



### ▶ Integrated Voice and Data Over Satellite

SkyPerformer, a software option for the NetPerformer multi-service access device family, enables the transport of packetized and compressed voice, fax and modem traffic over hybrid terrestrial/satellite networks. LAN, SNA and serial data are also supported.

# SkyPerformer

## Satellite-Based Communications Using NetPerformer

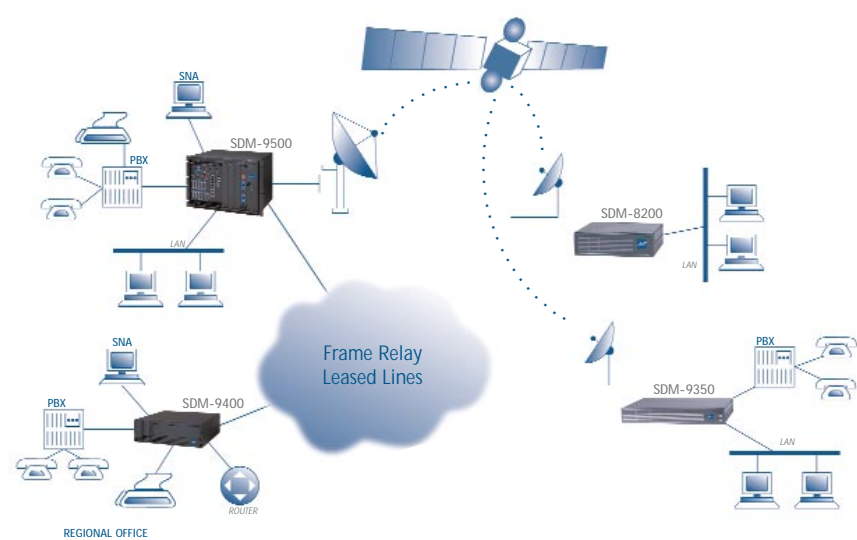
The NetPerformer family of multi-service integrated access devices from ACT Networks offers end-to-end voice, fax, data and LAN solutions over one network. The SkyPerformer software option can extend this service over satellite or hybrid satellite/terrestrial networks.

Compatible with public Frame Relay networks, SkyPerformer is ideal for distributed or multi-site enterprise networks and for extending carrier service offerings where terrestrial services are poor or nonexistent. In addition, SkyPerformer works seamlessly with ACT's other integrated Frame Relay access products under the same user-friendly network management system.

SkyPerformer has the unique ability to use a single satellite frequency to broadcast to multiple remote locations. This creates a Frame Relay "switch in the sky" and saves the customer money.

Where landlines are unavailable, SkyPerformer offers a high-performance, cost-effective alternative for connecting remote locations that require integrated voice and data communications. And, SkyPerformer saves enterprises money in two ways: on the one-time hardware capital costs and on the recurring space-segment charges.

- Operates in hybrid satellite/terrestrial topologies for extension of public or private Frame Relay networks
- Offers low-cost, single-carrier operation
- Provides digital and analog voice, fax and modem support
- Includes multi-protocol data and LAN support
- Offers ACTview 2000™ SNMP-based NMS support, providing single management interface for both satellite and terrestrial components
- Supports single-hop voice and data
- Supports a variety of satellite network topologies: single or distributed star, partially or fully meshed and point-to-point
- Interfaces with any satellite modem
- Does not require an expensive hub or DAMA controller
- Provides toll-quality 8Kbps voice compression with dynamic fallback to 6Kbps in congestion situations



## Features & Benefits

**A uniform network** – means that with the SkyPerformer software option for the NetPerformer family, a user only needs to learn one interface and hardware platform for both satellite and terrestrial networks.

**Easy migration** – lets the user install a satellite network today using the SkyPerformer option for the NetPerformer and in the future transfer to a terrestrial network without replacing the hardware, by just deactivating the SkyPerformer software option.

**Integrated voice and data capability** – in an extensible package, makes NetPerformer an ideal solution for the needs of the regional or central office in a converged network. The NetPerformer product line allows each individual site to be configured with just the right combination of services – including satellite or terrestrial connection to the network – and just the right amount of performance and scalability, avoiding unnecessary cost.

**Support for modem and fax** – means that the SkyPerformer can support all the telephony needs of today's distributed satellite-based nodes, saving cost by integrating all types of traffic onto a single network.

**Digital voice support** – along with support for key signaling methodologies, lets NetPerformer readily connect to the world's most popular PBX units.

**Support for PowerCell** – ACT's award-winning technology for voice and data integration and prioritization, 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, lets NetPerformer be managed using today's most popular and universal network management paradigms.

**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.

**Adherence to standards** – lets NetPerformer seamlessly integrate with any public network, and ensures compatibility with leading Frame Relay switches.

# SkyPerformer

## Specifications

### SkyPerformer Supported by

NetPerformer SDM-8200, SDM-8300, SDM-9350, SDM-9360, SDM-9380, SDM-9400, SDM-9500, SDM-9530, SDM-9580, SDM-9585

### Topology

Compatible with public or private Frame Relay, star, distributed, fully-meshed, partially-meshed, or point-to-point topology  
Shared outbound satellite transmitter with multiple demodulators recreating logical meshed networks

### Telephony Features

T1 Digital Voice:

Line Coding: B8ZS / B7ZS / AMI  
Coding: ulaw  
Framing: D4 / ESF  
Signaling: Robbed bit  
Impedance: 100 ohms

E1 Digital Voice:

Physical/Structure: G.703 / G.704  
Line Coding: HDB3  
Coding: alaw  
Framing: G.732  
Signaling: CAS, R2, transparent channel 16  
OSIG (E1C-1MB module only for SDM-9400)  
Impedance: 75-ohm unbalanced,  
120 ohm balanced

ISDN BRI Digital Voice: Up to 18 Voice / Fax Channels (SDM-9400 only)

Interface: 3 BRI ports per ISDN-03 module supporting 6 telephony channels

Signaling: Euro ISDN

Clocking: configurable as NT or TE, Clock Extraction module (CEM) required in some NT applications

Analog Voice: 0 to 64 Voice/Fax Channels

(depending on NetPerformer model)  
Analog Interfaces: FXS, FXO and E&M 4w/2w (type I, II and V), AC-15-software configurable  
Impedance: 600/900 ohms or complex  
Dialing: DTMF, MF, Pulse dial  
Voice Algorithms: ACELP 8K, 5.8K, 4.8K, ACELP CN 8K, 6K, ADPCM G.726, PCM G.711  
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

LAN port: Ethernet or Token Ring (platform dependent)  
Frame Types: Ethernet II, IEEE 802.2, 802.3, 802.5, SNAP  
Routing: IP RIP v2 or Static, BootP/DHCP relay, OSPF, IPX RIP and SAP, Source Routing, Source Routing Transparent  
Bridging: 802.1D Spanning Tree Protocol (STP), MAC Layer, Transparent Bridging  
Filter Criteria: Based on protocol, source/destination/SAP address and custom filtering

### Data Features (Non-LAN)

Up to 2.048Mbps  
Data Compression: standard via software (performance varies with platform used)  
SNA: SDLC, LAN or Frame Relay  
RFC1490 (BAN, BNN)  
Maximum of 64 PUs per unit, type 1, 2.0, 2.1, 4/5  
Local SDLC and LLC2 spoofing  
SDLC to LLC2 conversion  
Legacy Sync Protocols: SDLC, HDLC, COP, X.25, X.25 over Frame Relay (annex F/G), BDLC, BSC, DDCMP, VIP, ALC, IBM/RJE, Uniscope, Poll/Select, Siemens Nixdorf, JCA, Zengin

Frame Relay Protocol: RFC-1490, UNI-DTE, UNI-DCE, up to 300 PVCs maximum per module (depending on platform used)  
Asynchronous: ENQ/ACK, XON/XOFF, transparent, CTS/DTR

### Network Management

SNMP management via ACTview 2000 Network Management System for HP OpenView  
Menu driven async console port (VT-100) via DB9 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