Empowered by Innovation

NEC

SpectralWave
V-Node S

STM-16/4/1 Compact Multi-Service Platform

■ **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.
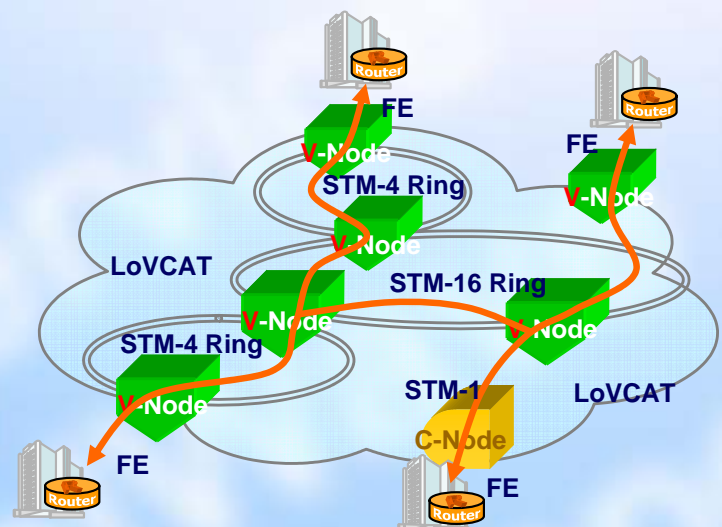
Technical Summary

Interfaces

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

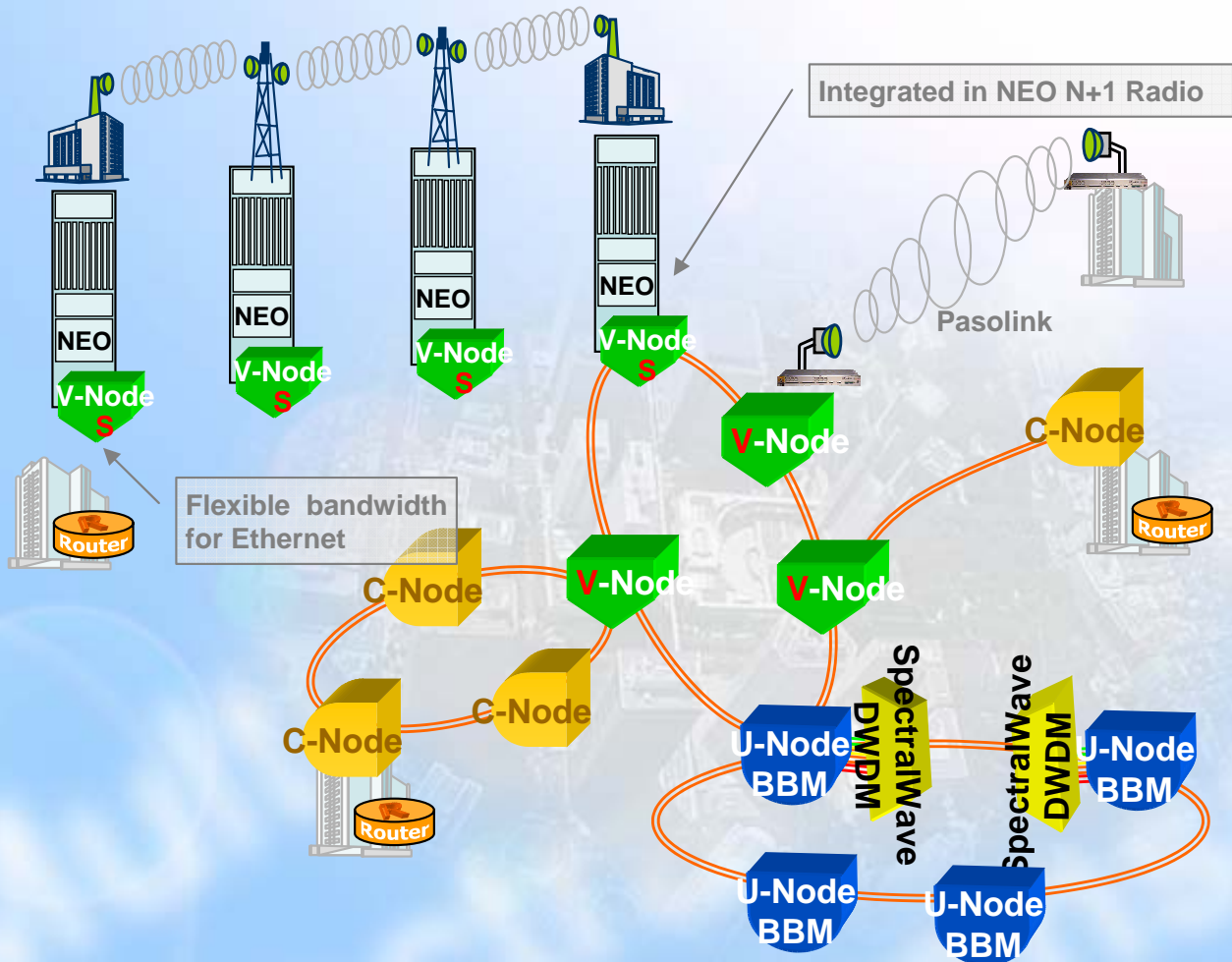## Environment

Operating Temperature Range
                 −5ºC to 45ºC
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)

Integrated in NEO N+1 Radio

Pasolink

Flexible bandwidth for Ethernet

For inquiries, contact :

NEC
URL http://www.nec-mobilesolutions.com/infrastructures/