

Cisco ONS 15530 10 Gbps ITU Trunk and Uplink Cards

The Cisco® ONS 15530 10 Gbps ITU Trunk Card provides the Cisco ONS 15530 DWDM Multiservice Aggregation Platform with the option to aggregate multiple ESCON, Fibre Channel, FICON, and Gigabit Ethernet services over a single ITU (International Telecommunication Union) wavelength. Cisco ONS 15530 10 Gbps ITU trunk cards are available in two versions: a 15xx nm 10 Gbps ITU dense wavelength division multiplexing (DWDM) trunk card and a 10 Gbps 1310 nm uplink card. The 10 Gbps ITU trunk cards support any one of the DWDM channels in the 32-channel ITU C-band at 100-GHz spacing. The Cisco ONS 15530 10 Gbps Uplink Card provides a 1310 nm uplink option for connecting to a colocated Cisco ONS 15540 or Cisco ONS 15530 environment.

Benefits

- *Service aggregation*—By performing service aggregation on a 10 Gbps wavelength, customers can dramatically increase their fiber-carrying capacity for storage and data applications. Up to 8 Gigabit Ethernet, Fibre Channel, FICON, or 40 ESCON services can be multiplexed onto a single 10 Gbps ITU wavelength or 1310 nm signal.
- *Service mixing*—The Cisco ONS 15530 10 Gbps trunk card or 10 Gbps uplink card combined with the Cisco ONS 15530 switch fabric provides network design flexibility and bandwidth efficiency by allowing a single 10 Gbps wavelength or 1310 nm signal to carry a combination of Fibre Channel, FICON, ESCON, and Gigabit Ethernet protocols between customer data centers. This greatly reduces network design complexity by minimizing the number of wavelengths required.
- *Design flexibility*—With 2.5 Gbps and 10 Gbps trunk card options, the Cisco ONS 15530 platform provides greater scalability from low-density to high-density deployments. Cisco ONS 15530 10 Gbps ITU trunk cards support high-density applications over point-to-point or metro ring topologies.
- *Investment protection*—As customers' service requirements change, the Cisco ONS 15530 10 Gbps ITU trunk card provides investment protection by being able to initially aggregate one protocol (for example, 20 ESCON services) and then later aggregate a different protocol (for example, 4 Gigabit Ethernet, Fibre Channel, or FICON services) as application requirements change and/or grow. The 10 Gbps solution offers an attractive high-density solution.

Figure 1
Cisco ONS 15530 10
Gbps IT Trunk Card with
Splitter





- **Protection options**—Cisco ONS 15530 10 Gbps trunk cards can be deployed with optical splitter-based protection (10 Gbps ITU trunk card) or 1+1 protection to provide enhanced service protection by sending the optical trunk signal simultaneously over both east and west fiber paths. In addition, the ONS 15530 10 Gbps trunk and uplink cards offer the ability to protect applications at a per-service level, unmatched by the industry today.
- **Performance monitoring**—The Cisco ONS 15530 10 Gbps trunk card offers performance monitoring, providing the customer with the ability to monitor optical signal performance.
- **Partners**—The Cisco ONS 15530 10 Gbps trunk card and 10 Gbps uplink cards are compatible with storage applications from Cisco partners, including IBM GDPS, EMC SRDF, HP/Compaq DRM, and HDS TrueCopy. This allows customers the choice of deploying the Cisco ONS 15530 platform in many types of storage environments with full confidence.
- **Storage applications**—The Cisco ONS 15530 10 Gbps trunk card, coupled with ESCON, Fibre Channel, or FICON aggregation cards, can be used in storage networking applications such as business continuance, disaster recovery, disk mirroring, and storage-area network (SAN) extension.
- **Data networking**—The Cisco ONS 15530 platform, configured with Cisco ONS 15530 10 Gbps trunk cards, can extend Gigabit Ethernet services over a 10 Gbps metro DWDM backbone for high-bandwidth intercampus networking applications. By networking IP traffic end-to-end in its native Ethernet format at wire speed and with full operations, administration, and management (OAM) capabilities, enterprises can avoid the added complexity and cost of protocol conversion and rate adaptation into another metropolitan- or wide-area network (MAN/WAN) protocol.

Optical Specifications

Table 1 Cisco ONS 15530 10 Gbps ITU Trunk Card Specifications

Receiver Specifications	Minimum	Typical	Maximum
Receiver sensitivity	-22 dBm	-	-
Optical signal noise ratio (OSNR) (0.1 nm bandwidth)	26 dB	-	-
Maximum overload	-	-	-8 dBm
Transmitter Specification	Minimum	Typical	Maximum
Output power	1 dBm	3 dBm	6 dBm
Dispersion tolerance ¹	-	-	100 ps/nm
Wavelength range	1529 nm	-	1562 nm

1. Add proper network level penalty to the OSNR and/or receive power sensitivity based on actual network topology characteristics such as dispersion



Table 2 Cisco ONS 15530 10 Gbps Uplink Card Specifications²

Receiver Specifications	Minimum	Typical	Maximum
Receiver sensitivity	-13.23 dBm	-	-
Maximum overload	-	-	0.5 dBm
Transmitter Specifications	Minimum	Typical	Maximum
Average launch power	-5.2 dBm	-	0.5 dBm
Wavelength range	1260 nm	-	1355 nm

2. Supports IEEE 802.3ae 10GBASE-LR specification

Table 3 Specifications

<p>10 Gbps ITU Trunk Ports Splitter (10 Gbps ITU trunk card only)</p> <ul style="list-style-type: none"> - Fiber: ITU-T G.652 - Connector: MU <p>Non-splitter</p> <ul style="list-style-type: none"> - Fiber: ITU-T G.652 <p>Connector: MU</p> <p>10 Gbps Uplink Ports</p> <ul style="list-style-type: none"> - Fiber: 1310 nm Single Mode - Connector: SC 	<p>Configuration Options</p> <ul style="list-style-type: none"> • Up to six cards per chassis • Compatible in slots 1-4 and slots 7-10 • Compatible with 8-Port Fibre Channel/Gigabit Ethernet and 10-port ESCON Aggregation Cards <p>Channel options</p> <ul style="list-style-type: none"> • 32 wavelengths in a 100-GHz ITU grid (C-band) <p>Specifications</p> <ul style="list-style-type: none"> • Dimensions (H x W x D): 10.4 x 1.105 x 8.797 in. • Bit rate: 10 Gigabit Ethernet LAN-PHY • Digital monitoring: 64b/66b code errors
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Table 4 Ordering Information

Product Code	Description	Minimum Cisco IOS® Software
15530-ITU2-xx10	Cisco ONS 15530 Channel xx 10 Gbps ITU Trunk Card MU with splitter (where xx = ITU channel 01, 02, 03, ... 32)	SO530C-12110EV
15530-ITU2-xx20	Cisco ONS 15530 Channel xx 10 Gbps ITU Trunk Card MU with non-splitter (where xx = ITU channel 01, 02, 03, ... 32)	SO530C-12110EV
15530-10GE-UPLINK	Cisco ONS 15530 10 Gbps Uplink Card, 1310 nm with SC	SO530C-12110EV

Common Language Equipment Identifier (CLEI) codes are available upon request.

For More Information

For more information about the individual modules available with the Cisco ONS 15530 platform, refer to the Cisco ONS 15530 technical specifications, available at:

<http://www.cisco.com/en/US/products/hw/optical/ps2011/ps4002/index.html>



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