

OC-3/STM-1 Trunk Module

Multi-service transport over SDH/SONET

MODULE



The 4-port OC-3/STM-1 Trunk Module enables multi-service transport over standard OC-3/STM-1 links.

The 4-port OC-3/STM-1 Trunk Module for the Nimbra 300 series of multiservice switches enables efficient high-quality media transport over standard OC-3/STM-1 links.

The 4 x OC-3/STM-1 Trunk Module is a 4-port plug-in unit for the Nimbra 300 Series of multi-service switches. It features the same high quality transport found on all Nimbra trunk modules and enables troublefree, high quality of service transport of realtime sensitive media services.

Highest Bandwidth Utilization

The Trunk Module enables multiservice operation over standard OC-3/STM-1 links. Service multiplexing with granular bandwidth allocation in steps of 0,5 Mbps provides an extremely high utilization of the network resources and allows for true multiservice transport with hard QoS requirements over SDH/SONET links.

With a link overhead of less than 2% and support for nonhierarchical switching/multiplexing, the Nimbra architecture provides industry leading CAPEX savings

Multi-service Transport

The Trunk Module features four independent bi-directional Small Form-factor Pluggable ports (SFP) that can be fitted with various optical modules for different media. Fitted in a Nimbra 300 Series switch, the Trunk Module enables the design of a multiservice access and aggregation network that can access and aggregate for example Ethernet, compressed or uncompressed video, and PDH traffic.

Together with the OC-48/STM-16 and OC- 12/STM-4 trunk modules, a very flexible edge multi-service switching system is provided. A typical application for this trunk module is to serve as an up-link in a Nimbra 340, dual homed to two core/edge switches for redundancy or more capacity, carrying DVB-ASI and/or 270 Mbps SDI uncompressed video. Remaining capacity can be used e.g. for Ethernet transport. This constitutes a very powerful solution for a media PoP.

Unprecedented Availability

The 4 x OC-3/STM-1 Trunk Module has extensive fault and performance monitoring options and supports dynamic network restoration and in-service hot swap for higher availability. It is easily managed by means of CLI, Web GUI and SNMP.

KEY FEATURES

Standards compliant.

The ports comply to applicable SONET/SDH standards.

Pluggable optics.

The four OC-3/STM-1 ports are Small Formfactor Pluggable (SFP LC) compatible and can be fitted with SFP modules for different distances and fiber media.

Non-blocking switch.

The module is equipped with a strictly non-blocking switch matrix to handle all switching between WestNode-East, thereby off-loading the backplane from transit traffic

Very high link utilization.

Support for logical channels with 0.5 Mbps granularity and a link overhead of less than 2% allows for a very high level of network utilization, without impacting QoS.

Any topology.

The module support any topology; point-to-point, rings and mesh.

Multiservice support.

Supports transport of a variety of services such as Ethernet, SONET/SDH, PDH, DVB-ASI, SDI and AES.

QoS Multicast support.

Supports multicasting of layer 2 services such as Video over IP or ASI, with guaranteed QoS for each stream.

Performance monitoring.

Standard performance metrics with G.826 style presentation of performance.

Hot swap.

Supports in-service swapping of the module for low unavailability.

Ease of handling.

Managed by CLI, Web GUI or SNMP. Can also be managed by Nimbra Vision™ NMS.

TECHNICAL SPECIFICATIONS

Form factor: Plug-in unit to Nimbra 300 series, uses 1 slot

Laser options:

Small Form-factor: STM-1 I-11 / OC-3 SR-1 (MM,1310nm)
Pluggable (SFP): STM-1 S-11 / OC-3 IR-1 (SM,1310nm)
STM-1 L-11 / OC-3 LR-1 (SM,1310nm)
STM-1 L-12 / OC-3 LR-2 (SM,1550nm)

Framing:

OC-3: STS-3c, ANSI T1.105
STM-1: STM-1; ITU-T Rec G.707

Mapping:

SONET: STS-3c SPE / 3 x STS-1 SPE
SDH: VC-4
DTM: VC synchronous; ETSI ES 201 803-4

Fault management:

SONET/SDH: LOS, LOF, LOP, SF, AIS, RDI (LED and Element Manager)

Performance management:

ITU-T G.826 based
Bins: 24h, 15min
Parameters: ES, SES, BBE, UAS

Maintenance:

Hardware: Hot swap
Firmware: Remote download

Power consumption: <15W

Management:

SNMP: v1/v2c/v3
ElementManager: Web GUI, CLI
Network Manager: Nimbra Vision

Timing modes:

Loop-timing: Slaved to SDH/SONET network
Source-timing: Slaved to on-board oscillator:
Standard option: SMC/G.813 option 2
Stratum option: Stratum 3/ G.813 option 1

Environmental conditions:

Operating temp: 0 to 50 °C (32 to 122 °F)
Storage temp: -30 to 65°C (-22 to 149 °F)
Relative humid: 10% to 90% (non-condensing)

Regulatory compliance:

Safety: UL60950
EN60950
Laser safety: CFR 21 104.010/11
EMC: FCC 15 Class A
EN 300 386
CE marking: 93/68/EEC

Ordering information:

NPS0020-X001 OC-3/STM-1 Access Module, standard timing packed unit
NPS0020-XS31 OC-3/STM-1 Access Module, stratum timing packed unit
NPA0016-SS11 SFP-module OC-3/STM-1 SR
NPA0016-LJ11 SFP-module OC-3/STM-1 IR
NPA0016-LL11 SFP-module OC-3/STM-1 LR1
NPA0016-VL21 SFP-module OC-3/STM-1 LR2

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