



Release Notes for Cisco ONS 15540 ESP and Cisco ONS 15540 ESPx 2.5-Gbps Transponder Module Functional Image Release 1.A3

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Cisco ONS 15540 transponder module (product numbers 15540-TSP1-xxxx and 15540-TSP2-xxxx) functional image release 1.A3

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This document describes the features and caveats for the functional image, release 1.A3, for the 2.5-Gbps transponder modules used with the Cisco ONS 15540 ESP and the Cisco ONS 15540 ESPx.

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Introduction

The Cisco ONS 15540 ESP and Cisco ONS 15540 ESPx are optical transport platforms that employ DWDM (dense wavelength division multiplexing) technology. With the Cisco ONS 15540 ESP and Cisco ONS 15540 ESPx, users can take advantage of the availability of dark fiber to build a common infrastructure that supports data, SANs (storage area networks), and TDM (time-division multiplexing) traffic.

Determining the Release of Your 2.5-Gbps transponder Module Functional Image

This section describes the process you use to determine the existing functional image version installed on your 2.5-Gbps transponder module.

To display the functional image version in a 2.5-Gbps transponder module, use the following command in privileged EXEC mode:

Command	Purpose
show hardware detail	Displays the functional image information.

Example

The following example shows the functional image information for the 2.5-Gbps transponder module in slot 2/3:

```
Switch# show hardware detail
-----
15540_Chassis_with_external_patch_support named Switch, Date:10:02:49 EST Fri May 2 2003
-----

Slot Number           : 2/3
Controller Type       : 0x1001
On-Board Description  : TRANSPONDER_Type_I_PHASE_0
Orderable Product Number: N/A
Board Part Number     : 73-5757-02
Board Revision        : 10
Serial Number         : CAB0514HHG3
Manufacturing Date    : 02/23/2001
Hardware Version      : 2.4
RMA Number            : 0x00
RMA Failure Code      : 0x00
Optical Rx Power Table : default, non-calibrated
→ Functional Image Version: 1.A3
Function-ID           : 0
Transceiver type      :Non-pluggable transceiver
-----
<Information deleted>
```

Updating to a New Release

For information on updating functional images, refer to the [Cisco ONS 15540 ESPx Software Upgrade Guide](#) or the [Cisco ONS 15540 ESP Software Upgrade Guide](#). To download the 2.5-Gbps transponder module functional image, go to the following URL:

<http://www.cisco.com/cgi-bin/tablebuild.pl/ons15540-fpga>.



Caution

A functional image download cannot revert once the download is started. Do not interrupt the download procedure. Wait until it has finished before attempting any commands on the switch. Confirm that the download is done in binary mode and check file sizes before and after the download. A failure during reprogramming can result in the card being unusable.

New Features in Functional Image 1.A3

The following new features are available in functional image 1.A3:

- Performance monitoring for 2-Gbps Fibre Channel and FICON

Parameters monitored:

- 8b10b line coding errors
- Loss-Of-Sync

Caveats

This section lists the caveats for the 2.5-Gbps transponder module functional image.

Use [Table 1](#) to determine the status of a particular caveat and its relevancy to your transponder module. In the table, “C” indicates a closed or fixed caveat, and “O” indicates an open caveat.



Note

Not all transponder module hardware types are affected by each caveat in Table 1. Check the specific caveat description for affected hardware types.

Table 1 *Transponder Module Functional Image Release Caveat Reference*

DDTS Number	Release				
	1.A3	1.A1	1.A0	1.9F	1.9C
CSCdy05132	C	O			
CSCeb37281	C	O	O	O	O
CSCeb61078	C	O	O	O	O
CSCec31146	O				

Caveat Symptoms and Workarounds

This section describes the caveats for this release of the 2.5-Gbps transponder module functional image.

- [CSCdy05132](#)

Symptom: Propagation of Loss-of-Light is faulty for IBM Sysplex ETR (external timer reference). Although the ETR link might come up and appear to work normally, protection switching operations of the ETR might be affected. This only affects multimode and extended range transponder modules.

Workaround: Upgrade the transponder module functional image to version 1.A3 or later.

- [CSCeb37281](#)

Symptom: Some OC-48/STM-16 SFP transceivers in a y-cable APS configuration with extended range transponder modules, experience a Tx fault from the SFP optics that keeps the client laser from being turned on during y-cable APS operations. In some cases a delay in the client laser being turned on causes a failover traffic outage of several seconds. This only affects extended range transponder modules.

Workaround: Upgrade the transponder module functional image to version 1.A3 or later.

- [CSCeb61078](#)

Symptom: An 8b10b encoded data stream at a 2.125-Gbps encoded rate (2-Gbps Fibre Channel, 2-Gbps FICON, 2-Gbps ISC or similar protocol) exhibits intermittent or dribbling bit errors on the Type 2 extended range transponder module. The bit errors are data-traffic-dependent; that is, the rate at which they occur decreases with increasing link utilization, usually disappearing completely at high utilization. Other higher and lower rates such as OC-48/STM-16 and Gigabit Ethernet do not exhibit this problem on the same transponder link. This only affects extended range transponder modules, up to and including hardware version 5.1.

Workaround: Upgrade the transponder module functional image to version 1.A3 or later. The functional image must be upgraded on all transponder modules in the failing 2-Gbps FC/FICON/ISC link.

- [CSCec31146](#)

Symptom: If a local transparent interface is encapsulated for 2-Gbps Fibre Channel or FICON and monitoring is disabled, a Loss of Light condition results in the far-end wave interface remaining up with a Loss of Sync condition.

Workaround: Enable monitoring on the transparent interface.

Limitations and Restrictions

This section provides limitations and restrictions for Cisco ONS 15540 ESP and Cisco ONS 15540 ESPx hardware and software.

2.5-Gbps Transponder Module

The 2.125-Gbps rate protocols (2-Gbps Fibre Channel, 2-Gbps FICON, and 2-Gbps ISC) on 2.5-Gbps transponder modules with a functional image version of 1.A2 or later at one end of the DWDM have incompatible data formats with lower functional image versions at the other end. This only affects single-mode and extended range transponder modules.

Related Documentation

Refer to the following documents for more information about the Cisco ONS 15540 ESP:

- [Regulatory Compliance and Safety Information for the Cisco ONS 15500 Series](#)
- [Cisco ONS 15540 ESP Planning Guide](#)
- [Cisco ONS 15540 ESP Hardware Installation Guide](#)
- [Cisco ONS 15540 ESP Optical Transport Turn-Up and Test Guide](#)
- [Cisco ONS 15540 ESP Configuration Guide](#)
- [Cisco ONS 15540 ESP Command Reference](#)
- [Cisco ONS 15540 ESP Troubleshooting Guide](#)
- [Network Management for the Cisco ONS 15540 ESP](#)
- [Cisco ONS 15540 ESP TL1 Commands](#)
- [MIB Quick Reference for the Cisco ONS 15500 Series](#)
- [Cisco ONS 15540 ESPx Software Upgrade Guide.](#)

Refer to the following documents for more information about the Cisco ONS 15540 ESPx:

- [Regulatory Compliance and Safety Information for the Cisco ONS 15500 Series](#)
- [Cisco ONS 15540 ESPx Planning Guide](#)
- [Cisco ONS 15540 ESPx Hardware Installation Guide](#)
- [Cisco ONS 15540 ESPx Optical Transport Turn-Up and Test Guide](#)
- [Cisco ONS 15540 ESPx Cleaning Procedures for Fiber Optic Connections](#)
- [Cisco ONS 15540 ESPx Configuration Guide](#)
- [Cisco ONS 15540 ESPx Command Reference](#)
- [Cisco ONS 15540 ESPx Troubleshooting Guide](#)
- [Network Management for the Cisco ONS 15540 ESPx](#)
- [Cisco ONS 15540 ESPx TL1 Commands](#)
- [MIB Quick Reference for the Cisco ONS 15500 Series](#)
- [Cisco ONS 15540 ESPx Software Upgrade Guide.](#)

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco websites can be accessed from this URL:

http://www.cisco.com/public/countries_languages.shtml

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:
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- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit e-mail comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, the Cisco Technical Assistance Center (TAC) provides 24-hour-a-day, award-winning technical support services, online and over the phone. Cisco.com features the Cisco TAC website as an online starting point for technical assistance. If you do not hold a valid Cisco service contract, please contact your reseller.

Cisco TAC Website

The Cisco TAC website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco TAC website is available 24 hours a day, 365 days a year. The Cisco TAC website is located at this URL:

<http://www.cisco.com/tac>

Accessing all the tools on the Cisco TAC website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a login ID or password, register at this URL:

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

Opening a TAC Case

Using the online TAC Case Open Tool is the fastest way to open P3 and P4 cases. (P3 and P4 cases are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using the recommended resources, your case will be assigned to a Cisco TAC engineer. The online TAC Case Open Tool is located at this URL:

<http://www.cisco.com/tac/caseopen>

For P1 or P2 cases (P1 and P2 cases are those in which your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete listing of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.

Priority 1 (P1)—Your network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Go to this URL to visit the company store:

<http://www.cisco.com/go/marketplace/>

- The Cisco *Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:

<http://cisco.com/univercd/cc/td/doc/pcat/>

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access Packet magazine at this URL:

<http://www.cisco.com/packet>

- *iQ Magazine* is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

<http://www.cisco.com/ipj>

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

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

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