

Nimbra 688

High capacity multiservice MSR

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Carrier class performance for high capacity and core applications: the Nimbra 688 from Net Insight

The Nimbra 688 MSR from Net Insight performs carrier grade switching for high capacity and core applications in the broadcast industry. It implements 160 Gbps non-blocking connectivity between 16 traffic interface modules and combines unique lossless routing with a state-of-the-art switching architecture.

Nimbra 688 is specifically aimed at meeting the rigorous 100% QoS and content integrity demands of the professional media industry and Telco, CATV and IPTV network providers. Complementing the Nimbra 680 high density MSR, it typically forms the high-capacity backbone layer in a Service Aware Media Network, aggregating and switching traffic from for instance Nimbra 300 series access nodes. Its additional capacity and ability to hold up to 16 interface modules makes the Nimbra 688 perfect for aggregating and switching large volumes of traffic.

Lossless routing

The Nimbra 688 is an MSR from Net Insight, and as such it performs lossless routing. Thanks to dedicated QoS allocation per service and Net Insight's unique time synchronization mechanisms, not a single packet is lost going through the Nimbra 688. What goes in to the MSR comes out of the MSR in perfect shape.

QoS enhanced links

The Nimbra 688 performs Forward Error Correction, traffic shaping and resynchronization, not only at the endpoints, but at each MSR link in the network. This efficiently compensates for traffic impairments injected between the Nimbra MSR nodes as the traffic traverses for instance a core IP network.

Unprecedented scalability and availability

The Nimbra 688 houses 80 Gbps or 160 Gbps redundant switch planes, redundant node control units and redundant power feeding together with 16 slots for traffic interface modules. It is NEBS level 3 compliant and features multiple failure resilience mechanisms with service granularity to ensure integrity of the data transport under all circumstances. The Nimbra MSRs have the unique ability to treat each service individually - making the network truly aware of each service.

Flexible interfaces

Available service interfaces include Gigabit Ethernet, 3G/HD/SD-SDI with optional built in JPEG2000 compression, ASI, AES/EBU and MADI. These services can be aggregated and switched with sub-Mbps granularity onto IP (1 or 10 GbE) or SDH/Sonet network interfaces.



KEY FEATURES

Service aware media networks.

A Nimbra MSR network is capable of looking at each individual media service within the core network without any grouping into service classes - to make the network truly aware of each individual service.

Lossless routing.

From ingress port to egress port, a Nimbra MSR never loses a single packet. Lossless routing is possible thanks to dedicated QoS allocation per service, together with Net Insight's unique time synchronization.

QoS enhanced links.

At each hop, the Nimbra MSR performs specific tasks to improve the QoS of the underlying IP network. This functionality consists of Forward Error Correction to reduce packet loss, traffic shaping to facilitate resource allocation and resynchronization to reduce jitter and wander.

Service-centric network management.

In a Nimbra MSR network, each service can be provisioned, monitored and protected individually, on demand and on an end-to-end basis.

Unique multicast support.

The Nimbra 688 has dedicated point-to-multipoint hardware on switch boards that supports any level of forking with full QoS – and without affecting point-to-point connections.

High-density Ethernet.

The 8-port Gigabit Ethernet access module supports a service granularity of 0.5 Mbps at full 8 x 1 Gbps wirespeed. Features include 802.1Q VLAN separation, 802.1p and IP diffserv user priorities, and Metro Ethernet Forum E-Line, E-LAN and E-Tree support.

Carrier class.

The Nimbra 688 is designed to meet demanding operator requirements on availability and ease of handling. It features redundant node controllers, redundant switch planes, redundant power supplies, and in service upgrade.

Extensive management options.

The Nimbra 688 can easily be managed by CLI, Web GUI, optional Nimbra Vision™ or 3rd party NMS through SNMP.

TECHNICAL SPECIFICATIONS

Dimensions:	445mm(17.5") x 445mm(17.5") x 240mm(9.4")
(HxWxD):	19" and ETSI 300 119 compatible
Number of slots:	16 for traffic boards, 2 for control modules, 2 for switch planes, 1 for alarm+aux interfaces, 2 for redundant power modules
Switch Capacity:	160 + 160 Gbps (unicast), 90 + 90 Gbps (multicast) in redundant configuration
Interface Modules:	OC-192/STM-64 Trunk 4 x OC-48/STM-16 Trunk 4 x OC-12/STM-4 Trunk 4 x OC-3/STM-1 Trunk 10 GE Trunk 6 x IP/Ethernet Trunk 8 x Gigabit Ethernet Access 8 x Video Access 8 x SFP Video Access 8 x 3 Gbps Video Access JPEG2000 Video Access 8 x AES/EBU Access
Synchronization:	
Input:	2.048/1.544 MHz, sinus or square wave, G.703.13
Output:	2.048 MHz, sinus, G.703.13
Software:	
Basic SW:	NimOS Element Manager
SW options:	Dynamic Routing Ethernet Multicast Native Video Multicast HD-SDI Support SDI Frame Store Ethernet Switching

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 humidity:	10% to 90% (non-condensing)
Power:	
Voltage:	-48VDC nominal, -38 to -70V
Dissipation:	<1200 W fully equipped
Regulatory compliance:	
Safety:	UL60950-1 EN60950-1
Laser Safety:	CFR 21 1040.10/11
EMC	FCC 15 Class A EN 300 386
CE	marking 93/68/EE
Management:	
Element Mgmt:	Command Line Interface (CLI) Web GUI
Network Mgmt:	Nimbra Vision™ 3rd party NMS over SNMP v1/v2c/v3
Maintenance:	Hot-swap Remote software and firmware download
Ordering Information:	
NPQ0012-XW01	Nimbra 688 Base Unit
NPK0006-XW08	Nimbra 688 Starter Kit 80G, redundant
NPK0006-XW16	Nimbra 688 Starter Kit 160G, redundant
NPS0032-6861	Switch Module 80 Gbps, 8/16-slot
NPS0033-6001	Switch Module 160 Gbps, 16-slot
NPS0034-6001	Node Control Module, N602
NPA0039-3001	PCU -48 VDC / 30 A for Nimbra 688

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