



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.

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Verify Status of Hardware Components

To verify the status of all the hardware components installed on NCS 1010, perform the following procedure.

Before you begin

Ensure that all the required hardware components are installed on NCS 1010. For installation details, see *Cisco Network Convergence System 1010 Hardware Installation Guide*.

show platform

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

Example:

```
RP/0/RP0/CPU0:ios#show platform
Wed Apr 27 08:43:40.130 UTC
Node                Type                State                Config state
```

```

-----
0/RP0/CPU0      NCS1010-CNTRLR-K9(Active) IOS XR RUN      NSHUT,NMON
0/PM0           NCS1010-AC-PSU           OFFLINE       NSHUT,NMON
0/PM1           NCS1010-AC-PSU           OPERATIONAL   NSHUT,NMON
0/FT0           NCS1010-FAN              OPERATIONAL   NSHUT,NMON
0/FT1           NCS1010-FAN              OPERATIONAL   NSHUT,NMON
0/0/NXR0       NCS1K-OLT-C              OPERATIONAL   NSHUT,NMON
0/1            NCS1K-BRK-SA             OPERATIONAL   NSHUT,NMON
0/1/0          NCS1K-BRK-8              OPERATIONAL   NSHUT,NMON
0/1/1          NCS1K-BRK-8              OPERATIONAL   NSHUT,NMON
0/1/2          NCS1K-BRK-24             OPERATIONAL   NSHUT,NMON
0/1/3          NCS1K-BRK-24             OPERATIONAL   NSHUT,NMON
0/2            NCS1K-MD-32E-C           OPERATIONAL   NSHUT,NMON
0/3            NCS1K-MD-32O-C           OPERATIONAL   NSHUT,NMON

```

Verify that all the components of NCS 1010 are displayed in output. The state must be in the OPERATIONAL state. The various states are:

- 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 encountered an internal failure.
- PRESENT—Node is in intermediate state in the boot sequence.
- POWERED_OFF—Power is off and the node cannot be accessed.
- IOS XR RUN—Node is running IOS XR.
- OFFLINE—Input power is not connected to the power modules.

Verify Inventory

The **show inventory** command displays details of the hardware inventory of NCS 1010.

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

show inventory

Displays the details of the physical entities of NCS 1010 along with the details of SFPs.

Example:

```

RP/0/RP0/CPU0:ios#show inventory
Wed Apr 27 08:43:44.222 UTC

NAME: "Rack 0", DESCR: "NCS1010 - Shelf Assembly"
PID: NCS1010-SA      , VID: V00, SN: FCB2504B0X4

NAME: "0/RP0/CPU0", DESCR: "Network Convergence System 1010 Controller"
PID: NCS1010-CNTRLR-K9 , VID: V00, SN: FCB2506B0NX

NAME: "0/1", DESCR: "NCS 1000 shelf for 4 passive modules"
PID: NCS1K-BRK-SA      , VID: V00 , SN: FCB2534B0GR

NAME: "0/1/0", DESCR: "NCS 1000 MTP/MPO to 8 port passive breakout module"

```

```

PID: NCS1K-BRK-8      , VID: V00 , SN: MPM25401005

NAME: "0/1/1", DESCR: "NCS 1000 MTP/MPO to 8 port passive breakout module"
PID: NCS1K-BRK-8      , VID: V00 , SN: MPM25401003

NAME: "0/1/2", DESCR: "NCS 1000 MTP/MPO to 24 colorless chs passive breakout module"
PID: NCS1K-BRK-24     , VID: V00 , SN: MPM25141004

NAME: "0/1/3", DESCR: "NCS 1000 MTP/MPO to 24 colorless chs passive breakout module"
PID: NCS1K-BRK-24     , VID: V00 , SN: MPM25371005

NAME: "0/2", DESCR: "NCS 1000 32 chs Even Mux/Demux Patch Panel - 150GHz - C-band"
PID: NCS1K-MD-32E-C   , VID: V00 , SN: ACW2529YE13

NAME: "0/3", DESCR: "NCS 1000 32 chs Odd Mux/Demux Patch Panel - 150GHz - C-band"
PID: NCS1K-MD-32O-C   , VID: V00 , SN: ACW2529YA13

NAME: "0/FT0", DESCR: "NCS1010 - Shelf Fan"
PID: NCS1010-FAN      , VID: V00, SN: FCB2504B0W3

NAME: "0/FT1", DESCR: "NCS1010 - Shelf Fan"
PID: NCS1010-FAN      , VID: V00, SN: FCB2504B0U8

NAME: "0/PM0", DESCR: "NCS 1010 - AC Power Supply Unit"
PID: NCS1010-AC-PSU   , VID: V00, SN: APS244700D0

NAME: "0/PM1", DESCR: "NCS 1010 - AC Power Supply Unit"
PID: NCS1010-AC-PSU   , VID: V00, SN: APS244700BY

```

Verify Software Version

NCS 1010 is shipped with the Cisco IOS XR software preinstalled. Verify that the latest version of the software is installed. If a newer version is available, perform a [Upgrade Software](#). This software upgrade installs the newer version of the software and provide the latest feature set on NCS 1010.

To verify the version of Cisco IOS XR Software running on NCS 1010, perform the following procedure.

show version

Displays the software version and details such as system uptime.

Example:

```

RP/0/RP0/CPU0:ios#show version
Thu Jul 28 09:49:34.374 UTC
Cisco IOS XR Software, Version 7.7.1 LNT
Copyright (c) 2013-2022 by Cisco Systems, Inc.

Build Information:
Build By      : ingunawa
Build On      : Mon Jul 25 06:07:25 UTC 2022
Build Host    : iox-lnx-109
Workspace     : /auto/srcarchive12/prod/7.7.1/ncs1010/ws
Version       : 7.7.1
Label        : 7.7.1

cisco NCS1010 (C3758 @ 2.20GHz)
cisco NCS1010-SA (C3758 @ 2.20GHz) processor with 32GB of memory

```

```
DT_smart_lic1 uptime is 10 minutes
NCS 1010 - Chassis
```

Verify the software version to determine whether system upgrade is required. If the upgrade is required, see [Upgrade Software](#).

Verify Firmware Version

The firmware version on various hardware components of NCS 1010 must be compatible with the installed Cisco IOS XR release. Incompatibility may cause NCS 1010 to malfunction.

To verify the firmware version, perform the following procedure.

Step 1 show hw-module fpd

Displays the firmware information of various hardware components of NCS 1010.

Example:

```
RP/0/RP0/CPU0:ios# show hw-module fpd
```

```
Wed Jun 29 08:50:21.057 UTC
```

```
Auto-upgrade:Disabled
```

Location	Card type	HWver	FPD device	ATR Status	FPD Versions		
					Running	Programd	Reload Loc
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	ADMConfig	CURRENT	3.40	3.40	NOT REQ
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	BIOS	S CURRENT	4.10	4.10	0/RP0
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	BIOS-Golden	BS CURRENT		4.10	0/RP0
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	CpuFpga	S CURRENT	1.02	1.02	0/RP0
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	CpuFpgaGolden	BS CURRENT		1.01	0/RP0
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	SsdIntelS4510	S CURRENT	11.32	11.32	0/RP0
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	TamFw	S CURRENT	6.13	6.13	0/RP0
0/RP0/CPU0	NCS1010-CNTRLR-K9	1.0	TamFwGolden	BS CURRENT		6.11	0/RP0
0/PM0	NCS1010-AC-PSU	0.0	AP-PrimMCU	CURRENT	1.03	1.03	NOT REQ
0/PM0	NCS1010-AC-PSU	0.0	AP-SecMCU	CURRENT	2.01	2.01	NOT REQ
0/PM1	NCS1010-AC-PSU	0.0	AP-PrimMCU	CURRENT	1.03	1.03	NOT REQ
0/PM1	NCS1010-AC-PSU	0.0	AP-SecMCU	CURRENT	2.01	2.01	NOT REQ
0/0/NXRO	NCS1K-ILA-C	1.0	ILA	S CURRENT	1.00	1.00	NOT REQ
0/Rack	NCS1010-SA	1.0	EITU-ADMConfig	CURRENT	2.10	2.10	NOT REQ
0/Rack	NCS1010-SA	1.0	IoFpga	S CURRENT	1.04	1.04	NOT REQ
0/Rack	NCS1010-SA	1.0	IoFpgaGolden	BS CURRENT		1.01	NOT REQ
0/Rack	NCS1010-SA	1.0	SsdIntelS4510	S CURRENT	11.32	11.32	0/Rack

Step 2 show fpd package

Displays the FPD image version available with this software release for each hardware component.

Example:

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

```
Wed Jun 29 08:50:21.057 UTC
```

```
=====
Field Programmable Device Package
```

Card Type	FPD Description	Req Reload	SW Ver	Min Req SW Ver	Min Req Board Ver
NCS1010-AC-PSU	AP-PrimMCU	NO	1.03	1.03	0.0
	AP-SecMCU	NO	2.01	2.01	0.0
NCS1010-CNTLR-K9	ADMConfig	NO	2.30	2.30	0.0
	ADMConfig	NO	2.30	2.30	0.0
	ADMConfig	NO	3.40	3.30	1.0
	BIOS	YES	4.10	4.10	0.0
	BIOS	YES	4.10	4.10	0.0
	BIOS-Golden	YES	4.10	4.10	0.0
	BIOS-Golden	YES	4.10	4.10	0.0
	CpuFpga	YES	1.02	1.02	0.0
	CpuFpga	YES	1.02	1.02	0.0
	CpuFpgaGolden	YES	1.01	1.01	0.0
	CpuFpgaGolden	YES	1.01	1.01	0.0
	SsdIntelS4510	YES	11.32	11.32	0.0
	SsdIntelS4510	YES	11.32	11.32	0.0
	SsdMicron5300	YES	0.01	0.01	0.0
	SsdMicron5300	YES	0.01	0.01	0.0
	SsdSmartModular	YES	13.06	13.06	0.0
	SsdSmartModular	YES	13.06	13.06	0.0
	TamFw	YES	6.13	6.13	0.0
TamFw	YES	6.13	6.13	0.0	
TamFwGolden	YES	6.11	6.11	0.0	
TamFwGolden	YES	6.11	6.11	0.0	
NCS1010-SA	EITU-ADMConfig	NO	1.04	1.04	0.0
	EITU-ADMConfig	NO	2.10	2.10	1.0
	EITU-ADMConfig	NO	1.04	1.04	0.0
	EITU-ADMConfig	NO	2.10	2.10	1.0
	IoFpga	NO	1.04	1.04	0.0
	IoFpga	NO	1.04	1.04	0.0
	IoFpgaGolden	NO	1.01	1.01	0.0
	IoFpgaGolden	NO	1.01	1.01	0.0
	SsdIntelS4510	YES	11.32	11.32	0.0
	SsdIntelS4510	YES	11.32	11.32	0.0
	SsdMicron5300	YES	0.01	0.01	0.0
	SsdMicron5300	YES	0.01	0.01	0.0
	SsdSmartModular	YES	13.06	13.06	0.0
SsdSmartModular	YES	13.06	13.06	0.0	
NCS1K-ILA-2R-C	ILA	NO	1.00	1.00	0.1
	ILA	NO	0.23	0.23	99.1
	Raman-1	NO	1.00	1.00	0.1
	Raman-1	NO	0.23	0.23	99.1
	Raman-2	NO	1.00	1.00	0.1
	Raman-2	NO	0.23	0.23	99.1
NCS1K-ILA-C	ILA	NO	1.00	1.00	0.1
	ILA	NO	0.23	0.23	99.1
NCS1K-ILA-R-C	ILA	NO	1.00	1.00	0.1
	ILA	NO	0.23	0.23	99.1
	Raman-1	NO	1.00	1.00	0.1
	Raman-1	NO	0.23	0.23	99.1
NCS1K-OLT-C	OLT	NO	1.00	1.00	0.1
	OLT	NO	0.23	0.23	99.1
NCS1K-OLT-R-C	OLT	NO	1.00	1.00	0.1

OLT	NO	0.23	0.23	99.1
Raman-1	NO	1.00	1.00	0.1
Raman-1	NO	0.23	0.23	99.1

Verify Management Interface Status

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

Step 1 show interfaces MgmtEth 0/RP0/CPU0/0

Displays the management interface configuration.

Example:

```
RP/0/RP0/CPU0:ios#show interfaces MgmtEth 0/RP0/CPU0/0
Wed May 25 11:49:18.118 UTC
MgmtEth0/RP0/CPU0/0 is up, line protocol is up
  Interface state transitions: 1
  Hardware is Management Ethernet, address is 38fd.f866.0964 (bia 38fd.f866.0964)
  Internet address is 10.33.0.61/16
  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 15:05:21
  ARP type ARPA, ARP timeout 04:00:00
  Last input never, output 00:00:00
  Last clearing of "show interface" counters never
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    53138 packets input, 6636701 bytes, 0 total input drops
    0 drops for unrecognized upper-level protocol
    Received 12145 broadcast packets, 40082 multicast packets
      0 runts, 0 giants, 0 throttles, 0 parity
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    217288 packets output, 60964220 bytes, 0 total output drops
    Output 1 broadcast packets, 15 multicast packets
    0 output errors, 0 underruns, 0 applique, 0 resets
    0 output buffer failures, 0 output buffers swapped out
    1 carrier transitions
```

Step 2 show interfaces summary and show interfaces brief

Verifies the management interface status.

Example:

```
RP/0/RP0/CPU0:ios#show interfaces summary
Wed May 25 11:50:02.558 UTC
Interface Type          Total    UP      Down    Admin Down
-----
ALL TYPES                9        5        0        4
-----
IFT_ETHERNET            1        1        0        0
IFT_LOOPBACK            2        2        0        0
IFT_ETHERNET            3        1        0        2
IFT_NULL                 1        1        0        0
```

```
IFT_PTP_ETHERNET      2      0      0      2
```

Example:

```
RP/0/RP0/CPU0:ios#show interfaces brief
Wed May 25 11:50:28.438 UTC
```

Intf Name	Intf State	LineP State	Encap Type	MTU (byte)	BW (Kbps)
Lo0	up	up	Loopback	1500	0
Lo3	up	up	Loopback	1500	0
Nu0	up	up	Null	1500	0
Gi0/0/0/0	up	up	ARPA	1514	1000000
Mg0/RP0/CPU0/0	up	up	ARPA	1514	1000000
Mg0/RP0/CPU0/1	admin-down	admin-down	ARPA	1514	1000000
Mg0/RP0/CPU0/2	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

Example:

```
RP/0/RP0/CPU0:ios#show ipv4 interfaces brief
Tue Jul 12 07:32:42.390 UTC
```

Interface	IP-Address	Status	Protocol	Vrf-Name
Loopback0	10.3.3.21	Up	Up	default
Loopback3	10.1.1.2	Up	Up	default
GigabitEthernet0/0/0/0	10.7.1.20	Up	Up	default
MgmtEth0/RP0/CPU0/0	10.4.33.63	Up	Up	default
PTP0/RP0/CPU0/0	unassigned	Shutdown	Down	default
MgmtEth0/RP0/CPU0/1	unassigned	Down	Down	default
PTP0/RP0/CPU0/1	unassigned	Shutdown	Down	default
MgmtEth0/RP0/CPU0/2	unassigned	Down	Down	default

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 system active
```

```
Thu Apr 28 06:16:50.524 UTC
```

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

Location	Severity	Group	Set Time	Description
0/RP0/CPU0	Major	Ethernet	04/28/2022 06:03:39 UTC	RP-SW: SPI flash config is incorrect

```

0/PM0          Major      Environ      04/28/2022 06:03:50 UTC    Power Module Error (PM_VIN_VOLT_OOR)
0/PM0          Major      Environ      04/28/2022 06:03:50 UTC    Power Module Output Disabled
(PM_OUTPUT_DISABLED)
0              Major      Environ      04/28/2022 06:03:50 UTC    Power Group redundancy lost
0/PM0          Major      FPD_Infra    04/28/2022 06:04:08 UTC    One Or More FPDs Need Upgrade Or Not In
Current State
0/PM1          Major      FPD_Infra    04/28/2022 06:04:09 UTC    One Or More FPDs Need Upgrade Or Not In
Current State
0/0            Minor      Environ      04/28/2022 06:04:10 UTC    ILAC_CT_1: Invalid sensor read error.
0/0            Minor      Environ      04/28/2022 06:04:10 UTC    ILAC_CT_2: Invalid sensor read error.
0/0            Minor      Environ      04/28/2022 06:04:10 UTC    ILAC_CT_3: Invalid sensor read error.
0/0            Minor      Environ      04/28/2022 06:04:10 UTC    ILAC_CT_4: Invalid sensor read error.
0/0            Major      Controller    04/28/2022 06:05:12 UTC    Osc0/0/0/0 - Provisioning Failed
0/0            Major      Controller    04/28/2022 06:05:12 UTC    Osc0/0/0/2 - Provisioning Failed
0/0            Major      Controller    04/28/2022 06:05:12 UTC    Ots0/0/0/0 - Provisioning Failed
0/0            Major      Controller    04/28/2022 06:05:12 UTC    Ots0/0/0/2 - Provisioning Failed

```

Note In the maintenance mode, all the alarms are moved from active to suppressed and the **show alarms** command does not display the alarms details.

Verify Environmental Parameters

The **show environment** command displays the environmental parameters of NCS 1010.

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

```

show environment [ alarm-contact | all | altitude | current | fan | humidity | power | voltages [
location | location ] | temperature [ location | location ] ]

```

Displays the environmental parameters of NCS 1010.

Example:

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

```

RP/0/RP0/CPU0:ios#show environment fan
Thu May 26 04:15:37.765 UTC

```

```

=====
Location          FRU Type                               Fan speed (rpm)
                FAN_0    FAN_1    FAN_2
-----
0/PM0             NCS1010-AC-PSU                        5368
0/PM1             NCS1010-AC-PSU                        5336
0/FT0             NCS1010-FAN                            10020    10020    10020
0/FT1             NCS1010-FAN                            10020    10020    9960
=====

```

The following example shows a sample output of the **show environment** command with the **temperatures** keyword for *0/RP0 location*.

```

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

```

```

Thu May 26 04:16:39.832 UTC

```

```

=====
Location TEMPERATURE          Value  Crit  Major  Minor  Minor  Major  Crit
          Sensor              (deg C) (Lo)   (Lo)   (Lo)   (Hi)   (Hi)   (Hi)
-----
0/RP0/CPU0

```


RP_TEMP_PCB	30	-10	-5	0	70	75	80
RP_TEMP_HOT_SPOT	33	-10	-5	0	70	75	80
RP_TEMP_LTM4638	49	-10	-5	0	80	85	90
RP_TEMP_LTM4644_0	36	-10	-5	0	80	85	90
RP_TEMP_LTM4644_1	39	-10	-5	0	80	85	90
RP_JMAC_1V0_VCCP_TMON	33	-10	-5	0	80	85	90
RP_JMAC_1V0_VNN_TMON	33	-10	-5	0	80	85	90
RP_JMAC_1V0_VCC_RAM_TMON	32	-10	-5	0	80	85	90
RP_JMAC_1V2_DDR_VDDQ_TMON	33	-10	-5	0	80	85	90

The following example shows a sample output of the **show environment** command with the **temperatures** keyword for **0/0/NXR0** location.

RP/0/RP0/CPU0:ios#**show environment temperature location 0/0/NXR0**

Thu May 26 04:16:39.832 UTC

Location	TEMPERATURE Sensor	Value (deg C)	Crit (Lo)	Major (Lo)	Minor (Lo)	Minor (Hi)	Major (Hi)	Crit (Hi)
0/0/NXR0								
	OLTC_LT_P0_iEDFA0	24	18	19	20	30	31	32
	OLTC_LT_P0_iEDFA1	25	18	19	20	30	31	32
	OLTC_LT_P0_iEDFA2	24	18	19	20	30	31	32
	OLTC_LT_P2_iEDFA0	25	18	19	20	30	31	32
	OLTC_LT_P3_iEDFA0	25	18	19	20	30	31	32
	OLTC_LT_P0_eEDFA0	24	18	19	20	30	31	32
	OLTC_CT_1	32	-10	-7	-5	75	77	80
	OLTC_LT_P0_eEDFA1	24	18	19	20	30	31	32
	OLTC_CT_2	27	-10	-7	-5	70	73	75
	OLTC_CT_3	30	-10	-7	-5	70	73	75
	OLTC_CT_4	30	-10	-7	-5	70	73	75
	OLTC_FT_P0_iEDFA0	60	55	57	58	62	64	65
	OLTC_FT_P2_iEDFA0	60	55	57	58	62	64	65
	OLTC_FT_P3_iEDFA0	60	55	57	58	62	64	65
	OLTC_FT_P0_eEDFA0	60	55	57	58	62	64	65

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

RP/0/RP0/CPU0:ios#**show environment power**

Thu May 26 04:17:55.592 UTC

CHASSIS LEVEL POWER INFO: 0

```

Total output power capacity (Group 0 + Group 1) : 1050W + 1050W
Total output power required : 700W
Total power input : 228W
Total power output : 140W
    
```

Power Group 0:

Power Module	Supply Type	-----Input----		-----Output---		Status
		Volts	Amps	Volts	Amps	
0/PM0	NCS1010-AC-PSU	228.5	0.5	12.1	5.6	OK

Total of Group 0: 114W/0.5A 67W/5.6A

Power Group 1:

Power Module	Supply Type	-----Input----		-----Output---		Status
		Volts	Amps	Volts	Amps	
0/PM1	NCS1010-AC-PSU	228.5	0.5	12.1	6.1	OK

Total of Group 1: 114W/0.5A 73W/6.1A

```

=====
Location      Card Type                Power      Power      Status
                Allocated   Used
                Watts       Watts
=====
0/RP0/CPU0    NCS1010-CNTRLR-K9        90         14         ON
0/FT0         NCS1010-FAN              110        17         ON
0/FT1         NCS1010-FAN              110        15         ON
0/0/NXR0      NCS1K-OLT-C              350        61         ON
0/Rack        NCS1010-SA                40         19         ON
=====

```

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

```
RP/0/RP0/CPU0:ios#show environment voltage location 0/RP0
Thu May 26 04:19:16.636 UTC
```

```

=====
Location  VOLTAGE                Value      Crit      Minor      Minor      Crit
          Sensor                (mV)      (Lo)      (Lo)      (Hi)      (Hi)
=====
0/RP0/CPU0
RP_ADM1266_12V0          12094     10800     11280     12720     13200
RP_ADM1266_1V8_CPU       1806      1670      1750      1850      1930
RP_ADM1266_1V24_VCCREF   1238      1150      1200      1280      1330
RP_ADM1266_1V05_CPU      1047       980      1020      1080      1120
RP_ADM1266_1V2_DDR_VDDQ  1204      1120      1160      1240      1280
RP_ADM1266_1V0_VCC_RAM    988        650       700      1250      1300
RP_ADM1266_1V0_VNN        869        550       600      1250      1300
RP_ADM1266_1V0_VCCP      1018       450       500      1250      1300
RP_ADM1266_0V6_DDR_VTT    599        560       580       620       640
RP_ADM1266_3V3_STAND_BY   3301      3070      3200      3400      3530
RP_ADM1266_5V0           5004      4650      4850      5150      5350
RP_ADM1266_3V3           3325      3070      3200      3400      3530
RP_ADM1266_2V5_PLL       2489      2330      2430      2580      2680
RP_ADM1266_2V5_FPGA      2502      2330      2430      2580      2680
RP_ADM1266_1V2_FPGA      1202      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 a sample output of the **show environment** command with the **current** keyword.

```
RP/0/RP0/CPU0:P2C_DT_02#show environment current
Tue Jul 5 08:36:22.132 UTC
```

```

=====
Location  CURRENT                Value
          Sensor                (mA)
=====
0/RP0/CPU0
RP_CURRMON_LTM4638          395
RP_CURRMON_LTM4644_0        179
RP_CURRMON_LTM4644_1        307
RP_JMAC_1V0_VCCP_IMON       187
RP_JMAC_1V0_VNN_IMON         62
RP_JMAC_1V0_VCC_RAM_IMON     0
RP_JMAC_1V2_DDR_VDDQ_IMON   187
0/Rack
SA_ADM1275_12V_MOD0_IMON    4154
SA_ADM1275_12V_MOD1_IMON     43
SA_ADM1275_12V_MOD2_IMON     18
SA_ADM1275_12V_FAN0_IMON   1356
=====

```

```
SA_ADM1275_12V_FAN1_IMON      1517
SA_INA230_5V0_IMON            129
SA_INA230_3V3_IMON            2998
SA_INA230_1V0_XGE_CORE_IMON   2464
SA_INA230_1V0_FPGA_CORE_IMON  787
SA_ADM1275_12V_SA_IMON        1668
SA_ADM1275_12V_CPU_IMON       1147
```

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

```
RP/0/RP0/CPU0:P2C_DT_02#show environment altitude
Tue Jul  5 08:36:51.710 UTC
```

```
=====
Location      Altitude Value (Meters)      Source
-----
0              760                          sensor
```

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

```
RP/0/RP0/CPU0:P2C_DT_02#show environment all
```

```
Tue Jul  5 08:37:28.412 UTC
```

```
=====
Location      TEMPERATURE                      Value      Crit      Major      Minor      Minor      Major      Crit
              Sensor                          (deg C)   (Lo)      (Lo)      (Lo)      (Hi)      (Hi)      (Hi)
-----
0/RP0/CPU0
  RP_TEMP_PCB                29        -10       -5         0         70        75        80
  RP_TEMP_HOT_SPOT           32        -10       -5         0         70        75        80
  RP_TEMP_LTM4638            45        -10       -5         0         80        85        90
  RP_TEMP_LTM4644_0          35        -10       -5         0         80        85        90
  RP_TEMP_LTM4644_1          38        -10       -5         0         80        85        90
  RP_JMAC_1V0_VCCP_TMON       30        -10       -5         0         80        85        90
  RP_JMAC_1V0_VNN_TMON        29        -10       -5         0         80        85        90
  RP_JMAC_1V0_VCC_RAM_TMON     30        -10       -5         0         80        85        90
  RP_JMAC_1V2_DDR_VDDQ_TMON   31        -10       -5         0         80        85        90
0/PM0
  Ambient Temp                29        -10       -5         0         55        60        65
  Secondary HotSpot Temp      50        -10       -5         0         85        90        95
  Primary HotSpot Temp        41        -10       -5         0         65        70        75
0/0/NXR0
  ILAC_LT_P0_eEDFA0           25         18        19         20        30        31        32
  ILAC_LT_P0_eEDFA1           25         18        19         20        30        31        32
  ILAC_LT_P0_eEDFA2           25         18        19         20        30        31        32
  ILAC_LT_P2_eEDFA0           25         18        19         20        30        31        32
  ILAC_LT_P2_eEDFA1           25         18        19         20        30        31        32
  ILAC_LT_P2_eEDFA2           25         18        19         20        30        31        32
  ILAC_CT_1                   29        -10       -7         -5         75        77        80
  ILAC_CT_2                   26        -10       -7         -5         70        73        75
  ILAC_CT_3                   28        -10       -7         -5         70        73        75
  ILAC_CT_4                   28        -10       -7         -5         70        73        75
  ILAC_FT_P0_eEDFA0           59         55        57         58         62         64         65
  ILAC_FT_P0_eEDFA1           59         55        57         58         62         64         65
0/Rack
  SA_TEMP_AIR_INLET0           25        -10       -5         0         45         55         60
  SA_TEMP_AIR_INLET1           25        -10       -5         0         45         55         60
  SA_TEMP_AIR_EXAUST0          27        -10       -5         0         75         85         90
  SA_TEMP_AIR_EXAUST1          26        -10       -5         0         75         85         90
  SA_TEMP_PCB_HOT_SPOT0        28        -10       -5         0         80         85         90
  SA_TEMP_PCB_HOT_SPOT1        32        -10       -5         0         80         85         90
  SA_TEMP_PCB_HOT_SPOT2        28        -10       -5         0         80         85         90
  SA_TEMP_PCB_HOT_SPOT3        30        -10       -5         0         80         85         90
```

```
=====
Location      VOLTAGE                          Value      Crit      Minor      Minor      Crit
              Sensor                          (mV)      (Lo)      (Lo)      (Hi)      (Hi)
-----
0/RP0/CPU0
  RP_ADM1266_12V0             12094     10800     11280     12720     13200
```

Verify Environmental Parameters

	RP_ADM1266_1V8_CPU	1801	1670	1750	1850	1930
	RP_ADM1266_1V24_VCCREF	1238	1150	1200	1280	1330
	RP_ADM1266_1V05_CPU	1054	980	1020	1080	1120
	RP_ADM1266_1V2_DDR_VDDQ	1207	1120	1160	1240	1280
	RP_ADM1266_1V0_VCC_RAM	988	650	700	1250	1300
	RP_ADM1266_1V0_VNN	858	550	600	1250	1300
	RP_ADM1266_1V0_VCCP	1008	450	500	1250	1300
	RP_ADM1266_0V6_DDR_VTT	603	560	580	620	640
	RP_ADM1266_3V3_STAND_BY	3310	3070	3200	3400	3530
	RP_ADM1266_5V0	4996	4650	4850	5150	5350
	RP_ADM1266_3V3	3328	3070	3200	3400	3530
	RP_ADM1266_2V5_PLL	2489	2330	2430	2580	2680
	RP_ADM1266_2V5_FPGA	2500	2330	2430	2580	2680
	RP_ADM1266_1V2_FPGA	1197	1120	1160	1240	1280
	RP_ADM1266_3V3_CPU	3332	3070	3200	3400	3530
	RP_ADM1266_2V5_CPU	2502	2330	2430	2580	2680
0/Rack	SA_ADM1266_12V_BUS_EITU	12057	10800	11280	12720	13200
	SA_ADM1266_5V0	5022	4650	4800	5200	5350
	SA_ADM1266_1V8_ZARLINK_DPLL	1806	1670	1730	1870	1930
	SA_ADM1266_1V0_PHY	1009	930	960	1040	1070
	SA_ADM1266_1V0_ALDRIN_CORE	982	910	930	1070	1090
	SA_ADM1266_1V0_ALDRIN_SERDES	1007	930	960	1040	1070
	SA_ADM1266_1V0_FPGA	1008	930	960	1040	1070
	SA_ADM1266_1V2_FPGA	1205	1120	1150	1250	1280
	SA_ADM1266_1V8	1804	1670	1730	1870	1930
	SA_ADM1266_2V5	2505	2330	2400	2600	2680
	SA_ADM1266_3V3	3323	3070	3170	3430	3530
	SA_ADM1275_12V_SA_BP	12058	10800	11280	12720	13200
	SA_ADM1275_12V_CPU_BP	12032	10800	11280	12720	13200
	SA_ADM1275_12V_MOD0_BP	12063	10800	11280	12720	13200
	SA_ADM1275_12V_MOD1_BP	12048	10800	11280	12720	13200
	SA_ADM1275_12V_MOD2_BP	12027	10800	11280	12720	13200
	SA_ADM1275_12V_FAN0_BP	12032	10800	11280	12720	13200
	SA_ADM1275_12V_FAN1_BP	12042	10800	11280	12720	13200

Location	CURRENT Sensor	Value (mA)
----------	----------------	------------

0/RP0/CPU0

RP_CURRMON_LTM4638	395
RP_CURRMON_LTM4644_0	179
RP_CURRMON_LTM4644_1	307
RP_JMAC_1V0_VCCP_IMON	125
RP_JMAC_1V0_VNN_IMON	62
RP_JMAC_1V0_VCC_RAM_IMON	0
RP_JMAC_1V2_DDR_VDDQ_IMON	156

0/Rack

SA_ADM1275_12V_MOD0_IMON	3412
SA_ADM1275_12V_MOD1_IMON	30
SA_ADM1275_12V_MOD2_IMON	43
SA_ADM1275_12V_FAN0_IMON	1418
SA_ADM1275_12V_FAN1_IMON	1394
SA_INA230_5V0_IMON	129
SA_INA230_3V3_IMON	3020
SA_INA230_1V0_XGE_CORE_IMON	2464
SA_INA230_1V0_FPGA_CORE_IMON	787
SA_ADM1275_12V_SA_IMON	1640
SA_ADM1275_12V_CPU_IMON	1157

Location	FRU Type	Fan speed (rpm)		
		FAN_0	FAN_1	FAN_2

```

0/PM0      NCS1010-AC-PSU      5424
0/FT0      NCS1010-FAN          9960    9960    9960
0/FT1      NCS1010-FAN          10020   10020   10020
=====
Location    Altitude Value (Meters)    Source
-----
0           760                          sensor

=====
CHASSIS LEVEL POWER INFO: 0
=====
Total output power capacity (Group 0 + Group 1) : 1050W + 0W
Total output power required                      : 700W
Total power input                               : 159W
Total power output                              : 129W

Power Group 0:
=====
Power      Supply      -----Input----- -----Output---   Status
Module     Type          Volts    Amps    Volts    Amps
-----
0/PM1      NCS1010-AC-PSU 0.0      0.0     0.0      0.0     OFFLINE

Total of Group 0:                0W/0.0A          0W/0.0A

Power Group 1:
=====
Power      Supply      -----Input----- -----Output---   Status
Module     Type          Volts    Amps    Volts    Amps
-----
0/PM0      NCS1010-AC-PSU 228.5    0.7     12.1     10.7    OK

Total of Group 1:                159W/0.7A        129W/10.7A

=====
Location    Card Type          Power      Power      Status
              Allocated      Used
              Watts         Watts
-----
0/RP0/CPU0  NCS1010-CNTRLR-K9 90          14         ON
0/FT0      NCS1010-FAN        110         17         ON
0/FT1      NCS1010-FAN        110         16         ON
0/0/NXR0   NCS1K-ILA-C        350         54         ON
0/Rack     NCS1010-SA         40          19         ON

```

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

Verify Context

The **show context** command displays core dump context information of NCS 1010. Core dump is a result of abnormal exit of any process running in the system.

show context

Displays the core dump context information of NCS 1010.

Example:

```
RP/0/RP0/CPU0:ios# show context
Mon Sep 27 17:21:59.219 UTC
```

```
node: node0_RP0_CPU0
-----
```

```
No context
```

The command output is empty during system upgrade.

Verify Core Files

Use the **run** command to go to the hard disk location and check for the core dumps of NCS 1010.

run**Example:**

```
RP/0/RP0/CPU0:ios# run
Mon Sep 27 17:29:11.163 UTC
[xr-vm_node0_RP0_CPU0:~]$cd /misc/disk1/
[xr-vm_node0_RP0_CPU0:/misc/disk1]$ls -lrt *.tgz
```

Verify Memory Information

You can view the memory information using the `show watchdog memory-state` command.

show watchdog memory-state location all

Displays memory snapshot in brief.

Example:

```
RP/0/RP0/CPU0:ios#show watchdog memory-state location all
Thu Jun 16 08:36:44.436 UTC
---- node0_RP0_CPU0 ----
Memory information:
  Physical Memory      : 31935.167 MB
  Free Memory          : 29236.0 MB
  Memory State         : Normal
```
