

Release Notes for Cisco Catalyst PON Series Optical Line Terminal and PON Manager

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Release Notes for Cisco Catalyst PON Series Optical Line Terminal and PON Manager

This document describes the hardware and software requirements, features and bugs for the Cisco Catalyst PON Series Optical Line Terminal (OLT) and the Cisco Catalyst PON Manager.

For release information on Optical Network Terminal (ONT), refer *Release Notes for Cisco Catalyst PON Series Optical Network Terminal*.



Note

The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on standards documentation, or language that is used by a referenced third-party product.

Introduction to Cisco Catalyst PON Series Switches

Cisco Catalyst PON Series switches are built to address the emerging demand of bandwidth for enterprise and residential users. A network designed using the Cisco Catalyst PON Series switches in the campus replaces a three-tier architecture with a two-tier fiber optic network. It eliminates the active access and distribution Ethernet switches with passive optical devices.

A Passive Optical Network (PON) transmits data over fiber optic lines and supports voice, video, and data services. PON uses a single optical fiber and a passive optical splitter to serve a point-to-multipoint optical network.

A Cisco Catalyst PON Series switch network consists of the following elements:

- A Cisco Catalyst PON Series Optical Line Terminal (OLT), which manages the network traffic.
- A Cisco Catalyst PON Series Optical Network Terminal (ONT), to which the end users are connected.
- A Cisco Catalyst PON Manager that monitors and manages all the switches in the network.

For information on devices and their installation, refer *Cisco Catalyst PON Series Switches Hardware Installation Guide*.

What's New in Cisco Catalyst PON Series OLT, Release 1.2.2.0

Feature	Description	Applicable Models
IPv6 Stack	Supports IPv6 stack, including MLD snooping, DHCPv6 snooping, IPv6 static routing	CGP-OLT-8T, CGP-OLT-16P
GPON GEM port 128-bit encryption	Support for GPON GEM port with 128-bit encryption	CGP-OLT-8T, CGP-OLT-16P
Home Gateway Unit (HGU) and Single Family Unit (SFU) mode support for ONT	Provision to add ONT device types n40-428-1h/n40-428-1s, n40-420-1h/n40-420-1s to support HGU and SFU mode on the CGP-ONT-4PVC and CGP-ONT-4PV models.	CGP-OLT-8T, CGP-OLT-16P
SIP configurations for SFU ONT	Support for configuring SIP on an ONT that operates as an SFU.	CGP-OLT-8T, CGP-OLT-16P
Automatic Failover	Protection Switch Group (PSG) is enhanced to support automatic failover when the secondary port gets down.	CGP-OLT-8T, CGP-OLT-16P
ONT POTS status query	Support for ONT POTS status query is introduced.	CGP-OLT-8T, CGP-OLT-16P
NTP client	Support for NTP client to synchronize time	CGP-OLT-8T, CGP-OLT-16P
pcap packet capture feature	Support for pcap packet capture for troubleshooting.	CGP-OLT-8T, CGP-OLT-16P
ONT vendor-id	A vendor-id is added to ONT to limit ONT registrations.	CGP-OLT-8T, CGP-OLT-16P
Command Line outputs	Some command line outputs are changed to avoid bias terminology.	CGP-OLT-8T, CGP-OLT-16P


Note

If the n40-428-1 or n40-420-1 devices are configured with release v1.2.1.17, they will automatically load the configuration of n40-428-1h and n40-420-1h for configuration compatibility after upgrading to release v1.2.2.0.

What's new in Cisco Catalyst PON Manager, Release v1.00.069

The following are the enhancements in Cisco Catalyst PON Manager, Release v1.00.069:

Feature	Description
Device functionality enhancements	Performance monitor functionality is optimized and data collection is made more stable.
ONT VOIP Register Status display	A new IP Address column in the ONT VOIP Register Status table displays the IP address of the SIP server.
Home Gateway Unit (HGU) and Single Family Unit (SFU) mode support on the CGP-ONT-4PVC and CGP-ONT-4PV models.	New ONT device types n40-428-1h/n40-428-1s and n40-420-1h/n40-420-1s are introduced to support Home Gateway Unit (HGU) and Single Family Unit (SFU) mode for the CGP-ONT-4PVC and CGP-ONT-4PV models.

Supported Hardware

Cisco Catalyst PON Series Optical Line Terminal

The following table lists the Cisco Catalyst PON Series OLT models that are supported:

Table 1: Cisco Catalyst PON Series OLT Models

OLT Model	Description
CGP-OLT-8T	OLT with 8xPON ports, 4x1 Gigabit Ethernet (GE) combo ports and 2x10 GE SFP+ module uplink slots.
CGP-OLT-16T	OLT with 16xPON ports, 4x1 GE combo ports, and 2x10 GE SFP+ module uplink slots.

Optics Modules

The Cisco Catalyst PON Series switches support the following Cisco Small Form-Factor Pluggable (SFP) and SFP+ transceiver modules:

Table 2: Supported SFP and SFP+ Modules

Model Number	Description
CGP-SFP-OC=	GPON SFP type C, Sensitivity -30dBm, average output power 3dBm~7dBm
GLC-LH-SMD	1000BASE-LX/LH long-wavelength, with Digital Optical Monitoring (DOM) support.
GLC-SX-MMD	1000BASE-SX short wavelength; with DOM support
GLC-EX-SMD	1000BASE-EX long-wavelength; with DOM support
GLC-BX-D	1000BASE-BX10-D downstream bidirectional single fiber, with DOM support

Model Number	Description
GLC-BX-U	1000BASE-BX10-U upstream bidirectional single fiber, with DOM support
GLC-TE	1000BASE-T standard
SFP-10G-SR	10GBASE-SR SFP+ module for Multimode Fiber (MMF)
SFP-10G-SR-S	10GBASE-SR SFP+ module for MMF S-Class
SFP-10G-LR	10GBASE-LR SFP+ module for Single-mode Fiber (SMF)
SFP-10G-LR-S	10GBASE-LR SFP+ module for SMF S-Class
SFP-10G-ER	10GBASE-ER SFP+ module for SMF
SFP-10G-ER-S	10GBASE-ER SFP+ module for SMF S-Class
SFP-H10GB-CU1M	10GBASE-CU SFP+ Cable 1 Meter, passive
SFP-H10GB-CU3M	10GBASE-CU SFP+ Cable 3 Meters, passive

For more information on the SFP and SFP+ modules, refer the following Data Sheets:

[Cisco Gigabit Ethernet SFP Modules Data Sheet](#)

[Cisco 10GBase SFP Modules Data Sheet](#)

Cisco Catalyst PON Manager

Cisco Catalyst PON Manager is a software that is based on client-server architecture and operates on the Windows operating system. The PON Manager Client provides a graphical user interface for users to operate and maintain the PON devices. The PON Manager Server processes the data sent by the client and also stores the relevant client information.



Note To avoid software conflicts during the installation of Cisco Catalyst PON Manager, turn off all the antivirus applications on your device.

Hardware Requirements for Cisco Catalyst PON Manager

The PON Manager Server and Client hardware requirements vary based on the size of the network that it serves.

The following tables describe the hardware specifications for Cisco Catalyst PON Manager.

Table 3: PON Manger Server Hardware Specifications

Network Size (number of managed network elements)	CPU Frequency	Number of CPUs	Memory	Hard disk size	Network Card
100000 to 1 million	Intel® Xeon® processor X7460, 2.66GHZ	4	64 GB	2x1 TB The disk should be NTFS format and not less than 100 GB.	Gigabit Network Adapter
1000 to 100000	Intel® Xeon® processor E5506, 3GHZ	2	32 GB	2x500 GB	Gigabit Network Adapter
Less than 1000	Intel® Core® i5 processor	1	16 GB	500 GB The disk should be NTFS format and not less than 50 GB.	Gigabit Network Adapter

Table 4: PON Manager Client Hardware Specifications

Network Size (number of managed network elements)	CPU Frequency	Number of CPUs	Memory	Hard disk size	Network Card
100000 to 1 million	Intel® Core® i3 processor, 3.4 GHZ	1	16 GB	250 GB	Gigabit Network Adapter
1000 to 100000	Intel® Core® i3 processor, 3.4 GHZ	1	8 GB	250 GB	Gigabit Network Adapter

Software Requirements for Cisco Catalyst PON Manager

PON Manager Server Requirements

Supported Operating Systems:

- 64-bit Operating System
- Windows Server 2008, Windows Server 2012, Windows Server 2016, Windows Server 2019, Windows 7, Windows 10

Supported Database:

MySQL

PON Manager Client Requirements

Windows 7 or Windows10 Operating System

Upgrading the Software

This section covers the various aspects of installing or upgrading the software on Cisco Catalyst PON Series OLT and Cisco Catalyst PON Manager.

Finding the Software Version

The Cisco Catalyst PON Manager provides a Configuration Management window to view the hardware and software releases of a device in the network.

You can use the **show version** command to see the software version that is running on your Cisco Catalyst PON Series OLT.

Table 5: Recommended Software Release

Device	Recommended Software Release
Cisco Catalyst PON Series OLT	v1.2.2.0
Cisco Catalyst PON Manager	v1.00.069

Installing or Upgrading Software on Cisco Catalyst PON Series OLT

Follow these steps to install or upgrade the software on a Cisco Catalyst PON Series OLT:

Before you begin

Ensure that an external TFTP server is installed on your computer that connects to the OLT.

Procedure

-
- Step 1** Download the following bootrom and host application files from the [Cisco Software Download](#) page. Store the files in your TFTP directory.
- Bootrom file: CGP-OLT_V1.2.1.17_bootrom_flash.bin
 - Host application file for CGP-OLT-8T: CGP-OLT-8T_V1.2.1.17_host.arj
 - Host application file for CGP-OLT-16T: CGP-OLT-16T_V1.2.1.17_host.arj
- Step 2** Start the external TFTP server.
- Step 3** Check and ensure that there is connectivity between the TFTP server and the OLT.

```
GPON# ping 192.168.100.10

Pinging 192.168.100.10 (192.168.100.10) with 40 bytes of data:
Reply from 192.168.100.10 bytes=40 time=9ms ttl=64
Reply from 192.168.100.10 bytes=40 time=9ms ttl=64
Reply from 192.168.100.10 bytes=40 time=9ms ttl=64
Reply from 192.168.100.10 bytes=40 time=9ms ttl=64
Reply from 192.168.100.10 bytes=40 time=9ms ttl=64

--- 192.168.100.10 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4820 ms
rtt min/avg/max = 9/9/9 ms
```

Step 4 Download the bootrom file to the OLT.

Example:

```
GPON# load whole-bootrom tftp inet 192.168.100.10 CGP-OLT_V1.2.1.17_bootrom_flash.bin

Downloading BootRom via TFTP...
Bootrom file is downloaded successfully, start writing to flash...
Download BootRom via TFTP successfully.
```

Step 5 Download the host application file to the OLT.

Choose an appropriate host application file depending on the OLT.

The example here shows the command for a CGP-OLT-8T switch.

Example:

```
GPON# load application tftp inet 192.168.100.10 CGP-OLT-8T_V1.2.1.17_host.arj

Downloading application via TFTP...
Application file is downloaded successfully, start writing to flash...
Download application via TFTP successfully.
```

Step 6 Reboot the OLT.

Note Services are disrupted during a reboot.

Example:

```
GPON# reboot

If you do not save the settings, all changes made will be lost.
Are you sure you want to proceed with the system reboot(y/n)?y
```

Installing or Upgrading the Cisco Catalyst PON Manager Software

Before you begin

- Exit the PON Manager Server and Client applications, if they are running.
- Turn off the antivirus application on your device to avoid software conflicts.

Procedure

-
- Step 1** Download the Cisco Catalyst PON Manager installation file, Cisco Catalyst PON Manager Installer(1.00.064).exe, from the [Cisco Software Download](#) page.
- Step 2** Double the click the installer file and follow the instructions on the wizard.
- Refer the *Cisco Catalyst PON Series Hardware Installation Guide* for detailed instructions on the Cisco Catalyst PON Manager installation.
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Caveats

Caveats describe unexpected behavior in Cisco Catalyst PON Series Releases. Caveats listed as open in a prior release are carried forward to the next release as either open or resolved.

Cisco Bug Search Tool

[Cisco Bug Search Tool](#) (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

To view the details of a caveat, click on the identifier.

Caveats in Cisco Catalyst PON Series OLT

This section describes the open and resolved issues in the releases of Cisco Catalyst PON Series OLT.

Resolved Caveats in Cisco Catalyst OLT v1.2.2.0

Caveat ID Number	Description
CSCvv37860	OLT: sometimes ONT with long distance will drop and re-register when PSG failover.
CSCvv37873	OLT: messy code outputs when displaying the SFP port information.

Open Caveats in OLT Release 1.2.1.17

Caveat ID Number	Description
CSCvv37860	OLT: sometimes ONT with long distance will drop and re-register when PSG failover. Applicable devices: CGP-OLT-8T, CGP-OLT-16T.
CSCvv37865	OLT: no logs or alarms when reaching the maximum mac count. Applicable devices: CGP-OLT-8T, CGP-OLT-16T.

Caveat ID Number	Description
CSCvv37873	OLT: messy codes outputs when show the SFP port information. Applicable devices: CGP-OLT-8T, CGP-OLT-16T.

Caveats in Cisco Catalyst PON Manager

This section describes the open and resolved issues in the releases of Cisco Catalyst PON Manager.

Resolved Caveats in Cisco Catalyst PON Manager 1.00.069

Caveat ID Number	Description
CSCvw19349	Cannot switch to the backup NMS server if the NMS client is connected when there is a change to the redundancy mode.
CSCvw19360	ONT image file is transferred twice if you select two OLT devices when upgrading.
CSCvw23895	Reports an error when accessing history performance report after changing the PC date and time format.

Open Caveats in Cisco Catalyst PON Manager 1.00.069

Caveat ID Number	Description
CSCvz38369	The time in OLT System Information table is different from the OLT actual time.

Open Caveats in Cisco Catalyst PON Manager 1.00.064

Caveat ID Number	Description
CSCvw19349	Fail to switch to the backup NMS server if the NMS client is connected when changing the server redundancy mode.
CSCvw19360	ONT image file is transferred twice if select 2 OLT devices when upgrading multiple ONTs.
CSCvw23895	Error reported when accessing history performance report after changing the PC date and time format.

Troubleshooting

For the most up-to-date, detailed troubleshooting information, see the Cisco TAC website at this URL:

<http://www.cisco.com/en/US/support/index.html>

Go to **Product Support** and select your product from the list or enter the name of your product. Look under Troubleshoot and Alerts, to find information for the problem that you are experiencing.

Use this [link](#) to open a TAC case.

Related Documentation

We recommend that you read the following documents relating to Cisco Catalyst PON Series:

- *Cisco Catalyst PON Series Switches OLT Configuration Guide*
- *Cisco Catalyst PON Series Switches OLT Command Reference Guide*
- *Cisco Catalyst PON Series Switches Hardware Installation Guide*
- *Cisco Catalyst PON Series Switches ONT Configuration Guide*
- *Cisco Catalyst PON Manager Overview Guide*

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