

Cisco IOS Software Release 12.1(12c)EV on the Cisco ONS 15500 Series

Introduction

This product bulletin outlines the hardware and software features supported in Cisco IOS® Software Release 12.1(12c)EV on the Cisco ONS 15500 Series metro optical platforms. Cisco IOS Software Release 12.1(12c)EV is an ED release (XED) that it is optimized for the Cisco ONS 15500 Series and is based on the Cisco IOS Software 12.1(12)E maintenance release.

The Cisco ONS 15500 Series, which includes the ONS 15530 Multiservice Aggregation Platform and ONS 15540 Extended Services Platform. They are highly scalable, dense wave division multiplexing (DWDM), multiservice aggregation and transport platforms. They integrate data networking, storage networking, and legacy applications over an ultra-high, bandwidth intelligent optical infrastructure. The Cisco ONS 15500 Series provides flexible, scalable, and highly available optical networking for current and future high-performance, bandwidth-intensive networking applications.

Features at a Glance

Hardware Support

The Cisco IOS 12.1(12c)EV release for the ONS 15500 Series supports the following hardware:

Product	Product Codes	Description
Cisco ONS 15530 8-port Fibre Channel / Gigabit Ethernet Multiplexing Line Card	15530-FCGE-8P	The Cisco ONS 15530 8-port Fibre Channel/Gigabit Ethernet Multiplexing line card is an aggregation card capable of multiplexing up to 8 Fibre Channel / FICON / Gigabit Ethernet signals onto a single 10 Gbps ITU trunk card, or groups of 2 ports (e.g., ports 0 and 1) onto a 2.5 Gbps ITU trunk card, 10 Gbps ITU trunk card, or 10 Gbps uplink for connectivity to another ONS 15530 or to an ONS 15540 ESPx. Pluggable transceiver modules are required for operation and up to eight are supported.
Pluggable Transceiver Modules		The Cisco ONS 15530 8-port Fibre Channel/Gigabit Ethernet Multiplexing line card supports the following pluggable transceiver modules:
	15500-XVRA-03B1	Gigabit Ethernet/Fibre Channel - 1310nm SM - MTLC
	15500-XVRA-02C1	Gigabit Ethernet/Fibre Channel - 850nm MM - 1G MTLC

Product	Product Codes	Description
Cisco ONS 15530 2.5 Gbps ITU Trunk Cards	15530-ITU3-XXYZ (Where XX=2.5 Gbps ITU Channel XX/XX+1, Y = splitter(1)/non-splitter (2), Z = Unassigned)	The Cisco ONS 15530 2.5 Gbps ITU trunk card is designed to be used with the 10-port ESCON and 8-port Fibre Channel/Gigabit Ethernet multiplexing cards to support up to 10-ports of ESCON or 2-ports of Fibre Channel/FICON/Gigabit Ethernet over a 2.5 Gbps ITU wavelength. The 2.5G ITU trunk card can be used in point-to-point and ring configurations.
Cisco ONS 15500 Series Protection Switch Modules	15530-PSM-01 and 15540-PSM-01	The Cisco ONS 15500 Protection Switch Module (PSM) allows a customer to protect the entire fiber path by splitting an optical signal from one fiber trunk into two redundant fiber paths. This offers customers a more cost effective protection option and achieve protection against fiber cuts in the network.

Software Support

The Cisco IOS 12.1(12c)EV release for the ONS 15500 Metro Optical DWDM Platforms supports the following software features:

Feature	Description
Support for 2.5 Gbps and 10 Gbps trunks/uplinks (ONS 15530 8-port FC/GE Multiplexing Line Card)	Software capability allowing the Cisco ONS 15530 8-port Fibre Channel/Gigabit Ethernet Multiplexing Line Card to interwork with the 2.5 Gbps ITU trunk card, 10 Gbps ITU trunk card, or the 10 Gbps uplink. All 8-ports of the Fibre Channel/Gigabit Ethernet Multiplexing Line Card can be sent over a single 10 Gbps ITU trunk/uplink or groups of 2-ports can be sent to a 2.5 Gbps ITU trunk card or a 10 Gbps ITU trunk/uplink.
Point-to-point 1+1 Automatic Protection Switching (ONS 15530 2.5G ITU Trunk Card)	The Cisco ONS 15530 supports per-channel unidirectional and bidirectional 1+1 path switching over both point-to-point and optical ring topologies for the 2.5 Gbps ITU Trunk Card. 1+1 protection, which is similar to SONET/SDH Automatic Path Switching (APS), is a method of protection in which one optical signal drives two sets of trunk fibers. One signal is used as the active fiber pair, and the other is used as the standby fiber pair should the working path be cut. When an active signal that is protected fails or in some cases degrades, the system automatically switches from the active network path to the standby network path.
Per-wavelength Management Channel (ONS 15530 2.5G ITU Trunk Card)	The Cisco ONS 15530 2.5 Gbps ITU trunk card supports a per-wavelength management channel providing OAM&P capabilities similar to SONET/SDH in the metro DWDM network. The per-wavelength management channel provides the robustness and quality of service (QoS) required for a carrier-class optical network. The management channel provides optical performance monitoring with alarm indication, along with failure isolation and protection mechanisms.
Protection Switching Mechanism (ONS 15500 Protection Switch Module)	A protection switching mechanism in software allowing the Cisco ONS 15500 with Protection Switch Modules to protect against a fiber failure on a trunk interface. Hardware and software is used to offer a 1+1 protection mechanism that is similar to the SONET Automatic Protection Switching (APS) standard. When a loss of light or a configurable level of signal degradation is detected, the software will switch from the working fiber path to the protection fiber path in less than 50ms.
SNMP Support	Simple Network Management Protocol (SNMP) support for the ONS 15530 line cards (8-port Fibre Channel/Gigabit Ethernet Multiplexing Line Card, 2.5 Gbps ITU Trunk Card, and Protection Switch Module) and for the ONS 15540 ESPx Protection Switch Module.

Release Notes can be found at:

Cisco ONS 15530:

http://www.cisco.com/univercd/cc/td/doc/product/mels/15530/12_1_ev/12c_ev/index.htm

Cisco ONS 15540 ESPx:

http://www.cisco.com/univercd/cc/td/doc/product/mels/15540x/12_1_ev/12c_ev/index.htm

Ordering Information

The Cisco IOS 12.1(12c)EV release for the Cisco ONS 15500 Metro Optical DWDM Platforms includes the following software.

Platform	Product Number	Release
ONS 15530	SO530C-12112EV	12.1(12c)EV
ONS 15540 ESPx	SO15C-12112EV	12.1(12c)EV

SMARTnet Customers

Update

SMARTnet™ customers are entitled to a software update, which is described as a new release version of the customer last-purchased feature set. For customers wanting increased functionality, an upgrade to the new feature set will be required.

Upgrade

Cisco helps SMARTnet customers get upgrades quickly through [cisco.com](http://www.cisco.com). If customers are upgrading from one feature set to another, they must place an order for the purchase of the appropriate Technology Use or Feature Licenses before downloading the software.

Non-SMARTnet Customers

Upgrades

Customers who wish to increase the level of functionality beyond their current feature set must order a software product code along with any appropriate feature licenses.

Downloading Cisco IOS 12.1(12c)EV Software Release from Cisco

Registered [cisco.com](http://www.cisco.com) users may download the Cisco IOS 12.1(12c)EV software release for the Cisco ONS 15530 and Cisco ONS 15540 ESPx platforms at <http://www.cisco.com> when available. This release is scheduled for January 2003.

Those customers eligible for software upgrades under warranty, and who do not have service contracts will need to contact the Cisco Technical Assistance Center at 800 553-2447 or tac-dispatch@cisco.com.