meriton NETWORKS

Delivering flexible high-speed services in metro core/regional networks

6400 OTP (OPTICAL TRANSPORT PLATFORM)

MERITON'S AGILE OPTICAL NETWORKING AON

Metro-regional transport component of Meriton's Agile Optical Networking portfolio

Industry's first WSS-based ROADM

Cost-efficient optical transport platform

Modular and expandable architecture

Common management and control plane with 5400 OTP

Sub-rate multiplexing for SAN, Ethernet and SONET/SDH

Intelligent network planning and management

6400 OPTICAL TRANSPORT PLATFORM

The Meriton 6400 Optical Transport Platform (OTP) provides the most flexible optical transport solution for service providers in metro regional markets. By dynamically allocating TDM, Ethernet, data, or optical services in the metro environment, the 6400 OTP removes the uncertainties associated with solving bandwidth demands arising out of unpredictable traffic patterns. The 6400 OTP has been field-proven to meet network operators' demanding requirements for an agile metro core and regional optical network that significantly reduces OPEX by delivering:

- Simple, fast service activation, through a fully automated optical layer and GMPLS control plane
- Jumperless provisioning with a robust integrated optical backplane
- Flexible network configurations that can be adapted as requirements change
- Improved bandwidth efficiency by eliminating stranded or under-utilized bandwidth
- Integrated SONET/SDH and WDM layers that simplify the network

OVERVIEW

The Meriton 6400 Optical Transport Platform (OTP) system supports 2-fiber linear and ring configurations with up to 16 nodes without regeneration. Each node uses a reconfigurable optical add/drop multiplexer (ROADM) subsystem – the Meriton patented Versicolor® – to add/ drop or pass-through any wavelength at any node without O-E-O regeneration, independent of any other wavelength. The modular design of the 6400 OTP can be used to cost effectively address diverse point-to-point, linear add/drop, and ring applications. The 6400 OTP is a 2-fiber ITU-T C-Band unidirectional WDM system with a capacity of 32 wavelengths per fiber for a total system capacity of 64 wavelengths. The initial installation of the 6400 OTP provides a unidirectional system that grows from a minimum capacity of 8 wavelengths up to 64 wavelengths.

VERSICOLOR

The Meriton Networks 6400 OTP Versicolor ROADM line card provides fully flexible and remotely configurable optical add/drop capabilities – allowing a wavelength to be added or dropped on the fly at any network node. The Versicolor, the industry's first WSS-based ROADM, achieves superior performance at lower cost by incorporating several key system functions within one optical subsystem:

- Optical Add/Drop – the ability to add/drop any wavelength on the fly, with no impact on neighboring wavelengths, no restrictions on wavelength re-use, and no user intervention required at any node.
- Dynamic gain equalization – automatic per wavelength power optimization, eliminating the need for the user to manually adjust signal levels as new services are added. This significantly speeds up provisioning time, reduces risk to existing services, and eliminates a potential source of human error.
- Signal monitoring – continuous monitoring of every wavelength connection traversing the node, enabling real time physical layer performance monitoring to quickly diagnose and isolate faults.

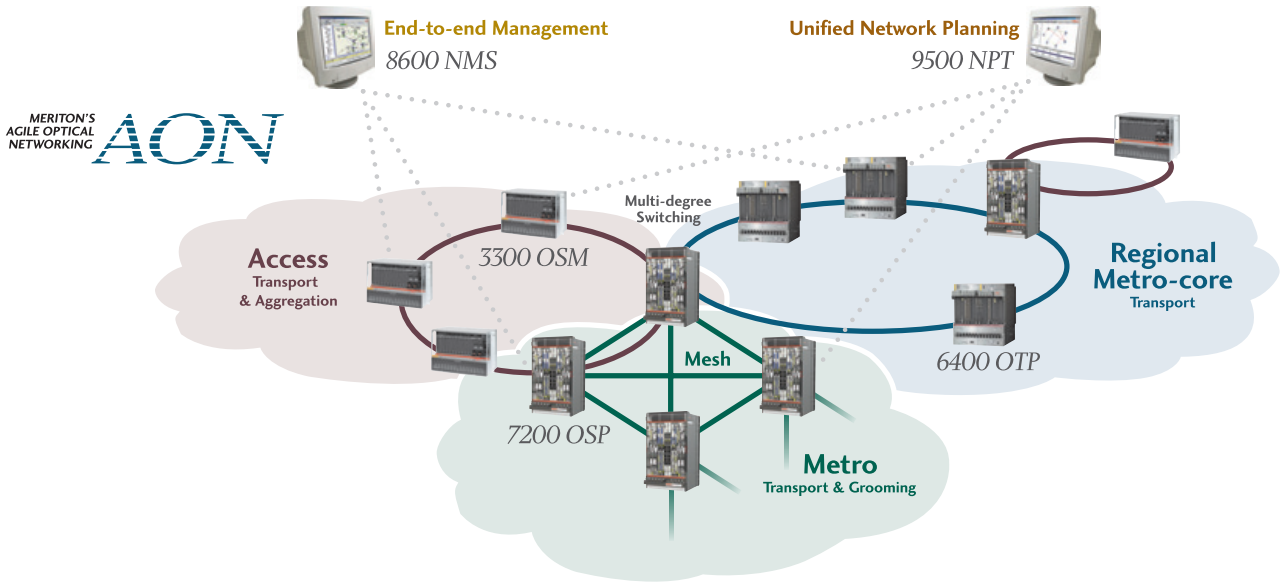
AMPLIFIERS

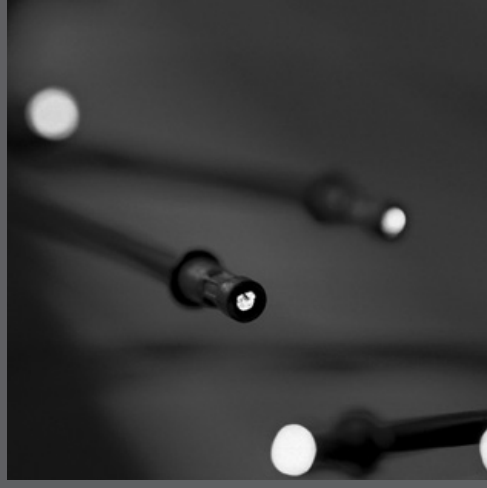
The Meriton 6400 OTP optical amplifiers are variable-gain amplifiers with automatic configuration for a wide range of span losses. No user intervention is required to adjust the amplifiers at any time. The amplifiers are designed to adjust operating parameters to limit output power excursions created by transients, when adding and removing wavelengths, or by failures, such as fiber cuts. The optical amplifiers automatically adjust their operating parameters such that the downstream signals maintain stable power. All amplifiers are integrated in the 6400 OTP system – no extra shelf or housing is required.

NETWORK PLANNING & MANAGEMENT

Meriton's Agile Optical Networking includes the Meriton 8500 Element Management System (EMS), and the Meriton 9500 Network Planning Tool (NPT). In combination with the GMPLS-based control plane, the 8500 EMS offers powerful and flexible provisioning capabilities. The intelligent Network Element system software is capable of quickly performing complex operations tasks such as an optical ring node add or delete, or an ADM segment add or delete, without interrupting protected traffic on the ring. The Meriton 9500 NPT ring/node configuration tool provides optimized node equipment configurations based on span engineering data, cost targets and traffic demands.

Meriton's Agile Optical Networking portfolio comprises the 3300 OSM at the access layer, 7200 OSP for multi-degree switching in the metro core and the 6400 OTP for flexible transport in metro core-regional networks, all supported by unified network planning and management systems.





6400 OTP

Technical Specifications

SYSTEM CAPACITY

- 32 Protected wavelengths, 64 unprotected wavelengths, up to 16 nodes and 1000 km ring circumference without regeneration

CLIENT INTERFACES

- OC-192/STM-64, OC-48/STM-16, OC-12/STM-4, OC-3/STM-1, 10GbE LAN/WAN, GbE (full and rate limited), ESCON, FICON (1 Gb/s and 2 Gb/s), FC (1 Gb/s and 2 Gb/s), DVB-ASI, "Any Rate"

PROTECTION

- Line Side: Per-Wavelength selectable Optical Dedicated Protection, ADM-on-a-wavelength UPSR/SNCP, Optical Shared Protection, Unprotected, Link Node Disjoint
- Client Side: Optional SONET 1+1 Linear APS, or 1x1 Splitter/Combiner Protection

TOPOLOGY

- Point-to-Point, Linear ROADM Chain, ROADM Ring
- Hubbed Ring (Ring Interconnect), Meshed Ring

SONET AND SDH ADD/DROP MULTIPLEXING

- OC-48/STM-16, OC-12/STM-4, OC-3/STM-1 into an OTU-1 or OUT-2 line
- Provisionable Transparent SONET/SDH OC-48/STM-16 Overhead mapping

SONET/SDH ADM ON A WAVELENGTH ™

- Any system wavelength can be provisioned to perform as a SONET/SDH ADM ring
- Each wavelength and service can be individually provisioned with unique SONET/SDH characteristics. Each SONET/SDH ring can make use of a different set of ring nodes

OPTICAL

- System Transmission – any combination of 2.5Gb/s and 10Gb/s wavelengths
- Dynamic power equalization
- Automatic gain control, ultra-fast, automated transient suppression
- Per-wavelength, automatic monitoring and power control
- Optical backplane eliminates the need for customer-installed jumper cables
- Tunable Lasers (full C-Band tunable)
- Optional integrated DCM (dispersion compensation modules)

Product Specifications are subject to change. Contact Meriton Networks for the latest update on this and all Meriton Reconfigurable Optical Network platforms.

WARNING: This product is a class 1M laser product by the standards set forth by IEC60825 - 2. Invisible laser radiation. Viewing the laser output with certain optical instruments (for example, eye loupes, magnifiers and microscopes) within a distance of 100 mm may pose an eye hazard.

DYNAMIC RING STRUCTURE

- ROADM and SONET/SDH ADM nodes can be added/deleted from the ring with no service interruption

OPTICAL AMPLIFIERS

- Pre-amplifier and optional Booster Amplifiers for up to 36 dB spans
- Optional Raman amplifiers for extended reach

SW MANAGEMENT

- Craft Interface – CLI, TL1, SNMP
- EMS – Meriton 8500 EMS
- OSS Interface – CORBA, TL1 (dual gateway)
- Supervisory Channel – 1510 nm, 100 Mb/s Ethernet
- Customer Data Channel – 10 Mb/s Ethernet

OPTICAL LAYER CONFIGURATION AND TRAFFIC PLANNING TOOL

- Meriton 9500 NPT (Network Planning Tool): Optical Layer Configuration and Traffic Planning Tool

CONTROL PLANE NE SOFTWARE

- Based on GMPLS with RSVP, OSPF, and LMP

ENVIRONMENTAL/COMPLIANCE

- NEBS Level 3, UL, CE Mark, CUL, UL1950, FCC Part 15 Class A, ETSI

AVAILABILITY

- Five 9'sAvailability; additional details available on request

MECHANICAL

- 17" x 20.5" x 21.5" (WxHxD) system shelf
- 17" x 18.25" x 21.5" (WxHxD) transponder shelf
- 17" x 18.25" x 21.5" (WxHxD) expansion shelf:
- Mounts in industry standard 19" or 23" racks
- Weight – Approximately 184 lbs/84 kgs for fully loaded system shelf

POWER INPUT

- -48 VDC nominal, -40 to -60 VDC operating range (Independent A and B feeds, independently fused)

CLIENT DENSITY / 7' BAY

- 128 OC-48 / 7' bay
- 32 OC-192 / 7' bay

ABOUT MERITON NETWORKS INC.

Meriton Networks Inc. has developed the industry's first unified end-to-end Agile Optical Networking (AON) architecture, a crucial element for carrier and enterprise migration to next-generation IP services networks. A flexible, scalable, future proof infrastructure capable of multi-service, multi-topology support, the Meriton AON architecture equips telecommunications networks with the capabilities needed for the Broadband Revolution, including rapid service deployment with one-time node engineering and zero-touch, automated provisioning under a unified control plane. With metro access, metro core and regional extension products, all fully managed by a best-in-class suite of network planning and management tools, Meriton Networks gives network operators a single source for the rapid, cost-effective delivery of high-speed services.

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Part No. MKTPRD-0002 Rev 2