000055e2fd529851 in ?? () from /opt/cisco/install-iosxr/base/sbin/sysdb_svr_local
#3 0x00007f1fcb1afd1b in ?? () from /lib64/libc-2.31.so
#4 0x000055e2fd52975a in ?? () from /opt/cisco/install-iosxr/base/sbin/sysdb_svr_local
-----

```

Verify Core Files

The `dir harddisk:/*core.gz` command checks for core files of NCS 1014.

```
dir harddisk:/*core.gz
```


Example:

```
RP/0/RP0/CPU0:ios#dir harddisk:/*core.gz  
Wed Dec 6 04:54:16.336 UTC
```

```
Directory of harddisk:/*core.gz  
2476 -rw-r--r--. 1 8120038 Oct 30 15:08  
cma_server_41264.by.6.20231030-150817.node0_RP0_CPU0.502a7.core.gz
```
