RICi-E3, RICi-T3

Fast Ethernet over E3/T3 Intelligent Converters

- Transparent user traffic and secure management, via double VLAN tagging
- Three levels of QoS, based on VLAN priority queues as per IEEE 802.1p
- Inband and out-of-band management
- Monitoring and statistics collection of TDM and Ethernet ports
- Fault propagation of E3 or T3 error conditions to the Ethernet port

PulseSupply
pulsesupply.com

RICi-E3 and RICi-T3 are intelligent converters connecting Fast Ethernet LANs over E3 or T3 circuits. They enable service providers and ISPs to supply transparent Ethernet services, without interfering with user traffic.

RICi-E3 and RICi-T3 have one unframed E3 or one framed T3 port, and one 10/100BaseTx port. Packets are forwarded from the Ethernet network to the E3 or T3 network at wire-speed, fully utilizing the expensive E3 or T3 circuit.

RICi-E3 and RICi-T3 are available with temperature-hardened enclosures that extend the operating temperature range.

ETHERNET

Internal Bridge
The internal bridge handles 1536-byte frames supporting VLAN applications. In filter mode, the bridge learns MAC addresses and filters local traffic, and in transparent mode it forwards any received packet.

QoS
The priority scheme (IEEE 802.1p) enables users to define three different QoS levels, according to the application requirements.

The DHCP client automatically obtains the IP address, IP mask, and default gateway, minimizing installation time.

Separating Ethernet Traffic
VLAN stacking transports user traffic transparently, keeping the user LAN settings intact. In addition, the management traffic may be tagged with a different VLAN tag, fully separating user traffic from management data.

RESILIENCY

The units feature fault propagation. When RICi-E3 or RICi-T3 detects a link failure, it shuts down the user port.

MANAGEMENT AND SECURITY

RADview, RAD's SNMP-based system provides fault management and monitoring.

The devices can also be managed via an ASCII terminal or Telnet.

Inband management is performed from the Fast Ethernet user port or via the E3 or T3 port. Management traffic and user Ethernet traffic are transported together on the same Ethernet flow, separated by different VLAN tags to ensure traffic security.

MONITORING AND DIAGNOSTICS

Remote and local loopbacks are used for problem isolation at the physical layer.

A built-in ping utility allows checking IP connectivity by pinging remote IP hosts.

A trace route application quickly maps a route from RICi-E3 or RICi-T3 to any other network device.

The units feature fault propagation. When RICi-E3 or RICi-T3 detects a link failure, it shuts down the user port.

Applications

Figure 1. Transparent LAN Services over Leased Lines
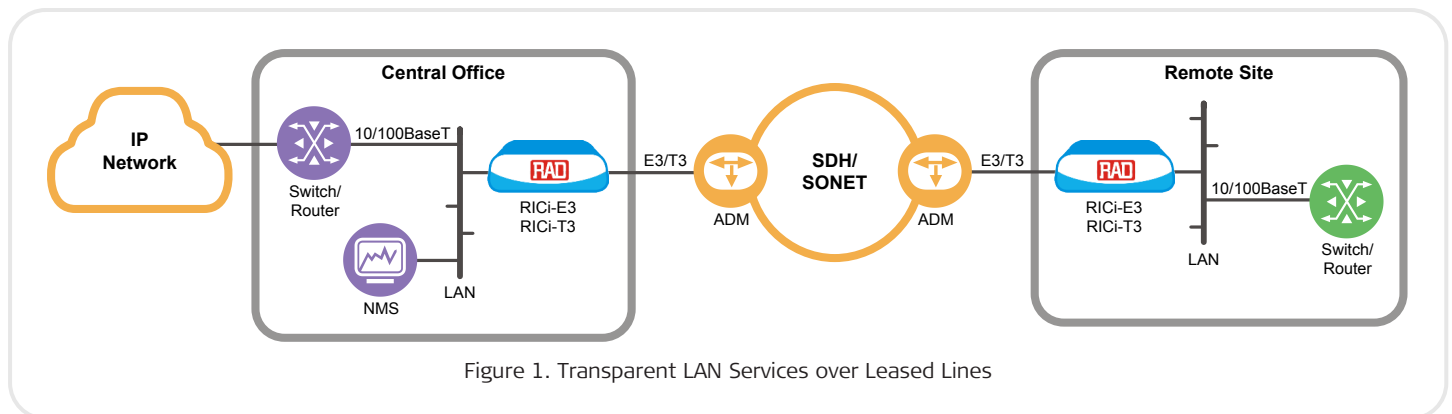
Specifications

CAPACITY

WAN protocol:
Type: HDLC-like framing (native HDLC compatible
    with RAD products)
X.86 (LAPS)
MTU Size: 64–1536 Bytes

E3 INTERFACE

Number of Ports
One

Compliance
G.703

Data Rate
34.368 Mbps

Line Code
HDB3

Framing
Unframed

Line Impedance
75Ω, unbalanced

System Clock
Internal or loopback

Diagnostics
Remote and local loopback

Connector
BNC, coaxial

T3 INTERFACE

Number of Ports
One

Compliance
GR-499-CORE
ANSI T1.107
ANSI T1.102

Data Rate
44.736 Mbps

Line Code
B3ZS

Framing
M23, C-bit parity

Line Impedance
75Ω, unbalanced

System Clock
Internal or loopback

Diagnostics
Remote and local loopback

Connector
BNC, coaxial

ETHERNET INTERFACE

Number of Ports
One

Type
10/100 Mbps autonegotiation, full/half
    duplex, flow control

Max Frame Size
1536 bytes

Compliance
Conforms to the relevant sections of IEEE
    802.3 and 802.3u

Connector
RJ-45

BRIDGE

LAN Table
Up to 512 MAC addresses (learned)

Operation Mode
VLAN-aware, VLAN-unaware

Filtering and Forwarding
Transparent or filtered

MANAGEMENT

Terminal Control Port

Type
V.24 /RS-232 (DCE asynchronous)

Data Rate
9.6, 19.2, 115.2 kbps

Connector
9-pin, D-type, female

GENERAL

Indicators
PWR (green) – Power status

TST (yellow) – Test status

ALM (red) – Alarm status

LOS (red) – Loss of signal

ETH LINK (green) – Ethernet link   status

Power
AC: 100 to 240 VAC, 50 to 60 Hz
DC: 48/60 VDC nominal (40 to 72 VDC)

Power Consumption
8W

Physical
Height: 43.7 mm (1.7 in)
Width: 220 mm (8.6 in)
Depth: 170 mm (6.7 in)
Weight: 0.5 kg (1.1 lb)

Environment
Temperature:
    Standard enclosure:
        0–50°C (32–122°F)
    Temperature-hardened enclosure:
        -22–70°C (-7.6–158°F)
Humidity: Up to 90%, non–condensing

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Ordering

RECOMMENDED CONFIGURATIONS

RICi-E3
Fast Ethernet over E3 intelligent NTU

RICi-T3
Fast Ethernet over T3 intelligent NTU

SPECIAL CONFIGURATIONS

Please contact your local RAD partner for additional configuration options

SUPPLIED ACCESSORIES

AC power cord
DC power adapter

OPTIONAL ACCESSORIES

RM-33-2
Hardware kit for mounting one or two units in a 19-inch rack

CBL-DB9F-DB9M-STR
Control port cable