

10GE Access Module

High capacity Ethernet Access for the Nimbra MSR

MODULE



Cost efficient high speed data paired with well known Nimbra QoS characteristics

The 2-port 10 Gigabit Ethernet Access Module is a high capacity MEF CE2.0 certified interface for seamless integration of IP based services into a Nimbra MSR media network. With the 2 x 10 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 the Nimbra MSR solution.

Meeting increasing demands for real-time Ethernet transport.

With the rapid growth of media traffic in communication networks and IP/Ethernet taking over as the preferred media interface, it is crucial to have an infrastructure that can provide high-quality Ethernet transport.

Net Insight's 10 Gigabit Ethernet Access Module meets this demand for increasing volumes of real-time sensitive traffic, such as transfers of very large video files, linear distribution of IPTV and Cable TV content, and live OTT streaming over CDN networks. The synchronous Ethernet Transport Service (ETS) of the Nimbra MSR allocates secure point-to-point or point-to-multipoint channels with configurable bandwidth to guarantee zero packet loss, very low packet jitter and very low delay, even at 100% network utilization.

The module features advanced fault- and performance management functionality per ETS connection. Defect indication together with ITU-T G.826 performance monitoring of errored seconds in 15min/24h bins gives a consolidated overview of the connection status and facilitates easy trouble shooting.

The module is MEF CE2.0 certified for E-Line services, a guarantee for providing open and standards based transport solutions.

Distributed Ethernet switching

Optionally, the Gigabit Ethernet Access Module implements on-board layer-2 switching. Up to eight separate switches can be enabled on a single board, providing distributed Ethernet switching between 119 Ethernet ports across the Nimbra network, to form Ethernet networks of unprecedented granularity for aggregation or distribution. The board supports up to 30 Gbps Ethernet switching capacity.

Unprecedented availability

Availability is a key requirement for all professional video applications. With built-in support for automatic network restoration, the Gigabit Ethernet Access Module offers a flexible and comprehensive protection solution. The module also optionally supports standby and hitless 1+1 protection switching. By supporting both rerouting and standby/hitless protection switching a large spectrum of redundancy options may be utilized for different applications.

The 10 Gigabit Ethernet Access Module is designed to meet NEBS level 3 specifications for trouble-free operation, support for In-service swap and remote upgrade options enables carrier class availability.



KEY FEATURES

MEF CE2.0 Certified

Certified according to Metro Ethernet Forum CE2.0 Carrier Ethernet standards for E-Line services ensures that the services offered are open and standards based.

Pluggable optics.

The 2 x 1 or 10GbE 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 Nimbra Ethernet Transport Service for channelized QoS transport and QoS multicast of Ethernet streams.

QoS Multicast support.

Supports Ethernet multicasting, 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 Nimbra switching mechanism.

Guaranteed quality of service.

The 10GbE 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.

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, 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. In-service swap and remote upgrade options enables carrier class availability.

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 Pluggable (SFP+) 1G/10GBASE SR/LR/ER

Number of ports: 2 ports

Mapping:
DTM: ETSI ES 201 803-11
QoS channelization: ETS (Ethernet Transport Service) according to ETSI ES 201 803-7, supporting up to 119 ETS channels per board.
ETS Channel cap: n x 512 kbps (n = 1 to 19512)

Supported standards:
IEEE 802.1Q Virtual LANs
IEEE 802.1D-1998 Ethernet Precedence
RFC2474 Diffserv Precedence
IEEE 802.1D-2004 MAC Bridges*
* NPM0020-600F feature license required

Frame storage:
Packet memory: 128 MB
Max frame size: 9208 B (jumbo frames)

Fault management:
Communication/Equipment alarms
Defects: LOS, RBR, AIS, DEG

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

Maintenance:
Hardware: Hot swap
Firmware: Remote upgrade

Power consumption: <50W

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

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
Environmental: RoHS directive 2002/95/EC

Ordering information:
NPK0029-01FA IF625 - Access Module, 1/10GE

NPA0077-SRD1 SFP+ Module 1G/10GBASE-SR
NPA0077-LRD1 SFP+ Module 1G/10GBASE-LR
NPA0077-ER01 SFP+ Module 10GBASE-ER

NPM0020-600F Ethernet Switching feature license
NPM0035-EH6F Hitless 1+1 feature license, Nimbra 600
NPM0036-10FI 10GE interface option feature license

Net Insight AB (publ)
Phone +46 (0)8 685 04 00, info@netinsight.net, www.netinsight.net

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