Introduction

Note

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This Release Notes contain information about downloading and installing Cisco 1x2 / Compact Shelf RPD Software 5.3 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 5.3 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.

If you do not have an account at Cisco.com, you can find the field notices at http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html.

Note

Cisco 1x2 / Compact Shelf RPD Software 5.3 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.

This chapter includes the following sections:

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 5.3

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 5.3	NXP LS1043A	RPD-V5-3.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 5.3

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 v5.3, build by rpd-release, on 2018-09-29 08:41:02
Branch information:
        RPD branch: (detached from RPD_V5_3_20180929)
        OpenRPD branch: (detached from RPD_V5_3_20180929)
        SeresRPD branch: (detached from RPD_V5_3_20180929)
```

Note   The system image file name of the factory installed image is */bootflash/RPD-V5.3_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-V5-3.itb.SSA.act*.

New and Changed Information

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

New Software Features in Cisco 1x2 / Compact Shelf RPD Software 5.3

LLDP

LLDP (Link Layer Discovery Protocol) is a vendor-neutral link layer protocol in the Internet Protocol Suite used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802 local area network, principally wired Ethernet.

Displaying LLDP Status

To display RPD LLDP neighbors and counters information, use **show lldp neighbors/statistics** command as shown in the following example.

```
R-PHY#show lldp neighbors
-------------------------------------------------------------------------------
LLDP neighbors:
-------------------------------------------------------------------------------
Interface:    eth0, via: LLDP, RID: 1, Time: 0 day, 21:10:24
  Chassis:
    ChassisID:    mac 00:1c:0e:82:c3:26
    SysName:      K02-NM-SW.cisco.com
    SysDescr:     Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), Version 12.2(37)SE,
 RELEASE SOFTWARE (fc2)
                  Copyright (c) 1986-2007 by Cisco Systems, Inc.
                  Compiled Thu 10-May-07 16:43 by antonino
    MgmtIP:       10.74.54.231
    Capability:   Bridge, off
    Capability:   Router, off
  Port:
    PortID:       local Fa0/38
    PortDescr:    FastEthernet0/38
-------------------------------------------------------------------------------
Interface:    vbh0, via: LLDP, RID: 2, Time: 0 day, 04:12:02
  Chassis:
    ChassisID:    mac 00:de:fb:95:17:01
    SysName:      Cloud-Leaf-C
    SysDescr:     Cisco NX-OS(tm) n6000, Software (n6000-uk9), Version 7.3(3)N1(1), Interim
 version 7.3(3)N1(0.535), RELEASE SOFTWARE Copyright (c) 2002-2012, 2016-2017 by Cisco
Systems, Inc. Compiled 11/18/2017 2:00:00
    MgmtIP:       10.74.54.173
    Capability:   Bridge, on
  Port:
    PortID:       local Eth1/26
    PortDescr:    Ethernet1/26
  UnknownTLVs:
    TLV:          OUI: 00,01,42, SubType: 1, Len: 1 01
    TLV:          OUI: 00,01,42, SubType: 2, Len: 16
24,00,24,00,24,00,24,00,24,00,24,00,24,00
    TLV:          OUI: 00,01,42, SubType: 6, Len: 4 06,00,00,00
-------------------------------------------------------------------------------
R-PHY#show lldp statistics
-------------------------------------------------------------------------------
```

```
LLDP statistics:
--------------------------------------------------------------------------------
Interface:    eth0
  Transmitted: 5099
  Received:    3818
  Discarded:   0
  Unrecognized: 6
  Ageout:      0
  Inserted:    2
  Deleted:     0
--------------------------------------------------------------------------------
Interface:    vbh0
  Transmitted: 2548
  Received:    2554
  Discarded:   6
  Unrecognized: 8
  Ageout:      0
  Inserted:    1
  Deleted:     0
--------------------------------------------------------------------------------
```

SLAAC

This release supports the Stateless Address Auto Configuration (SLAAC). IPv6 address assignment of the RPD is governed by the configuration bits set in the ICMPv6 Router Advertisement (RA) message and the presence of a valid prefix in the Prefix Information Option (PIO). For more information about RPD IPv6 address assignment, please refer to section 6.7 of Remote PHY Specification.

To enable SLAAC:

1. Configure ICMPv6 Router RA message M Bit=0 and O Bit =1.

2. DHCP options must follow the request defined in section 6.7.1 of Remote PHY Specification.

Displaying RPD get IPv6 address by SLAAC

```
R-PHY#show dhcp
Interface  IP-Address                     Subnet-Mask
vbh0       2001:30:85:66:1204:9fff:fec1:100  ffff:ffff:ffff:ffff::

Details:
--------------------------------------------------------------------------------
Interface:              vbh0
AddrType:               IPv6<Stateless>
TimeServers:            2001:20:1:1::33
TimeOffset:             28800
LogServers:             2001:20:1:1::33
CCAPCores:              2001:30:85:66::1
```

Read count TLV support: TLV 100.25

Supports the read count TLV 100.25 ExtSwImageSupport. This object provides information about the Main Software Image and the additional optional software images that can be maintained by the RPD.

Modified Software Features in Cisco 1x2 / Compact Shelf RPD Software 5.3

CW tone works with Video in same quad

CW tone has problem working together with Video/DOCSIS in same quad issue is fixed.

OOB queue looks up issue fix

STB losing two-way connectivity issue when network traffic flood happens and prevents input NULL packets filling up the OOB buffer is fixed. RPD FPGA version has changed to 7.17 with this fix.

Debugging OOB FPGA status

A new RPD CLI for better OOB FPGA debugging is added.

```
R-PHY#show oob fpga status

Run Time: 0 mins 0 secs

OOB Channel [163] Status from FPGA Registers
--------------------------------------------
OOB Status        : Disabled
OOB Channel Type : 0 [55-2]
OOB Control (Null Pkt Drop) : Disabled

OOB Session Info
----------------
OOB Session ID : 0x0
OOB Session Control : 0x0
IP SA Index  : 0
IP DA Index  : 0
MAC SA Index : 0
MAC DA Index : 0

OOB Channel [163] Interrupts
----------------------------
Buffer Overflow  : Not Set
Buffer Underflow : Not Set

OOB Channel [163] Thresholds
----------------------------
Buffer Threshold : 0
Net Threshold    : 0
Drift Threshold  : 0
OOB Buffer Depth : 0

OOB Channel [163] Packet Counts
-------------------------------
Packet In Count [MDJT]      : 0
Packet Out Count [MPTF]     : 0
Packet Delete Count [MDJT]  : 0
Packet Insert Count [MDJT]  : 0
Seq Num Gap(DSO) Count [MDJT]: 0
```

Integrated Software Features in Cisco 1x2 / Compact Shelf RPD Software 5.3

There are no new integrated software features for Cisco 1x2 / Compact Shelf RPD Software 5.3 release.

New Hardware Features in Cisco 1x2 / Compact Shelf RPD Software 5.3

There are no new hardware feature for Cisco 1x2 / Compact Shelf RPD Software 5.3 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:

http://tools.cisco.com/ITDIT/MIBS/servlet/index

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check verifies that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password is e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

http://tools.cisco.com/RPF/register/register.do

MIBs in Cisco 1x2 / Compact Shelf RPD Software 5.3

There are no new MIBs in Cisco 1x2 / Compact Shelf RPD Software 5.3 release.

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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