

# NEXT GENERATION HIGH CAPACITY MULTISERVICE SWITCH

## Nimbra 680

is a break-through Next Generation switch from Net Insight. It implements up to 80 Gbps fully non-blocking connectivity between all ports combined with a state-of-the-art switching architecture to provide the industry's lowest cost-per-bit switching.

Nimbra 680 is especially aimed at meeting the rigorous 100% QoS and availability demands of the professional media industry and Telco and CATV triple-play networks. Nimbra 680 typically forms the high-capacity backbone layer of a Nimbra network, aggregating and switching traffic from Nimbra 300 series or Nimbra One access nodes.

The compact 19" and ETSI rack compatible 6 RU frame features:

- 40 or 80 Gbps redundant switch planes
- > 1 Terabit per second switching capacity per rack
- 12 slots for plug-in units
- Up to 112 OC-192/STM-64 interfaces per rack
- Up to 448 OC-48/STM-16 interfaces per rack

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 .

Nimbra 680 is the only high-capacity switch on the market with sub Mbps granularity for all services including Ethernet. Supporting standard SDH/SONET interfaces, services may be extended across the network achieving unparalleled bandwidth utilization and maximum flexibility.

Nimbra 680 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 Nimbra 680 to economically scale their networks.



**CARRIER CLASS PERFORMANCE  
IN A SUPER COMPACT OUTLINE:  
THE NIMBRA 680 FROM NET INSIGHT**

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



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## KEY FEATURES

The most important characteristics of the Nimbra 680 are:

- > **High switching capacity.** The 160 Gbps chassis can be equipped in various switch configurations including redundant 40 or 80 Gbps bi-directional switch planes.
- > **Unsurpassed switching granularity.** The Nimbra 680 is the only high-capacity switch 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. Services are automatically rerouted in case of failures.
- > **Full topology support.** The Nimbra 680 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 680 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 680 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 Nx0.5 Mbps at full 8x1G wirespeed. Features include 802.1Q VLAN separation, 802.1p and IP diffserv user priorities, and Metro Ethernet Forum E-Line and E-LAN support.
- > **Extensive management options.** The Nimbra 680 can easily be managed by CLI, Web GUI, optional Nimbra Vision™ or 3<sup>rd</sup> party NMS through SNMP.

## TECHNICAL SPECIFICATIONS:

**Dimensions (HxWxD)** 267mm(10.5") x 445mm(17.5") x 240mm(9.4")  
ETSI 300 119 compatible

**Number of slots:** 8 for traffic boards, 2 for control modules,  
2 for switch planes, 1 for alarm+aux interfaces,  
2 for redundant power modules

**Switch capacity:** 40 + 40 or 80 + 80 Gbps, non-blocking in  
redundant configuration

**Interface modules:** 1 x OC-192/STM-64  
4 x OC-48/STM-16  
4 x OC-12/STM-4  
4 x OC-3/STM-1  
8 x Gigabit Ethernet  
8 x Video  
8 x 3 Gbps Video

**Synchronization:**  
Input: 2.048 or 1.544 MHz, G.703.13  
Output: 2.048 MHz, G.703.13

**Maintenance:** Hot-swap (all modules)  
Remote software and firmware download

**Software options:** Dynamic Routing  
Ethernet Multicast  
Native Video Multicast  
HD-SDI support  
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 humid. 10% to 90% (non-condensing)

### Power:

Voltage 115/230VAC or -48VDC  
Dissipation <480W 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™  
3<sup>rd</sup> party NMS over SNMP v1/v2c/v3

### Ordering information:

NPQ0009-DW01 Nimbra 680 Base Unit DC  
NPQ0009-AW01 Nimbra 680 Base Unit AC, 400W  
NPQ0009-AW02 Nimbra 680 Base Unit AC, 600W  
NPS0024-6512 Node Control Module  
NPS0023-6481 Switch Module 40 Gbps  
NPS0032-6861 Switch Module 80 Gbps

## NET INSIGHT - FOR SCALABLE MULTISERVICE NETWORK SOLUTIONS

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 30 countries. Net Insight is quoted on the OMX Nordic Exchange Stockholm. For more information, visit: [www.netinsight.net](http://www.netinsight.net)

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