

METRO ETHERNET MODULE FOR THE NIMBRA 600 SERIES

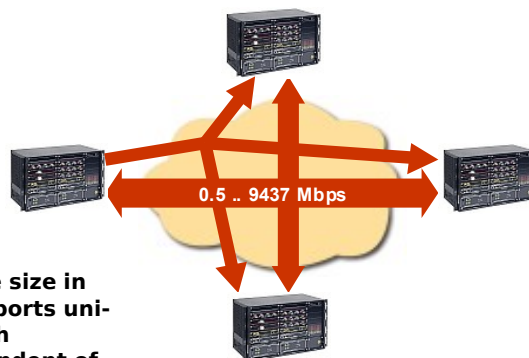
8 x Gigabit Ethernet Access Module

The 8 x Gigabit Ethernet Access Module is a high-capacity Metro Ethernet interface for seamless integration of data access networks into a Nimbra-based multi-service backbone. With the 8 x Gigabit Ethernet Access Module, it is possible to combine the cost-efficient high-speed data transport associated with Gigabit Ethernet, with the guaranteed quality of service and bandwidth-on-demand characteristics of Net Insight's solutions.

The Nimbra platform is designed to provide an infrastructure for high quality data, video, and voice services in one single network. In combination with the Nimbra 600 series switches, the 8 x Gigabit Ethernet Access Module features an Ethernet Transport Service (ETS™), a transparent layer-2 service for secure QoS data transport outside of the local loop.

The Ethernet Transport Service (ETS™) provides a channelized interface and transports Ethernet packets in secure, bandwidth configurable, point-to-point or point-to-multipoint channels at no packet loss and with very low packet jitter. ETS is supported on all Nimbra platforms.

As an option an on-board layer-2 switch is offered¹. It switches between the external ports and a configurable number of ETS channels, or between ETS channels. Thus, Ethernet networks of unprecedented granularity for aggregation/distribution can be formed. This is unique and especially important for streaming head-end applications, where a large fan-out of QoS channels are needed, or to form QoS enabled VPNs of all sizes.



Nimbra 600 series nodes connected by ETS channels of configurable size in logical meshes. ETS supports uni- and multicast traffic with guaranteed QoS, independent of network load.

With a combination of Nimbra One/300/600 series switches, supporting trunk interfaces from E3/DS3 copper all the way up to OC-192/STM-64 fiber and C/DWDM, and the 8 x Gigabit Ethernet Access Module, with carrier class transport and switching capabilities, network operators can release the full potential of their physical infrastructure and benefit from significant cost savings.

¹) Future SW upgrade options



**CARRIER CLASS PERFORMANCE
IN A SUPER COMPACT OUTLINE:
THE NIMBRA 600 FROM NET INSIGHT**



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KEY FEATURES

The most important characteristics of the 8 x Gigabit Ethernet Access Module are:

- > **Pluggable optics.** The 8 x GbE ports are equipped with Small Form Factor Pluggable (SFP) ports that can be fitted with SFP modules for different distances and fiber media.
- > **ETS capable.** Supports Ethernet Transport Service for channelized QoS transport and QoS multicast of Ethernet streams.
- > **Guaranteed quality of service.** The 8 x GbE Access Module meets the highest demands in the market, suitable for all types of real-time services such as video and voice due to an unique resource allocation scheme, based on hard resource allocation for each ETS connection.
- > **QoS Multicast support.** Supports multicasting of Ethernet streams, with guaranteed QoS for all receivers. This makes it the perfect choice for distribution of video content in for example IPTV streaming solutions, and for other application with tight QoS specifications.
- > **Very high utilization.** The network can be loaded >95% with Ethernet traffic without performance penalties, due to the unique switching mechanism in Nimbra switches.
- > **Enhanced functionality.** In addition to standard Ethernet functionality the module also supports value added functionality such as, per stream (VLAN) resource allocation for guaranteed QoS, wire-speed multicast to any number of receivers and jumbo frame support.
- > **Carrier class.** The Nimbra 600 series and its modules are designed to meet NEBS level 3 specifications for trouble-free operation.
- > **Compatibility.** The 8 x GbE module is backwards ETS compatible with all the Ethernet boards/ports in the Nimbra One/300 series.
- > **Ease of handling.** Managed by CLI, Web GUI or SNMP, or by Nimbra Vision™ NMS.

TECHNICAL SPECIFICATIONS:

Form factor: Plug-in unit for Nimbra 600 series, uses 1 slot
Selectable 5 or 10 Gbps backplane allocation

Interface options:
Small Form-factor 1000BASE-SX (MM, 850 nm, 550 m)
Pluggable (SFP) 1000BASE-LX (SM, 1310 nm, 10 km)
1000BASE-ZX (SM, 1550 nm, 70 km)
1000Base-T (UTP, Cat 5, 100m)

Mapping:
QoS channelization ETS (Ethernet Transport Service) according to
ETSI ES 201 803-7, supporting up to 248 ETS
channels per board.
ETS Channel cap. n x 512 kbps (n = 1 to 18431)

Supported standards:
IEEE 802.1Q Virtual LANs
IEEE 802.1p Ethernet Precedence
RFC2474 Diffserv Precedence
IEEE 802.1D-2004 MAC Bridges*)
) Future SW upgrade option

Frame storage:
Packet memory 64 MB
Max frame size 9 kB (jumbo frames)

Fault management:
Communication/Equipment alarms

Performance management:

MIB-2/RMON counters statistics group

Maintenance: Hot swap, remote upgrade

Network Management:

SNMP v1/v2c/v3
Element Web GUI, CLI
Manager

Power consumption:

<40W

Environmental conditions:

Operating temp. 5 to 40 °C (41 to 104 °F)
(short term) -5 to 55 °C (23 to 131 °F)
Storage temp. -40 to 70°C (-40 to 156 °F)
Relative humid. 10% to 90% (non-condensing)

Regulatory compliance:

Safety IEC/EN 60950-1
CE marking 93/68/EEC
EMC ETSI EN 300 386
FCC Part 15 sub-part B
Laser safety CFR 21 1040.10/11
RoHS directive 2002/95/EC

Ordering information:

NPS0043-6001 8 x Gigabit Ethernet Access Module
NPA0012-5011 SFP Module GbE-SX (500m)
NPA0012-L101 SFP Module GbE-LX (10 km)
NPA0012-V701 SFP Module GbE-ZX (70km)
NPA0040-T001 SFP Module GbE-T (100m)
NPM0020-6001 Ethemet Switching FW module (check
for availability)

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Net Insight delivers the world's most efficient and scaleable optical transport solution for Broadcast and Media, Digital Terrestrial TV, Mobile TV and IPTV/CATV networks.

Net Insight products truly deliver 100 percent Quality of Service with three times improvement in utilization of bandwidth for a converged transport infrastructure. Net Insight's Nimbra™ platform is the industry solution for video, voice and data, reducing operational costs by 50 percent and enhancing competitiveness in delivery of existing and new media services.

World class customers run mission critical video services over Net Insight products for more than 100 million people in more than 20 countries. Net Insight is quoted on the OMX Nordic Exchange Stockholm. For more information, visit: www.netinsight.net