

DATA SHEET

CISCO ONS 15310-CL SONET MULTISERVICE PLATFORM

The Cisco® ONS 15310-CL SONET Multiservice Platform is an economical, 1-rack unit (1RU)-high delivery platform optimized for use as the last network element, at the customer location (CL), in a service provider's network or for use as an end node in enterprise or campus environments. The Cisco ONS 15310-CL takes advantage of the proven technology pioneered by the Cisco ONS 15454, the industry's leading multiservice optical transport platform (Figure 1).

Figure 1

Cisco ONS 15310-CL SONET Multiservice Platform



INTEGRATED OPTICAL NETWORKING

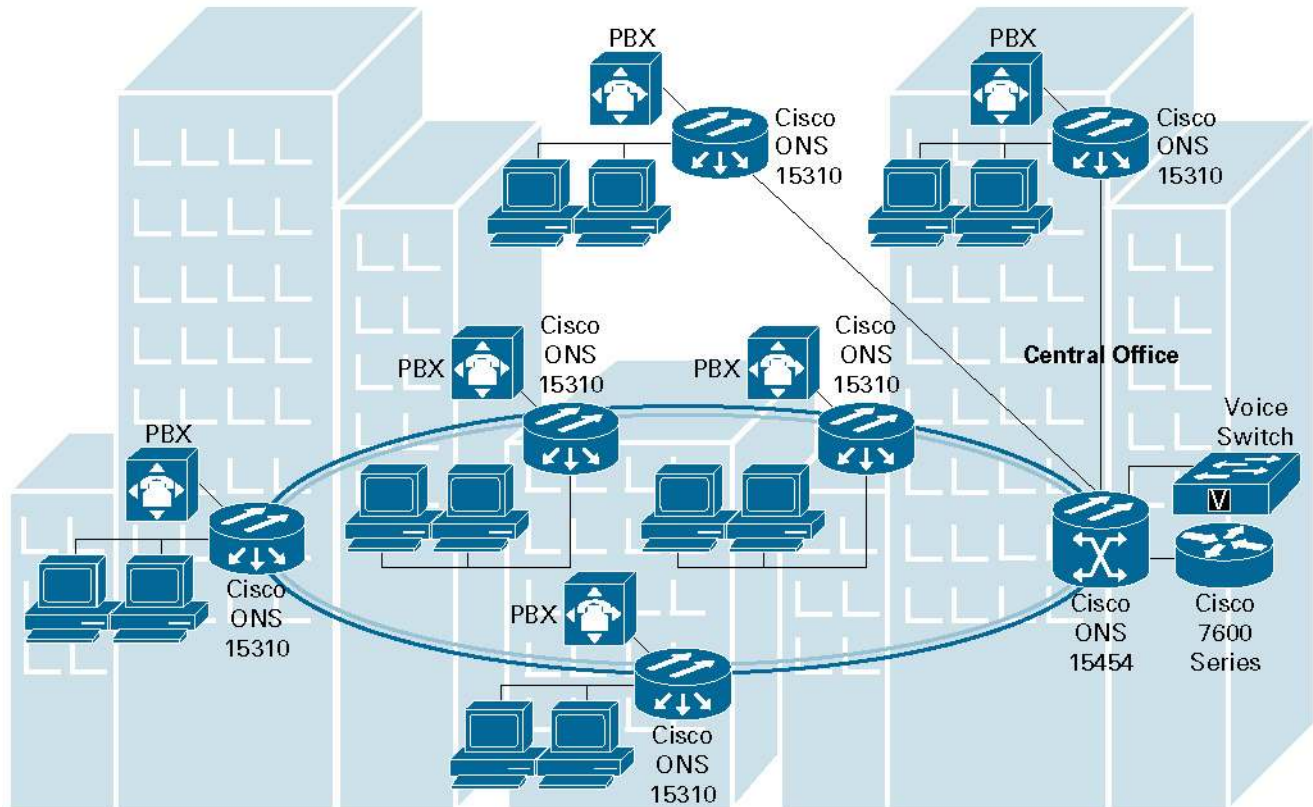
The Cisco ONS 15310-CL efficiently aggregates data, voice, and video services for transport. The platform effectively supports TDM and 10/100-Mbps Ethernet, and it provides integrated data-switching and cross-connect functions. Various data streams can be carried separately or together and transported in a one-for-one dedicated bandwidth mode or in a concentrated mode with no limit on the oversubscription ratio.

With the ability to transparently integrate into SONET networks, and an expansion slot providing the modularity to meet changing network needs, the Cisco ONS 15310-CL helps transform today's TDM-based transport networks into flexible, data-intensive superhighways.

Although many transport products claim to handle today's data and voice traffic, they lack the ability to provide effective bandwidth management for higher-speed IP-based data services. Many of these platforms require significant setup time and are difficult to provision. The Cisco ONS 15310-CL offers optimized bandwidth for high-speed IP-based data services, rapid service provisioning, and multiple optical interfaces through Small Form-Factor Pluggables (SFPs) for flexible SONET networking (Figure 2).

Figure 2

The Cisco ONS 15310-CL Delivers Multiservices On Demand to the Customer Location and Metropolitan Edge



EVOLUTIONARY SONET TRANSPORT

By extending the metropolitan (metro) edge to customer premises and providing direct high-speed LAN connectivity, the Cisco ONS 15310-CL allows service providers to cost-effectively offer scalable, high-speed data services over their transport networks. For the enterprise, the Cisco ONS 15310-CL offers the efficiency, scalability, and high availability to meet the bandwidth demands of the mission-critical e-business infrastructure. These features are available without implementing new technology or upgrading the existing transport network infrastructure.

This evolutionary platform supports high optical bandwidth and can drop a DS-1 from an OC-3 or OC-12 stream. The Cisco ONS 15310-CL also provides comprehensive STS- and VT-level bandwidth management and integrated data switching.

ACCELERATED NETWORK ECONOMICS

The integrated multiservice optical networking functions of the Cisco ONS 15310-CL dramatically reduce service-delivery costs. Packaged in a 1RU, industrially temperature-hardened Network Equipment Building Standards (NEBS) 3-compliant assembly, the Cisco ONS 15310-CL delivers fast provisioning and low initial cost, while maintaining a small footprint and low operational cost throughout the life of the product.

PROVISIONING AND MANAGING THE CISCO ONS 15310-CL

Each Cisco ONS 15310-CL is equipped with Cisco Transport Controller, a subnetwork craft interface tool that simplifies node control. The Cisco Transport Controller GUI and point-and-click capabilities allow easy node turn-up, autorouted A-to-Z circuit provisioning, and rapid service creation. Cisco Transport Controller provides: element-level control; quick access to operation, administration, maintenance, and provisioning (OAM&P); a Transaction Language One (TL-1) command window; and graphical network topology representations, network conditions, and shelf configurations.

Cisco Transport Manager is the comprehensive element management system for the entire Cisco ONS products, including the Cisco ONS 15310-CL. Integrating fault, configuration, and performance management, Cisco Transport Manager streamlines and strengthens optical network OAM&P. The client-and-server platform easily scales to manage up to 1000 network elements and 100 simultaneous users. Cisco Transport Manager helps service providers quickly identify and correct network problem areas and more rapidly deploy revenue-generating services.

The OSMINE Telcordia TIRKS system and the Telcordia NMA system are supported with the initial release of the Cisco 15310-CL. Standards compliance helps incumbent carriers accelerate service deployment velocity with confidence. Telcordia Transport Element Activation Manager (TEMS) will be supported in a future OSMINE release.

PRODUCT SPECIFICATIONS

The following specifications apply to the Cisco ONS 15310-CL:

Hardware

Chassis

- 1RU-high chassis
- Two SFP optical ports; SFP options follow:
 - OC-3 intermediate reach and long reach
 - OC-12 intermediate reach and long reach
 - Multirate OC-3/OC-12 intermediate reach
- Twenty-one onboard DS-1 interfaces through a straight, 96-pin D-sub connector, with separately orderable cable with separate 64-pin transmit (Tx) and receive (Rx) connectors at customer side
- Three onboard DS-3 or EC-1 (electrical STS) per-port provisionable interfaces through a mini-BNC connector, with separately orderable mini-BNC-to-standard BNC conversion cable
- Flexible expansion port
- Integrated single-system cross-connect, timing, control, and DS-n service architecture
- 19- and 23-inch rack-mount and wall-mount options
- Alarm input/output contacts (3/2) port, Building Integrated Timing Supply (BITS) input/output (1/1) port, external LAN management port, local and craft management port, and user-data-channel (UDC) port-all with RJ-45 connectors
- Single-feed AC power or dual-feed DC power factory versions

- Front access (exception: DC power access on rear with DC version)
- Onboard fan cooling
- Electrostatic discharge (ESD) jack
- Maximum power draw:
 - 50W typical (without expansion card)
 - 65W maximum (when all the electrical ports are long haul or maximum line build-out)
- Operating temperature:
 - DC power version: –40 to +65°C (–40 to 149°F)
 - AC power version: 0 to +50°C (0 to 122°F)
- Operating humidity; noncondensing: 5–95 percent
- Dimensions (L x W x D): 15.00 x 17.25 x 1.75 in. (381 x 438.2 x 44.4 mm) (1RU)
- Weight: 12 lb (26.4 kg)

Configurations

- Point-to-point terminal
- Add/drop multiplexer
- Two-fiber unidirectional-path switched ring (UPSR)
- Path-protected mesh network (PPMN)

System Timing

- Internal Reference -SONET Minimum Clock (SMC) ± 20 parts per million (PPM) compliant with Telcordia GR-253-CORE
- Holdover stability: 3.7×10^{-7} per day, including temperature (<255 slips in first 24 hours)
- Line timed from any OC-n port
- External BITS

Software

- SONET, DS-3/EC-1, and DS-1
- UPSR, PPMN, 1 + 1, 1 + 0, bidirectional, and unidirectional
- Complete equipment and facility maintenance
- Complete performance monitoring per GR-499, GR-253, and GR-820
- Full Ethernet switching capability
- Protection-channel access (Telcordia GR-1230-CORE)
- Terminal and facility loopbacks

Management

- Cisco Transport Manager
 - Scalable client-and-server element management system (EMS) for Cisco ONS Family of products
 - Integrated element management of the Cisco ONS 15300 Series and Cisco ONS 15454 multiservice provisioning platforms (MSPPs)
 - Java-based client; Solaris-based server; and Oracle database
 - Full fault, configuration, performance, and security management
 - Tree-based network explorer; topology map; and graphical cross-connect map
 - Common Object Request Broker Architecture (CORBA), TL-1, and Simple Network Management Protocol (SNMP) northbound interfaces for operations-support-system (OSS) integration
- Cisco Transport Controller
 - Java-based node and subnetwork control
 - Unified GUI for the Cisco ONS 15300 Series and Cisco ONS 15454 MSPPs
 - Full node control: Provisioning, alarm, maintenance, and performance
 - Subnet control: Auto discovery; topology map with drill-down; A-to-Z circuit provisioning; and subnet alarm control
- OSMINE
 - Support for Telcordia TIRKS system and Telcordia NMA system
 - Future support for Telcordia TEMS

Regulatory Compliance

EMC (Class A)

- ETSI 300-386-TC
- Telcordia GR-1089-CORE, Level 3
- CISPR 22, CISPR24
- IC ICES-003 Issue 3, 1997
- FCC 47CFR15
- EN55022, EN55024

Safety

- CAN/CSA-C22.2 No. 950-95, Third Edition
- Telcordia GR-1089-CORE
- IEC60950/EN60950, Third Edition (with all country deviations)
- UL60950

Laser

- UL60950 and IEC60950/EN60950
- CDRH (Accession Letter and Report)
- IEC 60825-1 Am.2 (2001)
- IEC-60825-2 (2000)

Environmental

- Telcordia GR-63-CORE, NEBS Level 3
- ETS 300 019-2-1 (Storage, Class 1.1)
- ETS 300 019-2-2 (Transportation, Class 2.3)
- ETS 300 019-2-3 (Operational, Class 3.1E)

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