



Introduction



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This Release Notes contain information about downloading and installing Cisco 1x2 / Compact Shelf RPD Software 6.1 and its maintenance releases. It also provides new and changed information, hardware support, limitations and restrictions, and caveats for Cisco 1x2 / Compact Shelf RPD Software 6.1 and its maintenance releases.

We recommend that you view the field notices for this release to see if your software or hardware platforms are affected. If you have an account at Cisco.com, you can find the field notices at http://www.cisco.com/en/US/customer/support/tsd_products_field_notice_summary.html.

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- Note** Cisco 1x2 / Compact Shelf RPD Software 6.1 is generally available for field deployment. To ensure a smoother, faster, and successful field deployment, we recommend that you validate and qualify the software in a limited field trial.
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This chapter includes the following sections:

- [System Requirements, on page 2](#)
- [New and Changed Information, on page 3](#)
- [MIBs, on page 7](#)
- [Obtaining Documentation and Submitting a Service Request, on page 8](#)

System Requirements

These sections describe the system requirements for Cisco 1x2 / Compact Shelf RPD Software and its maintenance releases:

Memory Requirements for Cisco 1x2 / Compact Shelf RPD Software 6.1



Note Memory is not configurable for the Cisco Remote PHY device.

Table 1: Memory Recommendations for the Cisco Remote PHY Device

Feature Set	Cisco RPHY Processor	Software Image	Fixed Memory	Runs From
CISCO RPHY 6.1	NXP LS1043A	RPD-V6-1.itb.SSA	1G Bytes	Bootflash:

Hardware Supported

For detailed information about the hardware supported in Cisco 1x2 / Compact Shelf RPD Software and its maintenance releases, see:

http://www.cisco.com/c/en/us/td/docs/cable/cbr/installation/guide/b_cbr_how_and_what_to_order.html.

Determining the Software Version of Cisco 1x2 / Compact Shelf RPD Software 6.1

To determine the version of the Cisco 1x2 RPD software running on your Cisco Remote PHY Device, log in and enter the **show version EXEC** command:

```
R-PHY#show version
Cisco RPD Software, version v6.1, build by rpd-release, on 2018-12-18 16:31:24
Branch information:
  RPD branch: (detached from RPD_V6_1_20181219)
  OpenRPD branch: (detached from RPD_V6_1_20181219)
  SeresRPD branch: (detached from RPD_V6_1_20181219)
```



Note The system image file name of the factory installed image is */bootflash/RPD-V6.1_hardware_certificate.itb.rel.sign.SSA*. The system image file name of the Secure Software Download (SSD) from the Cisco software download page is */bootflash/RPD-V6-1.itb.SSA.act*.

New and Changed Information

The following sections list the new hardware and software features supported on the Cisco eBR Series Converged Broadband Routers in this release:

New Software Features in Cisco 1x2 / Compact Shelf RPD Software 6.1

The new software features for Cisco 1x2 / Compact Shelf RPD Software 6.1 release are:

Disable LLDP by TLV

In Cisco 1x2 / Compact Shelf RPD Software 6.1, LldpEnable TLV is introduced to enable or disable the LLDP protocol. The RPD which supports this attribute MUST preserve the value of this attribute in its non-volatile configuration store.

Value is defined as the boolean value to enable/disable LLDP operation on the RPD. The values are:

- 0 – LLDP is disabled.
- 1 – LLDP is enabled.

The selection of a default value is left to vendor's choice.

New added events

New events are supported for DHCPv6 and supported networks.

Table 2: Supported events for DHCPv6

Process	Sub-Process	RPD Priority	Event Message	Message Notes and Detail	Error Code Set	Event ID
DHCP		Error	DHCP RENEW sent - No response for <P1><P2><TAGS>	<ul style="list-style-type: none"> • P1= IPv4 or IPv6 • P2 = RPD interface number (EnetPortIndex) 	B703.0	66070300
DHCP		Error	DHCP REBIND sent - No response for <P1><P2><TAGS>	<ul style="list-style-type: none"> • P1=IPv4 or IPv6 • P2 = RPD interface number (EnetPortIndex) 	B703.1	66070301

Process	Sub-Process	RPD Priority	Event Message	Message Notes and Detail	Error Code Set	Event ID
DHCP		Error	DHCP RENEW WARNING - Field invalid in response <P1> option field<P2><TAGS>	<ul style="list-style-type: none"> • P1=v4 or IPv6 • P2 = RPD interface number (EnetPortIndex) 	B703.2	66070302
DHCP		Critical	DHCP RENEW FAILED - Critical field invalid in response<P1><TAGS>	P1 = RPD interface number (EnetPortIndex)	B703.3	66070303
DHCP		Error	DHCP REBIND WARNING - Field invalid in response<P1><TAGS>	P1 = RPD interface number (EnetPortIndex)	B703.4	66070304
DHCP		Critical	DHCP REBIND FAILED - Critical field invalid in response<P1><TAGS>	P1 = RPD interface number (EnetPortIndex)	B703.5	66070305

Table 3: Supported network events

Process	Sub-Process	RPD Priority	Event Message	Message Notes and Detail	Error Code Set	Event ID
Init	Network Authentication	Error	Network Authentication Error; Descr: <P1>; <TAGS>;	P1 = Authentication error description	B701.0	66070104
Init	Network Authentication	Notice	Network Authentication Success; <TAGS>;		B701.4	66070105
Connectivity	CCAP Core	Notice	Successfully connected to Core; Core ID: <P1>; <TAGS>;	P1 = CCAP Core ID to which the connection was completed	B702.19	66070219
Connectivity	CCAP Core	Warning	Connection lost - Auxiliary CCAP Core. Reconnect attempted; Core ID: <P1>; <TAGS>;	P1 = Auxiliary CCAP Core ID to which the connection was lost.	B702.20	66070220

Process	Sub-Process	RPD Priority	Event Message	Message Notes and Detail	Error Code Set	Event ID
Connectivity	CCAP Core	Warning	Connection lost – Principal CCAP Core. Reconnect attempted; Core ID: <P1>; <TAGS>;	P1 = Principal CCAP Core ID to which the connection was lost.	B702.21	66070221
Connectivity	CCAP Core	Notice	Successfully reconnected to Core; Core ID: <P1>; <TAGS>;	P1 = CCAP Core ID to which the connection was completed	B702.22	66070222
Init	IPv4 Address Acquisition	Notice	Successfully obtained IPv4 address; <TAGS>;		B703.24	66070324
Init	IPv6 Address Acquisition	Notice	Successfully obtained IPv6 address; <TAGS>;		B703.25	66070325
Init	TOD	Notice	Successfully obtained ToD; <TAGS>;		B703.26	66070326
Init	Config	Error	Received unknown RCP message from Core; Core ID: <P1>; Descr: <P2>; <TAGS>;	P1 = CCAP Core ID P2 = Error description	B703.27	66070327
Init	Config	Error	Received RCP message from Core, not allowed in current state; Message: <P1>; Core ID: <P2>; State: <P3>; <TAGS>;	P1 = RCP message P2 = CCAP Core ID P3 = Current TopLevelRPDState	B703.28	66070328
Init	IRA	Error	No IRA received after Notify message to Core; Core IP: <P1>; <TAGS>;	P1 = CCAP Core IP address	B703.29	66070329
Init	IRA	Error	No REX received after IRA from Core; Core ID: <P1>; Core IP: <P2>; <TAGS>;	P1 = CCAP Core ID P2 = CCAP Core IP address	B703.30	66070330

Process	Sub-Process	RPD Priority	Event Message	Message Notes and Detail	Error Code Set	Event ID
Init	Initialization	Critical	Failure occurred during local RPD initialization process. RPD reset; Descr: <P1>; <TAGS>;	P1 is optional P1 = Vendor Specific Event or Text	B708.0	66070800

Factory reset support

Starting from Cisco 1x2 / Compact Shelf RPD Software 6.1, factory reset and NVRAM reset via TLV and CLI are supported.

- **factoryReset:** The device restores the factory configuration and performs a hard reset. You can perform a factoryReset by running the following:

```
R-PHY>enable
R-PHY#reboot factory-reset
```

- **nvReset:** The device clears non-volatile configuration and performs a hard reset. You can perform a nvReset by running the following:

```
R-PHY>enable
R-PHY#reboot nvreset
```

Support for Narrowband Digital Forward And Narrowband Digital Return

Narrowband Digital Forward (NDF) refers to the digitizing of an analog portion of the downstream spectrum at the headend, sending the digital samples as payload in [DEPI] packets to the RPD, and then re-creating the original analog stream at the RPD. NDF supports services such as FM Broadcast, DAB+ Broadcast, and OOB signals for Forward Sweep, DS Leakage, and Element management.

Narrowband Digital Return (NDR) refers to the digitizing of an analog portion of the upstream spectrum at the RPD, sending the digital samples as payload in [R-UEPI] packets to the CMTS, and then re-creating the original analog stream at the headend. NDR supports legacy OOB signals for Reverse Sweep, Return Path Monitoring, FSK based HMS, and other FSK based telemetry signals.

The following commands are introduced on the Cisco 1x2 / Compact Shelf RPD Software 6.1 release:

- **show downstream oob configuration ndf** – Provides the NDF configuration in RPD for each NDF channel configured. It displays PHY information for the NDF session.
- **show upstream oob configuration ndr** – Provides the NDR configuration in RPD for each of NDR channel configured. It displays PHY and L2TP information.
- **show downstream oob counter ndf** – Provides the NDF packet counter from BCM for each NDF channel configured. It is a clear on read counter.
- **show upstream oob counter ndr** – Provides the internal mapping of RPD channels and its corresponding channel configured in core.
- **show oob fpga ndf-status** – Provides the NDF FPGA status for each NDF channel configured.
- **show oob ds-mapping** – Provides the internal mapping of RPD channels and its corresponding channel configured in the core.

For more information, see the Cisco cBR Series Converged Broadband Routers Quality of Services Configuration Guide for Cisco IOS XE Fuji 16.10.x and the Cisco CMTS Cable Command Reference Guide.

Modified Software Features in Cisco 1x2 / Compact Shelf RPD Software 6.1

There are no modified software features for Cisco 1x2 / Compact Shelf RPD Software 6.1.

Integrated Software Features in Cisco 1x2 / Compact Shelf RPD Software 6.1

There are no integrated features in Cisco 1x2 / Compact Shelf RPD Software 6.1 release.

New Hardware Features in Cisco 1x2 / Compact Shelf RPD Software 6.1

There are no new hardware feature for Cisco 1x2 / Compact Shelf RPD Software 6.1 release.

MIBs

To locate and download MIBs for selected platforms, Cisco IOS XE releases, and feature sets, use Cisco MIB Locator found at the following URL:

<https://mibs.cloudapps.cisco.com/ITDIT/MIBS/servlet/index>

MIBs in Cisco 1x2 / Compact Shelf RPD Software 6.1

The following MIBs are updated in the Cisco 1x2 / Compact Shelf RPD Software 6.1 release:

- DOCS-RPHY-MIB
- DOCS-RPHY-PTP-MIB
- DOCS-RPHY-CTRL-MIB
- RPHY MIB - DocsRphyRpdDevCoresConnectedEntry new entry support

Update DocsRphyRpdDevCoresConnectedEntry from DOCS-RPHY-MIB-2017-11-16 to DOCS-RPHY-MIB-2018-04-12 version. The updated entries are:

- docsRphyRpdDevCoresConnectedCoreMode
 - docsRphyRpdDevCoresConnectedInitConfigComplete
 - docsRphyRpdDevCoresConnectedCoreFunction
 - docsRphyRpdDevCoresConnectedAuxCoreGcpConnectionStatus
- Upgrade DOCS-RPHY-CTRL-MIB to 2018-04-12 version
Update DOCS-RPHY-CTRL-MIB from 2017-08-03 to 2018-04-12 version. Add the following entry:
- docsRphyCtrlRpdSsdCtrlSwImageIndex
- Upgrade DOCS-RPHY-PTP-MIB to 2018-04-12 version

Update RPD related entry of DOCS-RPHY-PTP-MIB from 2017-08-10 to 2018-04-12 version. The updated entries are:

- docsRphyPtpRpdClockStatusCounterDiscontinuityTime
- docsRphyPtpRpdPtpPortStatusCounterDiscontinuityTime
- docsRphyPtpRpdPortMasterClockStatusCounterDiscontinuityTime

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

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