Flexible Bandwidth using GFP and VCAT
For IP packet transport, the V-Node S supports to establish transparent paths between Ethernet. For efficient and reliable Ethernet transport, Generic Framing Procedure (GFP) and VC-n-Xv Virtual Concatenation (VCAT) are adopted. The GFP adaptation encapsulates Ethernet MAC frames for subsequent transport over SDH networks. The VCAT enables the GFP adaptation to establish flexible bandwidth path.

LCAS
The LCAS provides a control scheme to hitless increase or decrease the bandwidth of a VCAT Group link to meet the bandwidth needs of the application. In addition, the LCAS automatically decrease the bandwidth if a VCAT member experiences a failure in the network, and increase the bandwidth when the network failure is repaired.

Various service support
The V-Node S provides various interface packages, such as Gigabit Ethernet, Fast Ethernet, STM-16, STM-4, STM-1, 45M, 34M and, 2M. The V-Node S main shelf has 7 interface package slots.

Bandwidth upgrade up to STM-16
For future traffic growth, the V-Node S can be economically upgraded to dual 2-Fiber STM-16 ring system by just replacing optical interfaces.

64x64 VC-4 and 4032x4032 VC-12 matrix for flexible service support
The matrix of the V-Node S has flexible granularity of 64x64 VC-4, 192x192 VC-3 and 4032x4032 VC-12. This composite matrix enables VC-3 and VC-12 traffic grooming among VC-4 containers.

Integrated management with NEC’s other products
The INC-100MS offers total management of the NEC’s photonic transport network composed of the SpectralWave C-Node, U-Node, the SpectralWave DWDM systems and the other SMS series SDH products.

Point to Point/Multipoint Ethernet Service
The V-Node S can establish Ethernet Line (E-Line) service type of point-to-point paths. The bandwidth assignment itself is flexible and can be hitless changed by using VCAT and LCAS methods. The E-Line service is a best effort type of connection service using L2SW sharing the bandwidth of VCAT paths among plural connections.

The E-Line type of connection service using L2SW can be easily expanded to Ethernet LAN (E-LAN) service type of multipoint-to-multipoint connections. Security among the connections is guaranteed by VLAN method.
**Technical Summary**

- **Interfaces**
  - STM-16 (Max. 2ports)
  - STM-1 (Max. 28ports)
  - 10/100Base (Max. 30ports)
  - 34Mbit/s (Max. 6ports)
  - STM-4 (Max. 10ports)
  - 1000BASE (Max. 10ports)
  - 45Mbit/s (Max. 6ports)
  - 2Mbit/s (Max. 128ports)

- **Cross connect capacity**
  - VC-4: 64 x 64
  - VC-3: 192 x 192
  - VC-12: 4032 x 4032

- **Specification for Layer-2 switched service**
  - IEEE 802.1Q Port/Tag VLAN
  - IEEE 802.1D Spanning Tree Protocol
  - IEEE 802.1p Prioritization
  - IEEE 802.3x Flow Control
  - Jumbo Frame

- **Power Requirements**
  - Voltage: −38.4 to −60V DC
  - −48 to −72V DC

- **Environment**
  - Operating Temperature Range: −5°C to 45°C
  - Relative Humidity: 5 to 90% without condensation
  - EMC: EN55022 (Class A)
  - EN50082-1
  - Safety: EN60950
  - EN60825

- **Physical Dimensions**
  - Shelf: 198 (H) x 482 (W) x 280mm (D)

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**Safety Precautions**

*Before installing, connection or using this product, be sure to carefully read and observe the cautionary and prohibited matters provided in the instruction manual.*

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- The configuration or specifications are subject to change without prior notice due to continual improvements.

**For inquiries, contact:**

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