

PACKET TRANSPORT SWITCH

Beginning the Packet Transport Evolution

FEATURES

- ◆ TDM, ATM, AND ETHERNET INTERFACES
- ◆ ADVANCED QOS AND BANDWIDTH CONTROL
- ◆ TDM AND ATM PSEUDOWIRE EMULATION
- ◆ MPLS-TP NETWORKING
- ◆ REDUNDANT POWER, SWITCH CARD, AND LINE-INTERFACES
- ◆ MULTI-LAYER OAM
- ◆ COMPACT 19-INCH RACK MOUNTABLE HIGH DENSITY DESIGN



MN5200

NEC's SpectralWave MN5200 Packet Transport Switch offers service providers the ability to implement a packet-optimized infrastructure that allows seamless and cost-effective migration of legacy TDM networks to the ultimate IP-enabled network. The MN5200's flexible architecture offers high-density packet switching along with both packet and TDM interfaces, providing transport of both legacy (TDM and ATM) and packet-based (IP and Ethernet) services.

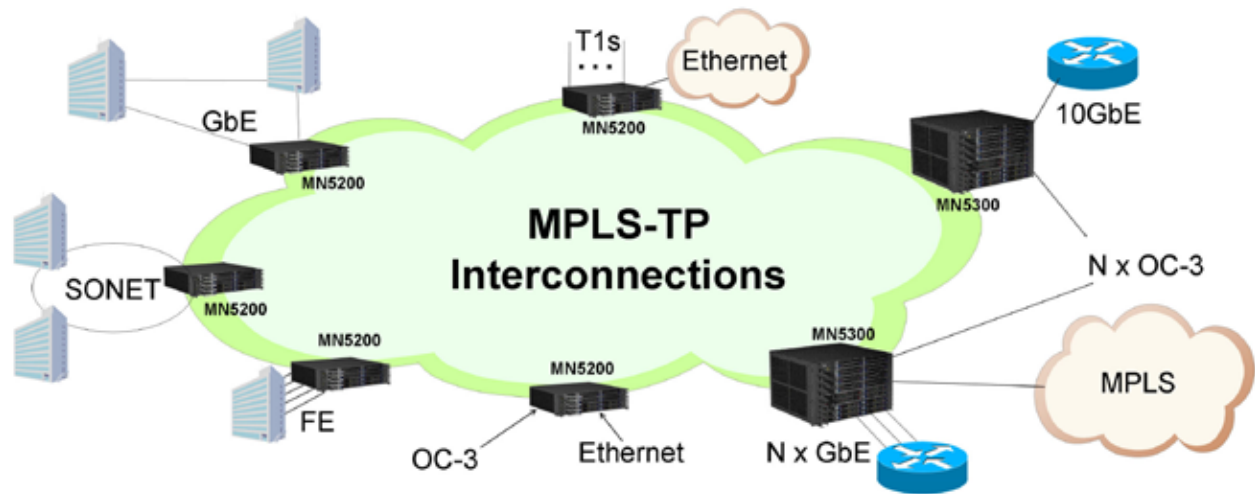
The MN5200 is a member of the SpectralWave MN5000 Series that also includes the SpectralWave MN5300 Packet Transport Switch. The MN5200 is the smaller (three rack unit high, six interface slot) member of the family. It is generally used for access and aggregation in the network, whereas the MN5300 is generally used for aggregation and metro core networking.

The MN5200 provides transport of legacy services over the packet transport network through the use of pseudowire emulation over MPLS-TP tunnels, enabling service convergence over packet. The MPLS Transport Profile (MPLS-TP) utilizes a combination of elements of MPLS to build a carrier grade packet transport network based on MPLS packet switching technology. Advanced Quality of Service (QoS) and bandwidth control schemes, such as maximum rate limitation and minimum rate guarantee, as well as various clock synchronization schemes, ensure a seamless migration of QoS-sensitive services over the packet network.

The MN5200 assures carrier class reliability and availability through its redundant architecture that includes power, switch, and line-interface modules. The MN5200 offers ITU-T G.841 Protection Switching for TDM and ATM traffic as well as sub-50ms Label Switched Path (LSP) and pseudowire protection switching.

A SpectralWave MN5000 Series network is managed centrally with the SpectralWave MN9200 EMS/NMS system or directly at the network element (NE) via a local craft terminal (LCT). The MN9200 EMS/NMS provides Fault, Configuration, Performance and Security functions of the FCAPS management attributes. The MN9200 is a highly scalable system that can be configured to manage just a few NEs up to as many as 10,000 NEs through use of a distributed architecture. The MN9200 offers an extremely intuitive graphical user interface for as many as 128 concurrent users, greatly simplifying end-to-end service creation, network maintenance and fault isolation. The topology view provides real-time detailed status of NEs, physical links and digital links, while the physical and digital links views provide instantaneous aggregate bandwidth utilization.

SPECTRALWAVE MN5200 SWITCH



FLEXIBLE INTERFACE SET

- *Ethernet*: 10/100BASE-T/TX, 1000BASE-X/T, 10GbE
- *TDM*: T1/E1, OC-3/STM-1
- *ATM*: T1/E1, OC-3/STM-1
- *POS*: OC-48/STM-16, OC-192/STM-64

ADVANCED MPLS FEATURES

- Maximum 4K Label Switching Path (LSP) tunnel per MN5200 chassis
- Bi-directional MPLS trail and Uni-directional MPLS trail
- Diff-Serv support:
 - 2 service levels for TDM Emulation
 - 4 service levels for statistical multiplexing traffic
 - 8 service levels supported in the Network
- EXP-Inferred-PSC LSPs (E-LSP)
- Per platform Label space support
- Label-only-Inferred-PSC LSPs (L-LSP)

PACKET SWITCH CAPACITY

- 88Gbps full duplex switching capacity

TIMING/SYNCHRONIZATION

- POS interface: line timing and SSM (S1 byte) transmission
- GE/10GE interface: line timing and SSM (control frame) transmission
- Free run: ± 4.6 ppm (ITU G.813)
- IEEE 1588v2
- Holdover: ± 0.05 ppm (better than ITU G.813: ± 0.37 ppm) within 24 hours.
- Synchronization signal for 3G Base Station:
 - External timing output
 - Traceable OC-3 ATM interface as line timing source

HIGH RELIABILITY AND AVAILABILITY

- Hardware redundancy:
 - 1+1 power supply
 - 1+1 main control (OAM)
 - 1+1 clock processing unit, 1+1 switch fabric
 - 1:1 T1 Card Failure Protection (CFP)
- Network Protection:
 - 1+1 Linear MSP (ITU-T G.841 Annex B for OC-3 (ATM or TDM)
 - 1:1 Linear MSP for OC-3 (ATM or TDM)
 - 1+1 Linear protection for LSP
 - 1:1 Linear Protection for LSP
- MPLS OAM including protection switching:
 - LSP Ping
 - LSP TraceRoute

NEC Corporation of America
Optical Network Systems Division
14040 Park Center Road
Herndon, VA 20171
(703) 834-4000
www.necam.com/onsd

© 2009 NEC Corporation of America. NEC is a registered trademark of NEC Corporation. All other trademarks and registered trademarks are the property of their respective owners. The information contained in this publication is subject to change without notice.

NEC NEC Corporation of America