

PROMINA



## NET Promina Multiservice and Broadband Access

- **Comprehensive connectivity options**
- **High network reliability and resilience**
- **Connects TDM and IP PBXs to public and private IP networks and services**
- **Value-added services**
- **Scalable, modular platform**

The Promina® family of platforms provides an adaptive and reliable foundation on which to build wide area networks or interface to a broad range of carrier services. The Promina P800 Series portfolio consists of the Promina 800, Promina 400, Promina 200 and Promina 100 systems. The Promina NX1000 extends the Promina network with new service and bandwidth options. The Promina Broadband Access Shelf (BBS) portfolio consists of the BBS5000 and BBS10000 systems for aggregating traffic over IP/MPLS backbones.

### COMPREHENSIVE CONNECTIVITY OPTIONS

The Promina is the industry's best access device for handling legacy voice and data applications in enterprise and government environments. Promina systems are characterized by their ability to support a broad range of user interfaces and network services. A single Promina platform can provide multiple analog and digital interfaces to localized PBXs, LANs, routers, front-end processors and video sources, supporting the mix of legacy applications and services often found in the Enterprise. Originating traffic can be passed across a broad range of network or private transport services that include TDM, Frame Relay, ISDN, ATM and IP.

The Promina NX1000 is an IP-enabled platform with an on-board IP Trunk module. The NX1000 takes the Promina into the future with an upgraded architecture, compact chassis, increased bandwidth and interoperability and compatibility with P800 nodes.

The Promina BBS provides fully-featured ATM switching and Ethernet termination capabilities that enables network operators to aggregate and adapt their installed base of Promina P800 and NX1000 nodes to high-speed ATM, IP and MPLS broadband cores.

NET offers a full range of connectivity options that allow applications to be connected at 1.2 Kbps, 10/100/1000 Ethernet, OC-3, OC-12 and OC-48, 10G or anything in between.

### VALUE-ADDED SERVICES

The NET Promina platform integrates a full range of communications technologies to provide significant advantages for voice, video and data transport:

- **Frame Relay** - the FrameXpress™ (FRX) switching module delivers high-performance, standards-based frame relay.
- **ATM** - the CellXpress™ and SCLX™ modules provide the ability to extend the Promina edge across a broadband ATM backbone, transitioning narrowband TDM to ATM services.
- **IP** - An integral MAP router, the LAN/WAN Exchange™ (LWX), supports remote access bridging and routing. The new IP Trunk module allows Promina to carry any supported application traffic over IP.
- **Voice** - From TDM analog and digital voice modules to next-generation Voice over IP (VoIP) modules, Promina delivers toll quality voice applications. The PrimeSwitch™ module supports end-to-end ISDN connectivity. The PrimeVoice™ modules significantly expand call capacity through high-quality voice compression. The NVX module unites the Promina and VX SERIES™ families, offering comprehensive voice services and secure VoIP.

These services can be aggregated from networks of Promina P800 Series and NX1000 nodes into the BBS through Promina-customized interface modules and transported across a next-generation IP/MPLS core.

## HIGH NETWORK RELIABILITY AND RESILIENCE

For over 20 years the Promina multiservice access platform has been the backbone for some of the most important, mission-critical networks in the world. The Promina platform efficiently manages a network's bandwidth. Depending on the user traffic type, Promina can apply dynamic bandwidth allocation, frame relay switching, IP routing, ISDN signaling, or voice compression to maximize available bandwidth and minimize delay across a backbone network.

Promina incorporates an intelligent operating system that avoids any single point of failure, improves network reliability and permits system operation and service capacity changes without interruption. Each node contains an up-to-date view of the network topology and operates independently. This allows the network to automatically reroute traffic within milliseconds in the event of a failure. For maximum fault tolerance and network reliability, Promina systems may be easily configured with redundant power, memory, common logic and port interfaces.

## SCALABLE, MODULAR PLATFORM

The Promina family of multiservice access and aggregation platforms offers a variety of interfaces and platform options, ranging from a small Promina 100 to the Promina 800, allowing expansion as the network grows. With the new NX and BBS options for Promina networking, customers can preserve investment in existing networks and technologies while gracefully migrating to a converged IP network.

Application and interface modules are interchangeable among the Promina P800 Series and NX platforms. In a rapidly changing environment, such compatibility reduces the need for costly spares and provides the flexibility to meet new requirements. BBS platforms offer interchangeable modules that can be used as either access or trunk interfaces.

Whether residing in a data center or in a central office, the Promina modular platforms provide the cost effective scalability, features and resiliency required to deliver high-quality networking services and solutions.

**The Promina Family (clockwise): P800, P200, P100, and the P400**



### Promina NX1000 Multi-service aggregation platform



## SYSTEM CAPACITY

Model	Promina 800 (7 Shelves)	Promina NX1000 (Dual)	Promina 400 (2 Shelves)	Promina 200	Promina 100
Switching Bandwidth	256 Mbps	256 Mbps	32 Mbps	32 Mbps	32 Mbps
Nx64 trunk	96	8	15	7	4
E1 or T1 trunks	96	8	15	7	5
E3 or T3 trunks	4 or 6 (regular) 8 (ATM only)	4 (ATM only)	2 (ATM only)	2 (ATM only)	2 (ATM only)
OC3 trunks	4	na	na	na	na
ATM virtual trunks	96	62	21	21	21
ATM port bundles	128	128	32	32	32
IP virtual trunks	96	96	21	21	21
Data ports	1488	48	92	28	16
Voice ports	2000	960	480	420	240

## PHYSICAL SPECIFICATIONS

Model	Promina 800	Promina NX1000	Promina 400	Promina 200	Promina 100
Feature Slots	128	4-8	24	8	4
Shelves	1-7	1-2	1-2	1	1
Physical design	Cabinet, standalone, rackmount	Cabinet, standalone, rackmount	Cabinet, standalone, rackmount	Wallmount, standalone, rackmount	Wallmount, standalone, rackmount
AC power (autoranging)	90 VAC-264 VAC 47 Hz-63 Hz	100 VAC-240 VAC 47 Hz-63 Hz	90 VAC-264 VAC 47 Hz-63 Hz	100 VAC-264 VAC 47 Hz-63 Hz	100 VAC-264 VAC 47 Hz-63 Hz
DC power	-48 VDC to -60 VDC	N/A	-48 VDC to -60 VDC	N/A	Restricted Use
Ambient Temperature	5°C - 40°C 41°F - 104°F	0°C - 70°C 32°F - 158°F	5°C - 40°C 41°F - 104°F	5°C - 40°C 41°F - 104°F	5°C - 40°C 41°F - 104°F
Relative humidity (noncondensing)	5%-95%	8%-95%	5%-95%	5%-95%	5%-95%
Dimensions	84 in. x 22.09 in. x 32.56 in. 213.36 cm x 56.11 cm x 82.7 cm	7 in. x 17.5 in. x 20.5 in. 17.78 cm x 44.45 cm x 52.07 cm (4 RU)	33.6 in. x 19 in. x 21.67 in. 85.3 cm x 48.26 cm x 55.04 cm	10.5 in x 17 in x 15 in 26.67 cm x 43.66 cm x 39.67 cm	5.15 in. x 17.25 in. x 16.75 in. 13.36 cm x 43.82 cm x 41.28 cm (3 RU)

## NETWORKING FEATURES

### Networking Features

- Traffic types
  - Synchronous/asynchronous data
  - Digital and analog voice
  - Voiceband data
  - Video/image
- Transmission facilities
  - OC3, E3, E1, T1, T3/DS3, 10/100 Ethernet
  - X.21, EIA-422, EIA-530
  - Fiber, microwave, satellite

### Voice and Data Features

- Voice Interfaces: DS1, DAM1 (G.703/704); Analog - 2/4 wire E&M, FXO, FXS
- Data Interfaces: EIA-232, EIA-449, EIA-422, EIA-530, V.35, biphasic/conditioned diphasic, X.21, V.24, V.36
- Voice Signaling protocols: T1 CAS (E&M, DTMF, MF), E1 CAS (R2 MF), FXO/FXS, PLAR, SSDC5-A, COLISEE, R2, MLPP
- Compression techniques: 16 kbps (ITU-T G.728), G.729, 4.8 kbps (FS-1016), Group III fax bypass (V.21, V.27ter, V.29), V.22bis and V.32 (voice band data), 8 and 9.6 kbps (ITU-T G.729), 8 and 9.6 kbps based on proprietary version of LD-CELP algorithm

### ATM Features

- Standards: ATM UNI 3.1 and 4.0, FRF.8 service interworking, HDLC/AAL5/AAL1 interworking
- Management: ILMI and OAM
- Traffic Management: TM 4.0, 16-level traffic shaper, VBR, CBR

### ISDN Features

- Standards: ITU Q.921/Q.931, ETC 300 102-1/2, ECMA 164/Q.SIG 143, ETSI TS 46-33T, ATT TR41449/TR41459/4ESS, Nortel DMS-100
- Interfaces: BRI, E1/T1, PRI

### FR Features

- Standards: ANSI T1.606/T1.617 Annex D, T1.618, FRF.1/FRF.2/FRF.5, ITU-T1.370, ITU-Q.922 Annex A, ITU-Q.933 Annex A
- SDLC/HDLC encapsulation
- PVC priority queuing, tunneling and rerouting
- Traffic Management: CIR, Bc, Be, DE, FECN, BECN

### IP Features

- Interfaces: 10/100 Ethernet, RS530, T1/E1
- Routing protocols: IGRP, OSPF, RIP, BGP, EGP, GDP, IGP, IRDP
- Bridging: Transparent bridging, translational bridging

### Management and Security Features

- SNMPv1, SNMPv3
- Optional Telnet/FTP, SSH/SFTP
- Menu-driven CLI
- netMS (network management for all N.E.T. network elements)

### Safety and Agency

- UL 1950
- FCC Part 15 Class A, FCC Part 68
- IEC 950
- CSA-C22.2 No. 950
- IC CS-03
- EN 50081-1, 50082-1, 60950
- CTR 12 ONP

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