



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.

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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

```

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

```
Thu Mar 2 12:35:01.883 IST
```

Node	Type	State	Config state
0/RP0/CPU0	NCS1010-CNTRLR-K9 (Active)	IOS XR RUN	NSHUT,NMON
0/PM0	NCS1010-AC-PSU	OPERATIONAL	NSHUT,NMON
0/PM1	NCS1010-AC-PSU	OFFLINE	NSHUT,NMON
0/FT0	NCS1010-FAN	OPERATIONAL	NSHUT,NMON
0/FT1	NCS1010-FAN	OPERATIONAL	NSHUT,NMON
0/0/NXR0	NCS1K-OLT-L	OPERATIONAL	NSHUT,NMON
0/3	NCS1K-BRK-24	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: FCB2504BOX4
```

```
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
Sat Mar 25 11:38:23.614 IST
Cisco IOS XR Software, Version 7.9.1
Copyright (c) 2013-2023 by Cisco Systems, Inc.
Build Information:
Built By : ingunawa
Built On : Tue Mar 07 02:22:55 UTC 2023
Build Host : iox-ucs-063
Workspace : /auto/iox-ucs-063-san2/prod/7.9.1.30I.SIT_IMAGE/ncs1010/ws
Version : 7.9.1

```

```

Label : 7.9.1
cisco NCS1010 (C3758 @ 2.20GHz)
cisco NCS1010-SA (C3758 @ 2.20GHz) processor with 32GB of memory
OLT-C-R-SITE-1 uptime is 2 weeks, 12 hours, 59 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
Thu Mar  2 12:35:06.602 IST

```

Auto-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	NCS1010-CNTLR-K9	1.11	ADMConfig		CURRENT	3.40	3.40	NOT REQ
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	BIOS	S	CURRENT	4.20	4.20	0/RP0
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	BIOS-Golden	BS	CURRENT		4.10	0/RP0
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	CpuFpga	S	CURRENT	1.11	1.11	0/RP0
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	CpuFpgaGolden	BS	CURRENT		1.01	0/RP0
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	SsdIntelS4510	S	CURRENT	11.32	11.32	0/RP0
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	TamFw	S	CURRENT	6.13	6.13	0/RP0
0/RP0/CPU0	NCS1010-CNTLR-K9	1.11	TamFwGolden	BS	CURRENT		6.11	0/RP0
0/PM0	NCS1010-AC-PSU	0.0	AP-PrimCU		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-PrimCU		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/NXR0	NCS1K-OLT-L	1.0	OLT	S	CURRENT	1.02	1.02	NOT REQ
0/Rack	NCS1010-SA	2.1	EITU-ADMConfig		CURRENT	2.10	2.10	NOT REQ
0/Rack	NCS1010-SA	2.1	IoFpga	S	CURRENT	1.12	1.12	NOT REQ
0/Rack	NCS1010-SA	2.1	IoFpgaGolden	BS	CURRENT		1.01	NOT REQ
0/Rack	NCS1010-SA	2.1	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
Thu Mar  2 12:37:58.530 IST

```

=====					
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	3.40	1.0
	BIOS	YES	4.20	4.20	0.0
	BIOS	YES	4.20	4.20	0.0
	BIOS-Golden	YES	4.10	4.10	0.0
	BIOS-Golden	YES	4.10	4.10	0.0
	CpuFpga	YES	1.11	1.11	0.0
	CpuFpga	YES	1.11	1.11	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	1.12	1.12	0.0
	IoFpga	NO	1.12	1.12	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	1.12	1.12	0.1
	ILA	NO	0.28	0.28	99.1
	Raman-1	NO	1.04	1.04	0.1
	Raman-1	NO	0.28	0.28	99.1
	Raman-2	NO	1.04	1.04	0.1
	Raman-2	NO	0.28	0.28	99.1
NCS1K-ILA-C	ILA	NO	1.12	1.12	0.1
	ILA	NO	0.28	0.28	99.1
NCS1K-ILA-L	ILA	NO	1.00	1.00	0.1
NCS1K-ILA-R-C	ILA	NO	1.12	1.12	0.1
	ILA	NO	0.28	0.28	99.1
	Raman-1	NO	1.04	1.04	0.1
	Raman-1	NO	0.28	0.28	99.1

NCS1K-OLT-C	OLT	NO	1.12	1.12	0.1
	OLT	NO	0.28	0.28	99.1

NCS1K-OLT-L	OLT	NO	1.02	1.02	0.1

NCS1K-OLT-R-C	OLT	NO	1.12	1.12	0.1
	OLT	NO	0.28	0.28	99.1
	Raman-1	NO	1.04	1.04	0.1
	Raman-1	NO	0.28	0.28	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_GETHERNET            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 (PM_OUTPUT_DISABLED)	Major	Environ	04/28/2022 06:03:50 UTC	Power Module Output Disabled
0	Major	Environ	04/28/2022 06:03:50 UTC	Power Group redundancy lost
0/PM0 Current State	Major	FPD_Infra	04/28/2022 06:04:08 UTC	One Or More FPDs Need Upgrade Or Not In
0/PM1 Current State	Major	FPD_Infra	04/28/2022 06:04:09 UTC	One Or More FPDs Need Upgrade Or Not In
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                               Value   Crit   Major   Minor   Minor   Major   Crit
          Sensor                                (deg C) (Lo)   (Lo)   (Lo)   (Hi)   (Hi)   (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   Supply   -----Input-----  -----Output---   Status
Module  Type                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:

```

=====

```

Verify Environmental Parameters

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 Watts	Used Watts	
0/RP0/CPU0	NCS1010-CNTLR-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 Sensor	Value (mV)	Crit (Lo)	Minor (Lo)	Minor (Hi)	Crit (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 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	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_EXHAUST0 27          -10        -5         0         75         85         90
SA_TEMP_AIR_EXHAUST1 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
    
```

Verify Environmental Parameters

Location	VOLTAGE Sensor	Value (mV)	Crit (Lo)	Minor (Lo)	Minor (Hi)	Crit (Hi)
0/RP0/CPU0						
	RP_ADM1266_12V0	12094	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	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
              Card Type                Allocated  Used
              Card Type                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
