



About this Guide



Note

The terms "Unidirectional Path Switched Ring" and "UPSR" may appear in Cisco literature. These terms do not refer to using Cisco ONS 15xxx products in a unidirectional path switched ring configuration. Rather, these terms, as well as "Path Protected Mesh Network" and "PPMN," refer generally to Cisco's path protection feature, which may be used in any topological network configuration. Cisco does not recommend using its path protection feature in any particular topological network configuration.

This section explains the objectives, intended audience, and organization of this publication and describes the conventions that convey instructions and other information.

Revision History

Date	Notes
03/28/2007	Revision History Table added for the first time
08/27/2007	Updated About this Guide chapter

This section provides the following information:

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Document Objectives

This document explains installation, turn up, provisioning, and maintenance for Cisco ONS 15454 dense wavelength division (DWDM) systems. Use this document in conjunction with the appropriate publications listed in the [Related Documentation](#) section.

Audience

To use this publication, you should be familiar with Cisco or equivalent optical transmission hardware and cabling, telecommunications hardware and cabling, electronic circuitry and wiring practices, and preferably have experience as a telecommunications technician.

Document Organization

The *Cisco ONS 15454 DWDM Installation and Operations Guide, Release 4.7* is organized into the following chapters:

- [Chapter 1, “Install the Shelf and Common Control Cards”](#) provides procedures for installing Cisco ONS 15454 ANSI and ETSI shelves and common control cards including the TCC2 and AIC/AIC-I.
- [Chapter 2, “Connect the PC and Log into the GUI”](#) includes procedures to install the Cisco Transport Controller (CTC), set up a computer for different connection types, and log into the Cisco ONS 15454.
- [Chapter 3, “Turn Up a Node”](#) provides procedures for node turn up and DWDM card installation.
- [Chapter 4, “Perform Node Acceptance Tests”](#) provides acceptance tests for each DWDM node type.
- [Chapter 5, “Turn Up Network”](#) explains how to turn up and test a DWDM network.
- [Chapter 6, “Create Channels and Circuits”](#) explains how to create DWDM optical channel network connections (OCHNCs) and overhead circuits.
- [Chapter 7, “Manage Alarms”](#) explains how to document existing node data, view and delete alarms, view alarm-affected circuits and LCD alarm counts, manage alarm profiles, filter alarms, suppress alarms, and provision external alarms.
- [Chapter 8, “Monitor Performance”](#) provides procedures to change the performance monitoring (PM) display, monitor performance, and manage remote monitoring (RMON) thresholds.
- [Chapter 9, “Manage the Node”](#) explains how to modify node provisioning for the Cisco ONS 15454 and perform common management tasks such as monitoring the DWDM automatic power control and span loss values.
- [Chapter 10, “Change Card Settings”](#) explains how to change line, performance monitoring (PM), and threshold settings on Cisco ONS 15454 cards.
- [Chapter 11, “Maintain the Node”](#) provides hardware and software maintenance procedures for the Cisco ONS 15454.
- [Chapter 12, “Power Down the Node”](#) explains how to shut down an ONS 15454.
- [Chapter 13, “Shelf Hardware Reference”](#) includes descriptions of the rack, backplane, FMECs, ferrites, power and ground, fan-tray assembly, air filter, card slots, cables, cable connectors, and cable routing.

- [Chapter 14, “Card Reference”](#) provides descriptions of the common control, transponder/muxponder, and DWDM cards as well as small-form factor pluggables (SFPs).
- [Chapter 15, “DWDM Node Reference”](#) explains the ONS 15454 DWDM node types that are available for the ONS 15454. The chapter also explains the DWDM automatic power control, ROADM power equalization, span loss verification, and automatic node setup functions.
- [Chapter 16, “DWDM Network Reference”](#) explains the ONS 15454 DWDM network applications and topologies.
- [Chapter 17, “Cisco Transport Controller Operation”](#) includes information about CTC installation, the CTC window, computer requirements, software versions, and database reset and revert.
- [Chapter 18, “Security and Timing”](#) describes user security and node/network timing.
- [Chapter 19, “CTC Connectivity Reference”](#) includes IP addressing scenarios and information about provisionable patchcords, open GNE, and external firewalls.
- [Chapter 20, “Alarm Monitoring and Management”](#) describes Cisco Transport Controller (CTC) alarm management.
- [Appendix A, “CTC Information and Shortcuts”](#) describes the CTC views, menus options, tool options, shortcuts, table display options, and shelf inventory data.
- [Appendix B, “Hardware Specifications”](#) contains hardware and software specifications for the ONS 15454 ANSI and ETSI shelf assemblies and cards.
- [Appendix C, “DWDM Enhanced State Model”](#) describes the state model for Cisco ONS 15454 DWDM cards, optical payload ports, out-of-band optical supervision channel (OSC) ports, optical channel network connections (OCHNC), and transponder/muxponder cards and ports.

Related Documentation

Use this *Cisco ONS 15454 DWDM Installation and Operations Guide, Release 4.7* in conjunction with the following referenced publications:

- *Cisco ONS 15454 SONET and DWDM Troubleshooting Guide, Release 4.7*
- *Cisco ONS 15454 SONET and SDH TL1 Quick Reference Guide, Release 4.7*
- *Cisco ONS 15454 Release 4.7 Network Element Defaults*
- *Cisco ONS 15454 SDH Release 4.7 Network Element Defaults*
- *Release Notes for Cisco ONS 15454 Release 4.7*
- *Release Notes for Cisco ONS 15454 SDH Release 4.7*

Document Conventions

This publication uses the following conventions:

Convention	Application
boldface	Commands and keywords in body text.
<i>italic</i>	Command input that is supplied by the user.

Convention**Application**

[]

Keywords or arguments that appear within square brackets are optional.

{ x | x | x }

A choice of keywords (represented by x) appears in braces separated by vertical bars. The user must select one.

Ctrl

The control key. For example, where Ctrl + D is written, hold down the Control key while pressing the D key.

screen font

Examples of information displayed on the screen.

boldface screen font

Examples of information that the user must enter.

< >

Command parameters that must be replaced by module-specific codes.

**Note**Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.**Caution**Means *reader be careful*. In this situation, the user might do something that could result in equipment damage or loss of data.**Warning****IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

Where to Find Safety and Warning Information

For safety and warning information, refer to the *Cisco Optical Transport Products Safety and Compliance Information* document that accompanied the product. This publication describes the international agency compliance and safety information for the Cisco ONS 15xxx systems. It also includes translations of the safety warnings that appear in the ONS 15xxx system documentation.

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 at this URL:

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

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at 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:
<http://www.cisco.com/en/US/partner/ordering/index.shtml>
- 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).

Cisco Optical Networking Product Documentation CD-ROM

Optical networking-related documentation, including Cisco ONS 15xxx product documentation, is available in a CD-ROM package that ships with your product. The Optical Networking Product Documentation CD-ROM is updated periodically and may be more current than printed documentation.

Documentation Feedback

You can send 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, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

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

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

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

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

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool automatically provides recommended solutions. If your issue is not resolved using the recommended resources, your service request will be assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request 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 list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—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.

Severity 2 (S2)—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.

Severity 3 (S3)—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.

Severity 4 (S4)—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. Visit Cisco Marketplace, the company store, at this URL:
<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 at this URL:
<http://www.ciscopress.com>
- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:
<http://www.cisco.com/packet>

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. 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>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

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