



SERVICEXCHANGE SX-10

CUSTOMER PREMISE AND POINT-OF PRESENCE

The SX-10 is a compact voice gateway for the customer premises and the service provider's point-of-presence. The stackable unit has four V.35/V.11 serial ports, one 10/100 auto-sensing Ethernet port, and four RJ-48 line interfaces for an aggregate throughput of up to 120 simultaneous calls.



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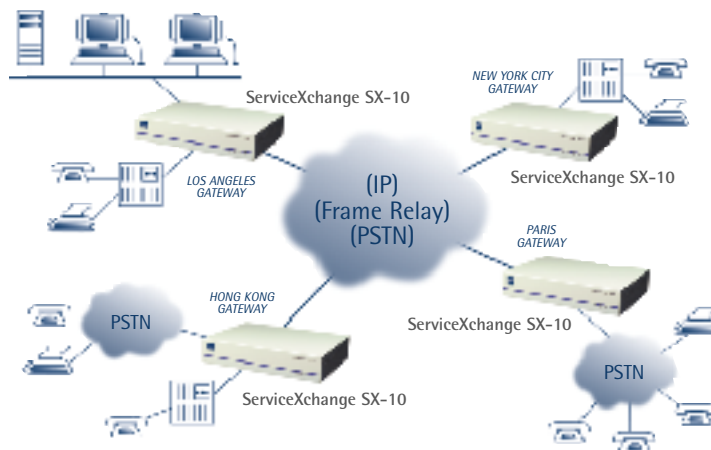
Cost-effective, Scalable Solutions for Telephony-over-Packet Networks

ACT Network's ServiceXchange SX-10 provides the most cost-effective solution for enabling packet-based networks to interconnect with traditional Switched Circuit Networks (SCN). The SX-10 transmits voice over packet-based networks via Voice-over-Frame Relay (VoFR) or Voice-over-IP (VoIP). This solution brings to fold leading technology in voice compression and packetization, and leverages ACT's expertise and proven track record in providing award-winning solutions that allow the transport of voice and data across packet-based networks.

This SX-10 is the perfect solution for next-generation telecommunication service providers, Internet Service Providers (ISPs), Competitive Local Exchange Carriers (CLECs), and other businesses involved in providing lower-cost alternatives to the Public Switched Telephone Network (PSTN) by creating toll-bypass services.

The SX-10 can also help enterprises achieve tremendous cost savings by allowing closer integration of voice and data traffic over one network, thereby simplifying network maintenance and administration. These benefits continue to drive the transformation of leased-line data networks into packet-based networks like frame relay. This not only allows telcos to lower their costs, but also provides an opportunity to adopt integrated voice and data applications to the desktop.

The SX-10 Voice Gateway allows voice, modem and fax calls to be transmitted across native frame relay, IP, or PSTN networks with clarity, while requiring only a minimal amount of bandwidth. Incoming calls coming from the PSTN are encoded and compressed, and then encapsulated into packets. These packets are then forwarded to another remote gateway, using either a frame relay network or IP, where they are de-packetized and decoded back into a voice circuit. It also allows telcos to send and receive fax information using a feature called fax/modem relay.



FEATURES & BENEFITS

High Port Density in low-profile Unit – Because of the high-performance dedicated multiprocessor architecture, the SX-10 has a high port density and is packaged in a low-profile unit that takes up 3.5 inches of rack space. As a result, the SX-10 takes up less rack space, and can easily scale to support multiple voice channels with no impact on latency and quality since the workload is distributed among four processing engines.

Provides any-to-any Connectivity – The gateway can handle voice traffic between the LAN and frame relay network, between the LAN and PSTN, and between the frame relay WAN and the PSTN, simultaneously providing "deployment" flexibility for carriers, no matter what services they provide.

Provides Voice over Frame Relay and Voice over IP Transport (H.323 v2 Compliant) – Provides the flexibility of deploying varied packet-based voice networks. SX-10 also provides an upgrade path for users who have initially implemented voice over frame relay, and would like to migrate to a H.323 standards-based network.

Supports up to Four Frame Relay Ports – Offers a high-density, scalable solution for connecting to packet-based WANs. Each of the frame relay ports can be individually configured to support speeds of up to 6 Mbps, thus allowing the carrier to further configure the box to its different needs.

Easy to Upgrade Voice Capacity – Offers a high-density, scalable solution for connecting to the phone system. The four-port voice expansion module can easily be configured to support up to 96 (for T1) or 120 (for E1) voice channels by adding DSP SIMM Modules. The ServiceXchange's unique architecture controls the incremental cost of network expansion for the carrier.

8-to-1 Voice Compression – The voice expansion module is filled with SIMM-like modules containing high-performance (100 MIPS) digital signal processors handling multiple voice channels and can support several types of high voice compression algorithms. The SX-10 supports echo cancellation, silence suppression (also known as voice activity detection), and comfort noise generation providing the carrier with high-quality voice traffic.

Provides extensive dialing plan – Offers flexibility for the user to allow the gateway to accept calls from the LAN, WAN, or PSTN connections, and route them to assigned destinations by using Call Mapping Tables (CMT). The concept of "hunt groups" can be applied, allowing users to specify alternate route destinations, thereby offering link redundancy and load balancing, which enhance the quality of the service.

Real-time fax and modem relay – By using T.30 spoofing, the gateway allows you to send fax traffic between Group III fax equipment operating at up to 14.4 Kbps across your Frame Relay network. Modem traffic is also supported at up to 14.4Kbps allowing the carrier to support customers' business applications.

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SPECIFICATIONS

System

H.323 v2 standards compliant
Management:
SNMP-based
H.323 Gatekeeper software option
Local and Remote (Telnet)
Graphical User Interface (GUI)
Command Line Interface (CLI)
Desktop or Rackmount Chassis
High Performance, Multiprocessor System
Power Supply:
90 to 264 VAC 50/60 Hz; -48v DC support
Console Port: RS-232C/DB-9

WAN Ports

Number of Ports: 4
Protocol: Frame Relay
Compliant with Q.920, Q.921, and Q.922
RFC 1490 encapsulation
LMI support
Annex D support
Rates:
9.6K, 19.2K, 28.8K, 56K, n x 64K up to 2.048
Mbps, 1.544 Mbps, 2.048 Mbps, 4.096 Mbps,
6.144 Mbps
Interface: V.35 or V.11 (DTE/DCE support)

LAN Port

10/100 BaseT (auto-negotiation)
Framing: Ethernet II, IEEE 802.3
Connector: RJ-45

Expansion Modules

T1 Digital Voice
Number of Ports: 1 - 4
Number of Channels:
up to 96 voice and/or fax channels
Physical Layer: ANSI T1.403

Line Coding: B8ZS/B7ZS/AMI
Coding: A-law/ μ -law
Framing: D4/ESF
Signaling: Robbed bit / CAS / ISDN PRI (Q3-99)
Impedance: 100 Ohms balanced
Dialing: DTMF, MF, Pulse dial
Voice Algorithms:
G.729, G.729a, G.711, ACELP-CN, G.723.1
Fax Support:
Group III at 2.4, 4.8, 7.2, 9.6, 12, 14.4 Kbps
Connector: RJ-48
E1 Digital Voice
Number of Ports: 1 - 4
Number of Channels:
up to 120 voice or fax channels
Physical Layer: G.703, G.704, G.732
Line Coding: HDB3
Coding: A-law/ μ -law
Signaling: CAS / R2 / ISDN PRI (Q3-99)
Impedance:
75 Ohms unbalanced, 120 Ohms balanced
Dialing: DTMF, MF, Pulse dial
Voice Algorithms:
G.729, G.729a, G.711, ACELP-CN, G.723.1
Fax Support:
Group III at 2.4, 4.8, 7.2, 9.6, 12, 14.4 Kbps
Connector: RJ-48 or BNC

Physical Dimensions

Height: 3.5" (8.89 cm) (2U)
Width: 17" (43.18 cm)
Length: 12.5" (31.75 cm)
Weight: 8.5 lbs. (3.86 kg)

Environmental

Temperature: 0 - 45 degrees Celsius
Humidity: 10 - 90%, non-condensing

Agency Approvals

Emissions & Immunity:
EN55022: 1995; EN50082-1: 1997
CE Mark: EC Directive 89/336/EEC,
'Electromagnetic Compatibility Directive'
Safety: UL 1950, CSA C22.2 No. 950,
ACA TS 001-1997
EN60950: 1992 / A1: 1993 / A2: 1993
A3: 1995 / A4: 1996 / A11: 1997
CE Mark: EC Directive 73/23/EEC,
'Low Voltage Directive'
Network: CTR 1, CTR 2, CTR 12/A1, CTR 13,
NTR4 (UK), ACA TSO16
CE Mark: EC Directive 98/13/EEC,
'Telecommunications Terminal Equipment
Directive'
CE Marking: EC Directive 93/465/EEC,
'CE Marking Directive'

*All specifications are subject to change without notice.
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7/22/99