Carrier grade switching for high density and core applications

NIMBRA 688

The Nimbra 688 is the latest addition to the Nimbra 600 series of carrier class switches from Net Insight. This complements the break-through Nimbra 680 switch for high capacity core networks or high density access/edge applications. It implements 80 Gbps non-blocking connectivity between 16 traffic interface modules using a state-of-the-art switching architecture to provide the industry's lowest cost-per-bit switching.

Nimbra 688 is especially aimed at meeting the rigorous 100% QoS and availability demands of the professional media industry and Telco, CATV and IPTV networks. Nimbra 688 typically forms the high-capacity backbone layer of a Nimbra network, aggregating and switching traffic from Nimbra 300 series or Nimbra One access nodes.

Its high-density modules for Ethernet and native video interfaces also makes the Nimbra 688 very attractive as a high-capacity edge device. The 10RU chassis houses redundant switch modules, redundant node control modules, redundant power feeding and 16 slots for traffic interface modules including interfaces for:

- OC-3/12/48/192 and STM-1/4/16/64 Trunk
- P/Ethernet Trunk
- Gigabit Ethernet Access
- 3G/HD/SD-SDI and ASI Video Access
- AES/EBU Audio Access

The automatic optical control plane enables powerful end-to-end provisioning and easy network expansion. Multiple failure resilience mechanisms with service granularity ensure integrity of the data transport under all circumstances. The switch is NEBS level 3 compliant with full HW redundancy for switch planes, power supply, node controllers, and control paths.

The Nimbra 600 series is the only high-capacity switching platform on the market with sub Mbps granularity for all services including Ethernet. Supporting standard SDH/SONET and IP/Ethernet interfaces, services may be extended across the network achieving unparalleled bandwidth utilization and maximum flexibility.

Nimbra 688 is fully interoperable with the Nimbra One/300 series of multiservice edge and access switches, and provides an operator with a set of network switching options to meet its unique needs. Existing Nimbra platform users can take advantage of the Nimbra 688 to economically scale their networks.

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

"Industry's lowest cost-per-bit switching with zero packet loss transport."

net insight™

www.netinsight.net

NIMBRA 688

KEY FEATURES

High switching capacity. The high capacity chassis can be equipped in various switch configurations including redundant 80 Gbps bi-directional switch planes (160 Gbps future).

Unsurpassed switching granularity. The Nimbra 680 and 688 are the only high-capacity switches on the market with sub lower-order granularity for all connections. Ethernet and ASI services are mapped and switched in steps of 512 kbps bandwidth.

End-to-end provisioning and restoration. The integrated optical control plane enables services, both unicast and multicast, to be provisioned in a simple one-step process. In case of failures, services are automatically re-routed.

Full topology support. The Nimbra 688 can be deployed in any network topology, such as point-to-point, ring and mesh, enabling cost-effective solutions and easy upgrades.

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 upgrading.

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 module supports channelization of connections down to N x 0.5 Mbps at full 8 x 1 G 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.

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 (HxWxD)	445mm (17.5") x 445mm (17.5") x 240mm (9.4") 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 xWDM extensions (future), 2 for redundant power modules
Switch Capacity:	80 + 80 Gbps, non-blocking in redundant configuration (160 + 160 Gbps future)
Interface Modules:	1 x 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 6 x IP/Ethernet Trunk 8 x Gigabit Ethernet Access 8 x Video Access 8 x 3 Gbps 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 7°C (-40 to 156°F)
Relative Humid.	10% to 90% (non-condensing)
Power:	
Voltage	-48VDC nominal, -38 to -70V
Dissipation	<900 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-DW01	Nimbra 688 Base Unit DC (Nimbra 688 chassis with redundant power supply -48VDC, power cables, fan units)
NPS0024-6512	Node Control Module
NPS0032-6861	Switch Module 80 Gbps

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

The information presented in this document may be subject to change without notice. For further information on product status and availability, please contact info@netinsight.net or visit www.netinsight.net • ©Copyright 2010, Net Insight AB, Sweden. All rights reserved. Net Insight and Nimbra are trademarks of Net Insight AB, Sweden. All other registered trademarks are the property of their respective owners.

NID2617. B1