

QuadroM Dual E1/T1 Gateway



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 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.

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.

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.

Main System Users Telephony Internet Upload Network

Trunk 1 - E1 - Signaling Type CCS

Non Adomtal
TEI Address (0..83)
SAPI Value
 Alternative Disconnection Mode
ISDN L2 Timers
Excessive Ack. Delay T200
Idle Timer T203
ISDN L3 Timers
T302 Timer
T309 Timer
T310 Timer
No Answer Disconnect Timer
Channels (Timeslots)
D Channel Timeslot For Transmit/Receive
B Channels
Bearer Establishment Procedure
Called Party Type of Number
Calling Party Type of Number
Called Party Numbering Plan
Calling Party Numbering Plan
Route Incoming Call to
Switch Type
Incoming Called Digits Size (0..255)
 Generate Progress Tone to IP
 Generate Progress Tone to PSTN/PBX
 Enable CLR Service
 Enable Connect Acknowledge Option
Save Back

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.

Main System Users Telephony Internet Upload Network



Trunk - 1 Edit Entry

Interface Type
Signaling Type
E1
Line Code
Frame Mode
Line Build Out
Coding Type
LoopBackMode
Clock Mode Master Slave
T1
Line Code
Frame Mode
Line Build Out
Coding Type
LoopBackMode
Clock Mode Master Slave
Save Back

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.

Teleprime Ordering Code for QuadroM:

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