Tenor® DX VoIP MultiPath Switch

Tenor® DX Series

- SelectNet™ Auto-Switching provides superior voice quality
- Intelligent Call Routing
- Integrated H.323 gatekeeper and SIP B2BUA for survivability**
- From 8 to 120 VoIP channels
- Available with 2, 4, 6 or 8 T1/E1/PRI Spans
- IVR/Radius AAA Compliant (Multi-lingual IVR)
- Support for external Quintum Call Routing Server*
- Support for external Quintum Tenor Monitor
- Available in MultiPath or Gateway Configurations

Enterprise Solutions

A more intelligent way to implement VoIP

The Quintum® Tenor® DX MultiPath Switch offers enterprises an easy, cost-effective way to capitalize on the power of Voice over IP (VoIP). The Tenor integrates a gateway, a gatekeeper, intelligent call routing, and supports H.323 or SIP, and QoS all in one solution.

Enterprises can benefit from a variety of valuable applications such as PBX extension, remote office connectivity, long distance consolidation and call centers. Product scales from a fractional T1/E1, with 8 simultaneous VoIP channels up to a full 8 span MultiPath switch supporting 120 simultaneous VoIP calls.

Patented SelectNet™ Technology assures high quality voice.

The Tenor employs its patented SelectNet™ Technology to monitor calls for jitter, packet loss, and latency, and can transparently switch mid-call to the voice network whenever conditions demand.

More intelligence means greater flexibility.

With its MultiPath Call Routing, the Tenor can intelligently route calls between the PBX, the PSTN, and the IP network to achieve the best combination of cost and quality. The Tenor can also route calls over IP to reduce costs, and then transparently "hop off" to the PSTN, to reach off-net locations. No other VoIP solution can match this flexibility.

More intelligence means easier installation.

With its MultiPath architecture, the Tenor is the only VoIP solution that can be installed without upgrades to the existing voice or data networks. Tenor connects to the data network through a 10/100 Ethernet interface, and to the enterprise and public voice network through a T1, E1, or PRI interface.

More intelligence means greater reliability.

The Tenor is designed to pass calls through to the existing voice network in the event of system malfunction—even a total power failure.

More intelligence means less network congestion.

With its PacketSaver™ Technology, the Tenor reduces bandwidth consumption up to 57%, by combining voice packets from several calls into a single packet to minimize bandwidth requirements.

NAT*Access*™ intelligence means greater security.

The Tenor VoIP MultiPath Switch also features a unique technology that allows it to operate behind NAT-enabled firewalls. The innovative NAT*Access*™ solution overcomes the problem of NAT firewalls not correctly translating internal IP addresses into public addresses when a VoIP call is established with an outside party.

* Quintum product purchased separately
** Not supported in initial software release

QUINTUM TECHNOLOGIES, INC.

CALL MANAGEMENT FEATURES

- Automatic call type detection: Voice/Modem/Fax
- Answer and Disconnect Supervision
- Trunk group support
- Public and private dial plan support
- User programmable dial plan support
- Forced routing
- Pass-through support for calls to Toll Free, local and special service numbers (emergency services etc.)
- Automatic appending and stripping of digits to dialed numbers
- Call Detail Records
- Least cost routing with external Quintum VoIP Call Routing Server*
- Type I Caller ID delivery (Tecordia Standard GR-30-CORE)

TECHNICAL SPECIFICATIONS

Telephony Specifications

- Voice algorithms: G.723.1 and G.729ab, G.711
- Auto code negotiation
- Fax support: Industry standard T.38 and Group III at 2.4, 4.8, 7.2, 9.6, 14.4 Kbps
- Modem over IP
- Choice of 2, 4, 6, or 8 T1/E1/PRI Spans
- Standard RJ-45 Connectors
- Coding: A-law, μ-law
- Enhanced (Carrier Grade) Echo Cancellation: ITU Rec. G 168, up to 128 msec tailsize
- PRI Signaling Protocols: National ISDN-2, Euro ISDN NET5, Japan INS-NET1500, KDD, 4ESS, 5ESS, DMS100
- T1 CAS (E&M, Loop Start, Feature Group-D, DTMF, MF)
- E1 CAS (R2 MF)
- DASS2
- Tandem/TDM switching
- Maximum Call Rate: 7,200 calls/hour

IP Network Specifications

- LAN Interface: Fast Ethernet port (10/100 Base-T)
- Standard RJ-45 Interface (IEEE 802.3) for 10 Base-T or 100 Base-T connections
- QoS Support: IP TOS, DiffServ

VoIP Network Specifications

- H.323 v.3 Gateway and Integrated Gatekeeper
- SIP User Agent (RFC 3261 compliant endpoint)
- SIP Back-to-back User Agent (B2BUA)**
- SIP RFC2833 In-Band DTMF Signaling
- SIP Refer Method support
- IVR/RADIUS server support for AAA with integrated multi-lingual IVR
- Adaptive Voice Activity Detection (VAD) with Comfort Noise Generation (CNG)
- Adaptive Jitter Buffer
- Packet Loss Compensation
- NAT*Access*™
- Security: IP Filtering
- Up to 120 simultaneous VoIP calls

Configuration / Management

- Quintum Tenor Configuration Manager (GUI) for configuration of remote individual Tenors.
- Quintum Tenor Monitor (GUI) for alarm monitoring, call monitoring and CDR monitoring
- SNMPv2 Agent
- Command Line Interface

Dimensions: (1U High Chassis)

W 17 3/8" x H 1 3/4" x D 10 3/4"
W 44.5cm x H 4.5cm x D 27.6cm

- Maximum weight: 8.25 lbs (3.75kg)
- AC Power: 100-240 Volts AC, 50/60 Hz, 50 watts
- Operating temperature: 40° - 104° F (5° - 40° C)
- Operating humidity: 20% - 80% non-condensing
- Telco: FCC Part 68, TS-016, TBR4, TS-038, CS03
- EMC: FCC Part 15, EN55022, EN55024, EN61000-2-3, EN61000-3-3
- Safety: UL60950, EN60950, AS/NZS60950

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QUINTUM TECHNOLOGIES, INC.
71 James Way . Eatontown . New Jersey 07724
1-877-SPEAK-IP . Tel 732.460.9000 . Fax 732.544.9119
www.quintum.com