The MN5100 is a new product based on pseudo wire 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 MN5100 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 MN5100 can provide all-round network solutions at the access layer and aggregation layer of a Metropolitan Area Network (MAN), enormously reducing the operation cost. While MN5100 will mainly be positioned as User Provider Edge (UPE) at metro network, NEC also introduces the MN5200/MN5300, which can be applied in both UPE and Network Provider Edge (NPE) solutions. For more detailed information on MN5200/MN5300, please refer to its documentation data.

LAYER ARCHITECTURE

With MN5100, the Ethernet, TDM (E1/T1) or ATM payload is transported over the Pseudowire layer, where the payloads can be encapsulated and multiplexed/de-multiplexed into a single MPLS-TP tunnel. MPLS-TP layer provides the transport tunnel for the traffic been transferred across the IP/MPLS core network. The architecture of MN5100 is described in the figure below:
Technical Summary

HARDWARE
- DIMENSIONS (H / W / D mm): 44.5 x 440 x 245 (1U)
- WEIGHT: 4kg (full)
- TEMPERATURE: 0°C to 50 °C
- POWER SUPPLY: ~48V DC
- Max.POWER CONSUMPTION: Less than 50W (fully loaded)
- HUMIDITY: 5% to 95% non-condensing

Interface type | Max. Ports
--- | ---
GE/FE | 22
10GE | 2 (*)
STM-1 SDH/ATM | 2
E1/T1 TDM | 16
E1 IMA (or TDM) | 32 (*)

Client interface: GE, FE, 10GE, STM-1 SDH/ATM, E1, T1
Uplink interface: GE, 10GE

PROTECTION SCHEME
- Hardware redundancy: 1+1 power supply Input
- Network Protection:
  - 1+1 Linear MSP (G.841 Annex B) for STM-1 (ATM/SDH)
  - 1:1 Linear MSP for STM-1 (ATM or SDH)
  - 1+1 Linear protection for LSP; 1:1 Linear Protection for LSP

TIMING/SYNCHRONIZATION
- FE/GE/10GE interface: Synchronization Ethernet, line timing
- Free run: ±4.6ppm (ITU G.813)
- Holdover: ±0.05ppm within 24 hours
- Provide sync signal for 3G Base Station: External timing output; Traceable STM-1 ATM interface as line timing source
- Provide 1tps+toD time input and output
- Any FE/GE/10GE interface support 1588V2

NETWORK MANAGEMENT
- SpectralWave MN9200 (NMS), LCT (Local Craft Terminal)

STANDARDS & RECOMMENDATIONS
- ITU-T: G.8110, G.8110.1, Y.1711, Y.1720, Y.1731 (*)
- IEEE: 1588V2 (*), 802.1ag (*), 802.3ah (*)
- (*) future release

PACKET PROCESSING CAPACITY
- 44Gbps full duplex switching fabric

MPLS-TP FEATURES
- 4K MPLS label per MN5100 Chassis (Shared by PW/LSP)
- EXP-Inferred-PSC LSPs (E-LSP)
- Label-only-Inferred-PSC LSPs (L-LSP)
- Per platform Label space support
- Bi-directional MPLS-TP trail and Uni-directional MPLS-TP trail
- Diff-Serv 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
- Virtual Circuit Connection Verification (VCCV)
- LSP Ping/TraceRoute
- EMS/SNMS manually controls the setup and the release of PW and LSP
- Ether OAM

For inquiries, contact:

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