

Tenor[®] DX Series for Service Providers

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



A more intelligent way to enter the VoIP market

The Quintum® Tenor® DX MultiPath Switch offers unique flexibility for service providers who want to capitalize on cost effective, high-quality Voice over IP (VoIP). The Tenor integrates a gateway, a gatekeeper, intelligent call routing, and supports H.323 or SIP, and QoS all in a small solution.

Service providers can benefit from a variety of valuable applications such as VoIP Local Access, Wholesale VoIP Termination, Calling Cards, Tandem Switching and Least Cost Routing.

Carrier class intelligence delivers a complete application solution

- **Integrated VoIP and Circuit Switching**
Intelligently switches calls between circuits (DS0s) and IP, between multiple circuits, and between IP endpoints.
- **Enhanced Interactive Voice Response (IVR)**
Supports multiple user selectable languages and prompts.
- **Advanced Call Routing Support**
Quintum's external Tenor VoIP Call Routing Server* provides scalable, centralized network routing control and administration for larger networks. Provides enhanced network-wide routing flexibility including QoS routing, Least Cost Routing, Source-Based Routing, and extensive network routing statistics and report generation.

- **Network Management Support**

Quintum's external Remote Management Session Server* helps lower maintenance costs through centralized provisioning, alarm monitoring, and troubleshooting.

- **MultiPath Architecture**

Allows easy installation at the customer premise. Tenor is the only VoIP solution that can be installed without upgrades to the existing voice or data network.

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 customers' calls to the PSTN whenever conditions demand. This intelligent switching allows you to achieve the Quality of Service targets that customers demand, at costs that traditional phone companies simply cannot match.

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.

More intelligence means better management

The Tenor comes with a set of easy to use configuration and management tools, including Tenor Configuration Manager (GUI) and Wizard, and the Tenor Monitor that offers realtime monitoring of alarms, call status and CDRs. Tenors can easily be remotely managed behind NAT firewalls utilizing the Tenor Remote Management Session Server.*

* Available for an additional cost
** Not supported in initial release

Tenor DX MultiPath Switch

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 services numbers (ie. emergency services)
- Automatic appending and stripping of digits to dialed numbers
- Call Detail Records
- Least Cost Routing with external Quintum VoIP Call Routing Server*
- Caller ID Name and Number

TECHNICAL SPECIFICATIONS

Telephony Specifications

- Voice algorithms: G.723.a and G.729ab, G.711
- Auto codec 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
- VoIP to circuit, and circuit to circuit (Tandem/TDM) switching
- SS7/C7 support using an external SS7 signaling gateway*

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 (RFC3261 compliant endpoint)
- SIP Back-to-Back User Agent (B2BUA)**
- SIP RFC2833 In-band DTMF signaling
- SIP Supplementary Services
- Message Waiting
- 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
- NATAccess™
- Security: IP Filtering
- Up to 120 simultaneous VoIP calls
- Support for DNS Addressing

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

GENERAL SPECIFICATIONS

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, AS/NZS60950, EN60950



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

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