



NetPerformer 9400

Regional Office Solution

The SDM-9400 is a versatile voice and data integrated access device for the regional office. It packetizes and compresses voice, fax and modem traffic and transports it along with LAN, SNA or serial data over a Frame Relay network, saving cost on intra-enterprise voice communications.



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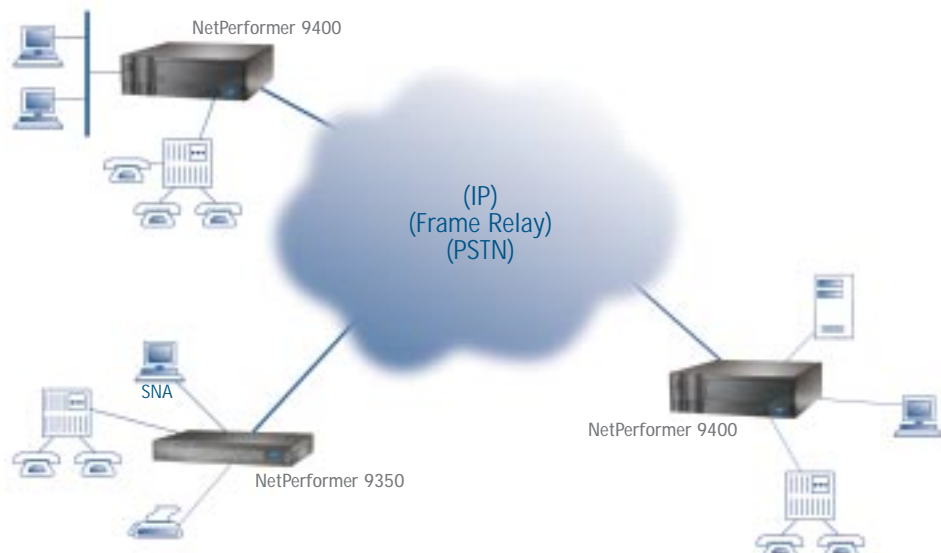
Digital Voice Over Packet Networks

ACT Networks' SDM-9400 multi-service integrated access device is a packetized voice and data solution, and the workhorse of the NetPerformer family - a suite of products that has been optimized for the needs of complex, distributed enterprise networks. Typically these networks include a wide variety of data and telephony requirements, with various sites needing differing amounts of functionality, density and performance.

The SDM-9400 is designed for the regional office, where voice and data traffic is aggregated and redistributed to remote sites. By packetizing and compressing voice traffic, then delivering it with data over a Frame Relay or IP network, the SDM-9400 allows companies to save money on their monthly telephony service. PVC bundling and switching also saves money on monthly service fees, by eliminating the need for a fully-meshed PVC architecture.

The SDM-9400 unit can support up to eight analog or thirty digital voice channels. The analog ports can be configured for E&M (Types I, II, and V), FXS, or FXO support. The digital channels are connected via PBX through T1 or E1 ports. Ethernet or Token Ring LAN support can also be added, as well as fractional T1 and E1 WAN connections.

All voice and data entering the unit is prioritized by protocol then combined for transport over a single Frame Relay connection via private or public networks. This functionality is provided by PowerCell - ACT Networks' award-winning, cell-based prioritization technology.



Features & Benefits

Integrated voice and data capability - in an extensible package, makes the SDM-9400 an ideal solution for the needs of the regional office in a converged network. The SDM-9400, in conjunction with the rest of the NetPerformer product line, allows each individual site to be configured with just the right combination of services, performance and scalability, avoiding unnecessary cost.

Support for modem and fax - means the SDM-9400 can support all the telephony needs of today's distributed enterprise networks, saving cost by integrating all types of traffic onto a single network.

Digital voice support - with 30-channel capacity, along with support for key signaling methodologies let the SDM-9400 readily connect to the world's most popular PBX units.

Any-to-any voice switching - integrates the disparate phone systems of individual sites. This eliminates the need for consistency among sites, saving cost and increasing flexibility.

The SDM-9400 supports PowerCell - ACT's award-winning technology for voice and data integration and prioritization. This allows the entire network to operate at optimal performance for all supported traffic types.

SNMP-compliant MIBs and graphical management - through ACTview 2000, including integration with Hewlett Packard's OpenView for Windows95/NT, let the SDM-9400 be managed using today's most popular and universal network management paradigms.

Adherence to standards - lets the SDM-9400 seamlessly integrate with any public network, and ensures compatibility with leading Frame Relay switches.

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Specifications

System Details

Desktop or rackmount chassis, 8 serial ports and 10 expansion slots
Serial connector: DB-25 female
Serial interfaces: RS-232C, X.21/V.11, V.35/V.11, RS-530, RS-449/RS-422 (software configurable)
Power: 90 to 264 VAC 50/60 Hz or -48 VDC
Optional redundant AC power
Network topology: public and private Frame Relay, mesh, hierarchical, star and point-to-point

Expansion Options

Number of expansion slots: eight 16-bit slots, four 32-bit slots (two shared for a total of 10 simultaneous slots)

Voice modules:

- VFC-03: 1-port analog telephony
- DVC-06: 6-channel digital telephony module
- T1C: 1-port T1 PBX interface
- E1C75: 1-port E1 PBX interface (75 ohm)
- E1C75-1M: 1-port QSIG E1 PBX interface (75 ohm)
- E1C120: 1-port E1 PBX interface (120 ohm)
- E1C120-1M: 1-port QSIG E1 PBX interface (120 ohm)
- ISDN-03: ISDN BRI Digital PBX interface
- ISDN CEM: ISDN BRI clock extraction module

LAN interfaces (32-bit modules):

- MOD-ETH-02: 10BaseT (RJ45) or 10Base2 (BNC)
- MOD-TR-02: STP (DB-9) or UTP (RJ45)

Network interfaces (32-bit modules):

- T1-G703-P2-02: T1 DSU/CSU
- E1-G703-75P2-02: E1 DSU/CSU (75 ohm)
- E1-G703-120P2-02: E1 DSU/CSU (120 ohm)

Dual port model

Up to 32 logical ports

Drop and insert, RJ48 connectors for T1 and E1 120 ohms

BNC connectors for E1 75 ohms.

Network Connections

Number of trunks: up to 8

Circuits: leased, switched or Frame Relay

Link port protocols:

- Synchronous full duplex HDLC, Frame Relay RFC-1490, user-UNI, network-UNI, PowerCell

Link port speed: 1.2 Kbps to 2.048Mbps

Frame Relay:

- Local management interfaces: LMI, ANSI T1.617/annex D, ITU-T Q.933/annex A, CLLM or disabled
- PVCs: 96 per node

Automatic node discovery and rerouting with least cost metric routing

Automatic load balancing, bandwidth on demand

(over leased line) and dial back-up, time-of-day connect

Dialing protocols: V.25bis, X.21, AT and control leads

Telephony Features

Voice compression algorithms: ACELP 8Kbps, 5.8Kbps, 4.8Kbps, ACELP Comfort Noise 8Kbps, 6Kbps, ADPCM G.726 (analog only), PCM G.711

Digital telephony channels: up to 30

- T1: B8ZS/B7ZS/AMI line coding, Mu-law coding, D4/ESF framing, robbed bit signaling, 100-ohm impedance
- E1C signaling: CAS, R2, transparent channel 16
- E1C-1MB signaling: QSIG

Analog telephony channels: up to 8

- Analog interfaces: FXO, FXS, E&M 4w/2w, AC-15, software configurable
- Impedance: 600/900 ohms or complex
- ISDN BRI digital voice/fax channels: up to 18
- 3 BRI (6 telephony) per ISDN-03, Euro ISDN signaling, NT or TE clocking (clock extraction module required in some NT applications)

Dialing: DTMF, MF, pulse dial

Fax support: Group III at 2.4, 4.8, 7.2, 9.6, 12 and 14.4Kbps

Modem Relay: V.32bis modulation up to 14.4Kbps

LAN Support

Ethernet interface (MOD-ETH-02): Ethernet II and IEEE 802.2, 802.3, SNAP

Token Ring interface (MOD-TR-02): IEEE 802.5, 4/16Mbps

Protocol support:

- IP RIP v2 or Static, BootP/DHCP relay, OSPF, IPX RIP and SAP, Source Routing, Source Routing Transparent
- 802.1D Spanning Tree Protocol (STP), MAC Layer, Transparent Bridging
- Filter criteria: based on protocol, address (source, destination or SAP) or custom filtering
- 8 classes of service, 16 priority weights

Data Features (Non-LAN)

Number of user ports: up to 8

Maximum speed: 2.048Mbps

Data compression: 4:1 (up to 256Kbps input)

User port protocols:

- SNA: SDLC, LLC2 or Frame Relay RFC-1490 (BAN, BNN), maximum of 64 PUs per data module (types 1, 2.0, 2.1, 4/5), local SDLC and LLC2 spoofing, SDLC/LLC2 conversion
- Legacy Sync: BDLC, HDLC, SDLC, X.25, X.25 over Frame Relay (annex F/G), COP, BSC, DDCMP, VIP, ALC, IBM/RJE, Uniscope, Poll/Select, Siemens Nixdorf, JCA, Zengin
- Frame Relay: RFC-1490, UNI-DTE, UNI-DCE
- Asynchronous: ENO/ACK, XON/XOFF, transparent, CTS/DTR
- 8 classes of service, 16 priority weights

Physical Characteristics

Height: 5.3" (13.3 cm)

Width: 17" (43.2 cm)

Depth: 18" (45.7 cm)

Weight: 24 lbs. (10.9 kg)

Shipping weight: 34 lbs. (15.4 kg)

Environmental Tolerances

Operating Temperature: 0° to 45° Celsius

Relative Humidity: 10% to 90%, non-condensing

Emissions and Immunity

EN 55022: 1995

EN 50082-1: 1992

EN 60555-2 / -3 : 1987

AS/NZS 3548

CE Mark: EC Directive 89/336/EEC,

'Electromagnetic Compatibility Directive'

Safety Compliance

UL 1950

CSA C22.2 No. 950

ACA TS 001 - 1996

EN 60950 : 1992 / A1 : 1993 / A2 : 1993 / A3 : 1995

CE Mark: EC Directive 73/23/EEC,

'Low Voltage Directive'

Network Compliance

I-CTR 2

TS 002

TS 003

FCC Part 68

IC CS03

CE Mark: EC Directive 98/13/EEC,

'Telecommunications Terminal Equipment Directive'

CE Marking

EC Directive 93/465/EEC, 'CE Marking Directive'

Network Management

SNMP management via ACTview 2000 Network

Management System for HP OpenView

Menu driven async console port (VT-100) via DB-9

male connector, autosensing DTE/DCE

Remote Telnet access to command port

FTP upload and download of software

and configuration

Traps, traces and extended statistics

Username/password security control,

administrative filtering