**PRODUCT SPECIFICATIONS SUMMARY**

### Network Protection
- 1+1 Linear MSP (G.841 Annex B) for STM-1 (ATM/SDH)
- 1:1 Linear MSP for STM-1 (ATM/SDH)
- 1+1 and 1:1 Linear protection for LSP
- Ring protection (future release)

### MPLS-TP Features
- 8K MPLS label per MN5200/MN5300, 4K per MN5100.
- E-LSP and I-LSP support
- Per platform Label space support
- Bi-directional and Uni-directional MPLS-TP trail
- DiffServ support
  - 2 service levels for TDM (E1/T1, SDH/SONET), 4 service levels for ATM, 8 service levels for Ethernet
- MPLS OAM including protection switching
- VCCV, LSP Ping/TraceRoute
- EMS/OMS manual control of PW/LSP setup/release

### Power Supply
- Dimensions (H x W x D mm)
  - 44.5 x 440 x 245 (1U)
  - 133 x 440 x 410 (3U)
  - 320 x 440 x 410 (7U)
- Weight
  - 4kg (full)
  - 21kg (full)
  - 41kg (full)
- Temperature
  - 0°C to 50°C
  - 5°C to 40°C
- Humidity (non-condensing)
  - 5% to 95%
  - 5% to 85%
- Power Supply
  - -48V DC
- Maximum Power Consumption
  - 50W (fully loaded)
  - 300W (fully loaded)
  - 700W (fully loaded)

### Safety Precautions
- Before installing, connecting or using this product, be sure to carefully read and observe the cautionary and prohibited matters provided in the instruction manual.

### Specifications

**Network Management**
- MPLS-TP FEATURES
- TIMING / SYNCHRONIZATION
- NETWORK PROTECTION
- STANDARDS & RECOMMENDATIONS

**For inquiries, contact**
URL: [http://www.nec.com/](http://www.nec.com/)
MPLS-TP Carrier Class Design Simple Operation

PRODUCT OVERVIEW

The MN5000 is a new packet transport product based on pseudowire over MPLS-TP technology; it has been developed to overcome the data traffic consuming at most carrier’s bandwidth in current SDH/SONET based infrastructure. As a convergence transport technology, the MN5000 is the key fact for today's metro network carriers and services providers. Equipped with enhanced data service processing capability and powerful network management function, the MN5000 can provide all-round network solutions at the access layer and aggregation layer of a Metropolitan Area Network (MAN), enormously reducing the operation cost. Operation cost is optimized by both MN5000 and MN9200 because of simple and easy OAM of Packet Transport Network.

KEY BENEFITS

- All the services come from single network
- State art pure-packet architecture
- Ease of Operation
  - User friendly GUI for all the standard operation
  - Minimal training of personnel, reuse of existing skill-set
  - Simple Architecture (Connection oriented, Deterministic data plane)
  - Static provisioning (plan for dynamic provisioning)
  - Standards based enhanced OAM (Advanced troubleshooting)
  - Powerful network management with End-to-End provisioning (Hides the complexity of MPLS protocol)
  - Separated Control-plane and User-plane (Network stability behavior advantage)
- New Revenue Generating Services
  - MEFP 9 and 14 certified
  - Enables new enterprise services such as VPL, EVPL, TLS, and so on
  - Quicks creation and activation of new services
  - Supports VLAN and Multicast
- Guaranteed SLAs
  - MPLS and Carrier Ethernet based QoS
  - Residential and Enterprise traffic can co-exist while guaranteeing the SLAs.
- Smooth Migration
  - Co-existence with SDH Network
  - Interoperability with existing IP/MPLS core

APPLICATIONS

The MN5000 suits for Metro Ethernet service, Mobile Backhaul, DSLAM & uPON Aggregation, SDH network migration, and so on.

MN5000 KEY FEATURES

- Operation and Maintenance (OAM) Features
  - The MN5000 supports strong OAM features; MPLS-OAM, Pseudowire OAM, SDH OAM, ATM OAM, and Ethernet OAM, useful for connectivity verification, fast failure detection, tracing and so on.
- Network Protection
  - The MN5000 supports high speed protection less than 50ms. It ensures carrier grade continuous services.
- Quality of Services
  - The MN5000 implements the latest QoS aware bandwidth control, queuing, policing and scheduling techniques. It supports MPLS based QoS for TDM, ATM and Ethernet Traffic based on E-LSP and L-LSP, and low latency real-time services as well as best-effort data services with tunable performance requirements. The MN5000 supports DiffServ with minimal adjustments to the MPLS and DiffServ architectures, and introduces traffic-management and congestion avoidance mechanisms to condition and implement the different class and drop precedence for traffic.
- Timing Synchronization
  - The MN5000 supports high performance Synchronization Distribution over packet transport network, suits for mobile backhaul and so on.

SOLUTIONS EXAMPLE

- Mobile Backhaul Solution
  - Smooth and cost-effective migration from 2G to 3G
  - Advanced QoS for E2E connection and protection (<50ms)
  - Simple powerful E2E management system for 2G and 3G transport network
  - Forward-looking approach for all IP evolution with cost saving

- Metro Ethernet Solution
  - Simply managed path on MPLS-TP network carries traffic from/to IP/MPLS core network.
  - VPN services for enterprise customers; E-Line/E-LAN/E-Tree
  - Advanced QoS and protection guarantee SLAs.
  - User friendly management system enables quicker service delivery.

NETWORK MANAGEMENT

- Network operational status
  - Helps to provide service restoration and assurance against failure
  - Performance data and analyzes on both table and graphical view

The MN9200 is a comprehensive Network Management System for operating the MN5000, and features an integrated broad set of functions ready for the growing demands on packet transport system, and provides an integrated network management visibility and control of various customers network and/or regions on a sophisticated graphical user interface (GUI), designed specifically to incorporate the most required features and best practices of the leading telecommunication carriers, the GUI is user friendly, simple and practical. The MN9200 continuously evolves to support the state of the art on management capabilities, meeting all the customer needs on packet transport network.

The MN9200 supports advanced alarm monitoring functions such as Current Alarm Monitoring, History Alarm Statistics, LSP/IP/MPLS alarm, Network Equipment (NS)/Board/Port alarm, Communication alarm, Clock alarm, External Environment alarm, and so on.

Fault and Alarm Monitoring

The MN9200 supports advanced alarm monitoring functions such as Current Alarm Monitoring, History Alarm Statistics, LSP/IP/MPLS Service alarm, Network Equipment (NS)/Board/Port alarm, Communication alarm, Clock alarm, External Environment alarm, and so on.

Performance Monitoring

The MN9200 supports performance monitoring for ATM, PDH, SDH, Ethernet, Pseudowire and LSP, and also supports Graphical PM report and browsing manually and automatically.