The 4-port OC-3/STM-1 Access Module for the Nimbra 300 series of multiservice switches enables seamless service integration and migration in Metro networks.

The OC-3/STM-1 Access Module is a 4-port plug-in unit for the Nimbra 300 Series of multi-service switches. The module features four independent bi-directional Small Form-factor Pluggable ports (SFP) that can be fitted with various optical modules for different media.

OC-3/STM-1 is a commonly used universal interface in the telecom community. The OC-3/STM-1 Access Module is a highly versatile access solution, suitable for various applications, including:

- DSLAM backhaul
- POS router interconnect
- Voice exchange interconnect
- Interconnect of ATM switches
- SDH/SONET network bridging
- Distributed cross-connect

Multi-service Transport
The Nimbra platform provides integrated transport of SDH/SONET services in addition to transport of IP/Ethernet and native audio/video services, over the same infrastructure. This allows for efficient and flexible service integration and migration solutions where SDH/SONET services are transported side-by-side IP/Ethernet and native Audio/Video services.

Nimbra customers can utilize their Nimbra network for a variety of different transport applications and can easily offer their customers new and exciting services on the same infrastructure without risking quality of service.

Each interface provides a channelized ITS transport with hard resource allocation throughout the Nimbra network. The Nimbra platform features full switching support and both unicast and multicast transport is provided with 100% QoS, guaranteed.

Unprecedented Availability
The 4 x OC-3/STM-1 Access Module has extensive fault and performance monitoring options and supports dynamic network restoration and in-service hot swap for highest availability. It is easily managed by means of CLI, Web GUI and SNMP.
Standards compliant.
The ports comply to applicable SONET / SDH / DTM standards.

4 or 12 independent channels.
4 (STS-3c SPE / VC-4) or 12 (STS-1 SPE) independent bi-directional channels that can be directed to different end destinations.

Pluggable optics.
Each of the 4 OC-3 / STM-1 ports is equipped with a Small Form-factor Pluggable (SFP) housing that can be fitted with SFP modules for different distances and fiber media.

1+1 protection.
Support for 1+1 protection through network; with <50ms switching time.

Multicast support.
An OC-3 / STM-1 stream can be multicasted in a point-to-multipoint fashion for e.g. media distribution services.

Bandwidth effective.
Each stream uses only about 150 Mbps of network capacity.

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.

KEY FEATURES

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

Laser options:
- STM-1 I-1.1 / OC-3 SR-1 (MM,1310nm)
- Small Form-factor Pluggable (SFP) STM-1 L-1.1 / OC-3 LR-1 (SM,1310nm)
- STM-1 L-1.2 / OC-3 LR-2 (SM,1550nm)

Frame rates:
- OC-3: STS-3c, ANSI T1105
- STM-1: ITU-T Rec G.707

Mapping:
- SONET: STS-3c SPE / 3 x STS-1 SPE
- SDH: VC-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
- Element Manager: 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 ºC (32 to 122 ºF)
- Storage temp: -30 to 65 ºC (-22 to 149 ºF)
- Relative humid: 10% to 90% (non-condensing)

Regulatory compliance:
- Safety: UL60950
- Laser safety: CFR 21 104.10/11
- EMC: FCC 15 Class A
  - EN 300 386
- CE marking: 93/68/EEC

Ordering information:
- NPS0020-3S31 OC-3/STM-1 Access Module
- 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