TELEPRIME™
Advanced Communications Division

QuadroM Dual E1/T1 Gateway

T1 PRI NI-2
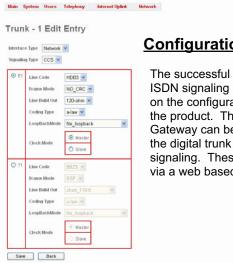ISDN Span

E1 PRI ETSI
ISDN Span

Overview

This application note describes how the Teleprime configured QuadroM E1/T1 gateways can be used as an ISDN signaling converter for converting T1 ISDN interfaces into E1 ISDN interfaces. ISDN signaling converters are required for service providers terminating international to North American networks and for different standards based equipment such as PBXs or gateways that might not have the required capacity or interface support for the customer's ISDN network.

Teleprime ACD has developed a configuration script for the QuadroM Dual E1/T1 Gateway that supports signaling conversion from the T1 primary rate National ISDN 2 (NI-2) and the E1 primary rate standard (Euro ISDN). Multiple QuadroM E1/T1 gateways can be "stacked" to provide connectivity for multiple T1 to E1 ISDN applications.

ISDN Signaling Conversion

Many users attempt to use off the shelf T1 to E1 network type converters for ISDN applications but these units do not support the signaling type variations that exists between T1 and E1 ISDN. T1 ISDN uses a different channel allocation scheme than E1 and the lower link layer protocol implementation is different. With the QuadroM Dual E1/T1 gateway, the user is able to select the correct protocol interface matched to the span type (T1 or E1). Additionally, the ISDN network or user layer selection is available to the customer so termination at either the network or user level is possible.

Trunk - 1 Edit Entry

Interface Type: Network
Signaling Type: CCS

E1
Line Code: HDB3
Frame Mode: NO_CRC
Line Build Out: 120-ohm
Coding Type: a-law
LoopBackMode: No_loopback
Clock Mode: Master / Slave

T1
Line Code: B8ZS
Frame Mode: ESF
Line Build Out: short_110-ft
Coding Type: u-law
LoopBackMode: No_loopback
Clock Mode: Master / Slave

Save   Back   Help

Configuration Management

The successful implementation of an ISDN signaling converter is dependent on the configuration management of the product. The QuadroM Dual E1/T1 Gateway can be easily configured for the digital trunk type, parameters and signaling. These items are selected via a web based HTML menu guide.

Signaling Conversion

The QuadroM Dual E1/T1 Gateway not only provides the T1 and E1 interface termination but also the necessary signaling conversion for the ISDN protocol at the link and user layers. This conversion supports the proper protocol initiation of the links with the network and the establishment of call procedures for handling of traffic. The QuadroM Dual E1/T1 Gateway web menus allow the user to configure the ISDN switch type, channel assignments and the ISDN D link channel and numbering plan configurations.

Trunk 1 - E1 - Signaling Type CCS

Non Automat

TEI Address(0..63): 0
SAPI Value: 10

Alternative Disconnection Mode

ISDN L2 Timers
Excessive Ack. Delay T200: 4000
Idle Timer T203: 12000

ISDN L3 Timers
T302 Timer: 4000
T309 Timer: 0
T310 Timer: 60000
No Answer Disconnect Timer: 0

Channels (Timeslots)
D-Channel Timeslot For Transmit/Receive: 16
B Channels

Bearer Establishment Procedure: on progress indication with in-band information
Called Party Type of Number: International number
Calling Party Type of Number: International number
Called Party Numbering Plan: ISDN/telephony numbering plan
Calling Party Numbering Plan: ISDN/telephony numbering plan
Route Incoming Call to: Routing with inbound destination number
Switch Type: primary_net5
Incoming Called Digits Size: 7   (0..255)

Generate Progress Tone to IP
Generate Progress Tone to PSTN/PBX
Enable CLIR Service
Enable Connect Acknowledge Option

Save   Back

Signaling Type & Call Router

The QuadroM Dual E1/T1 Gateway contains a built in call router that is menu driven to support numbering plan modifications and user customized dial plans. Users are no longer limited to telco defined numbers but can manage the routing and call assignments on either a call, number or channel basis.

Optional Features

The QuadroM Dual E1/T1 Gateway supports added interfaces such as CAS DTMF, R1 and R2 signaling for legacy network access. These interfaces may be menu selected. Multiple QuadroMs may be stacked providing a "mesh" of networked converted interfaces. A local phone port is also available for test calls. QuadroM gateways are field flash upgradeable.

Teleprime ACD Ordering Code for QuadroM:

Single T1 or E1 Span, Order Code = QuadroM-1E1T1
Dual T1 or E1 Span, Order Code = QuadroM-2E1T1