

Two-Port Enhanced Multichannel T3 Port Adapter

THE TWO-PORT ENHANCED MULTICHANNEL T3 PORT ADAPTER FOR THE CISCO 7500 AND 7200 SERIES PLATFORMS IS THE NEXT STEP IN PORT DENSITY AND FLEXIBILITY FOR ENTERPRISE AND INTERNET SERVICE PROVIDER WAN LINK AGGREGATION. EACH ADAPTER HAS TWO T3 PORTS THAT CAN BE INDEPENDENTLY CONFIGURED FOR EITHER MULTICHANNEL T3 OR PACKET-OVER-T3 OPERATION. WHEN CONFIGURED AS T3 PORTS, CONNECTIONS TO DS3 AND SUBRATE DS3 SERVICES CAN BE PROVISIONED. WHEN CONFIGURED AS MULTICHANNEL T3 PORTS, UP TO 56 T1 LINKS CAN BE BROUGHT IN ON THIS SINGLE-WIDE PORT ADAPTER. EACH T1 CAN BE FURTHER CHANNELIZED TO DS0 MAKING THE TWO-PORT ENHANCED MULTICHANNEL T3 PORT ADAPTER THE MOST FLEXIBLE INTERFACE FOR WAN PROVISIONING.

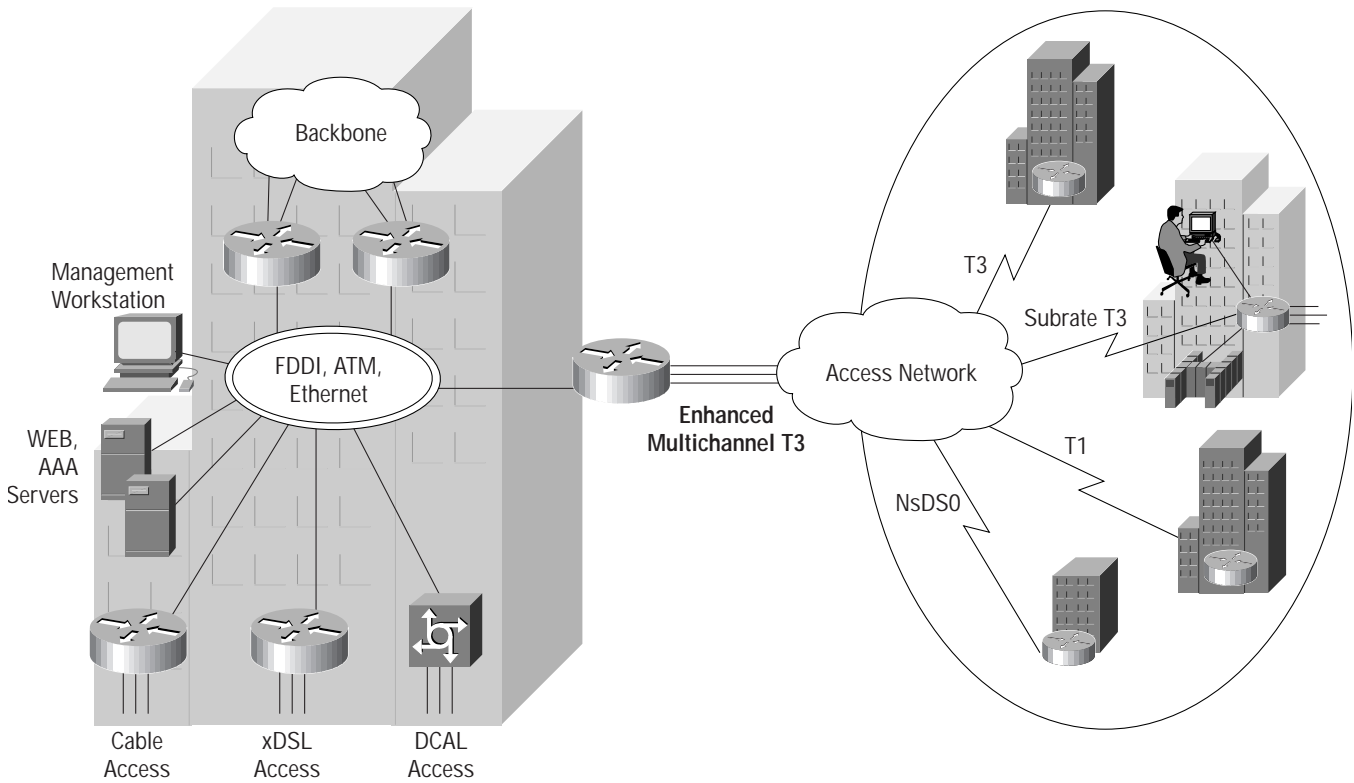
Overview

The combination of multichannel T3 and packet-over-T3 functionality makes the two-port enhanced multichannel T3 port adapter ideal for today's rapidly changing WAN environment. As an integral part of a service node where customer bandwidth needs are uncertain, the two-port enhanced multichannel T3 port adapter allows service providers to avoid determining beforehand how ports will be allocated between DS0, DS1, and DS3 connections. For enterprise remote-site connection, the flexibility to support DS0, DS1, and DS3 connections means this port adapter reduces equipment expenditures by integrating the capabilities and services of numerous port adapters onto a single adapter. It also provides investment protection by growing with the enterprise to meet both the needs for today's DS0 and DS1 aggregation networks to tomorrow's T3 aggregation networks.

Application

The two-port multichannel T3 adapter meets a variety of service interconnect requirements including concurrent support for leased line and Frame Relay. Enterprises and service providers can connect the adapters' two DS3 ports into these services for aggregation of large numbers of remote site and internet service provider (ISP) customers into a central site. This adapter combines the advanced services and capabilities of current Cisco multichannel adapters and packet-over-T3 adapters to make a highly configurable and adaptable interface. As with the existing multichannel adapters, each of the two DS3 ports support up to 128 DS0, NxDS0, fractional DS1 (FT1), and DS1 connections for up to 256 total connections per port adapter. With integrated DS1 channel service unit/data service unit (CSU/DSU) functionality, the two-port enhanced multichannel T3 adapter is compatible with the large number of standards compliant DS1 CSU/DSUs on the market. As with the existing packet-over-T3 cards, in clear channel mode, each DS3 can be configured for full-rate or subrate operation compatible with a variety of third party DS3 DSUs. (Figure 1)

Figure 1 Using the Enhanced Multichannel T3 Card for Leased Line Access



Ordering Information

Part Number	Port Adapter Description
PA-MC-2T3+	Two-port enhanced multichannel T3 port adapter

Key Features

- Two DS3 ports each with integrated CSU/DSUs.
- 28 T1 ports multiplexed onto a single T3 connection
- Channelized T1, fractional T1, and full-rate T1 supported
 - Up to 128 usable NxDS0 channels (where N is 1 to 24) that can be allocated among the 28 T1 ports on each DS3
- Internal or network clocking selectable on each T1 or T3
- Line and payload loopback capabilities
 - Local, remote, line, and payload loopback at the T1 level.
 - Respond to embedded loopback commands
 - Insertion of loopback commands into transmitted signal
- Full bit-error-rate testing capabilities on any T1

- Programmable pseudo-random pattern up to 32 bits in length including 2^{26-1} , 2^{9-1} , 2^{11-1} , 2^{15-1} , 2^{20-1} , 2^{23-1} , and 2^{32-1}
- 32-bit error count and bit-count registers
- Detect test patterns with bit-error rates up to 10^{-2}
- Alarm detection—AIS, Remote Alarm, FEBE, out of frame (OOF)
- On-board processor for real-time FDL messaging, in-band-code detection and insertion, alarm integration, and performance monitoring
- Support for the following serial encapsulation protocols:
 - Frame Relay
 - PPP
 - HDLC
 - SMDS DXI
- Support for the following networking protocols:
 - IP
 - IPX
- 16-bit or 32-bit CRC supported

T1 Specific Features

- Superframe (SF) and Extended Superframe (ESF) support
- Full FDL support and FDL performance monitoring
- Alarm detection—CRC errors, out of Frame, errored seconds, failed seconds, severely errored seconds, error events, failed signal rate, bursty seconds, AIS
- Alarm reporting—24 hour history maintained, 15 minute intervals on all errors.
- ESF and SF framing modes
- Internal and loop (recovered from network) clocking
- T1 MIB (RFC-1406)

T3 Specific Features

- DSX-3 level interface with dual female 75 Ohm BNC coaxial connectors per port (separate RX and TX)
- Full duplex and connectivity at DS3 rate (44.736 Mbps)
- Scrambling and subrate (support of the following DSU vendors' algorithms:
 - Digital Link
 - Kentrox
 - Larscom
 - Verilink
 - Adtran
- Scrambling and subrate can be independently or simultaneously enabled in each DSU mode.
- Line build-out—Programmable for up to 450 feet of 734A or equivalent coaxial cable
- Line rate—44.736 Mbps (+/- 20 ppm)
- C-Bit, or M13 framing (software selectable)

- B3ZS line coding
- DS3 FEAC channel support
- 24-hour history maintained for error statistics and failure counts, 15 minute intervals
- DS3 alarm/event detection (once-per-second polling)
 - AIS: alarm indication signal
 - OOF: out of frame
 - LCV: line code violation
 - EXZ: excessive zeros
 - FERF: far-end receive failure
- T3 line and local loopback paths
- T3 MIB (RFC-1407)

Compliance

- ANSI T1.107
- ANSI T1.102
- ANSI T1.404
- AT&T 62411
- AT&T 54016
- AT&T 54014
- ANSI T1.403
- FCC Part 68
- AT&T TR-NWT-00499
- UL1950 3rd Edition/CSA C22.2, No.950 (U.S. and Canada)
- FCC Part 15, class A



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