

Ethernet over T3 Circuits

Case Study



Ethernet over T3 Circuits Color Broadband, California, USA



"It was a slam dunk! We were able to set up the RICi-T3s and never look back."

Tom Lockett, Director of Network Operations, Color Broadband, USA

Challenge

To replace high cost, general-purpose routers with optimized, small form-factor, and cost-effective interface converters that feature in-band management capabilities

Solution

RAD's RICi-T3 is a highly cost-effective, Ethernet-over-T3 circuit converter that features wire-speed throughput, QoS differentiation, VLAN stacking, in-band and remote management capabilities, and fault propagation.

Benefits

- Enables service providers to extend Ethernet services over a T3 link at wire speed
- Highly cost-effective
- Minimal power consumption and heat output
- Remote and in-band management
- QoS differentiation and VLAN stacking

Los Angeles' Largest WISP Uses RAD's RICi-T3s to Carry Ethernet Services over T3 Circuits at Wire Speed

RICi-T3s Replace General Purpose Routers at a Fraction of the Cost

Founded in 2002, Color Broadband has become one of the premiere providers of data, voice and wireless networking services in southern California. With a network infrastructure that runs east from Santa Monica to Monterey Park, and as far south as the city of Irvine, their wireless coverage spans more than 1,500 square miles (3,900 square kilometers) of the Los Angeles valley.

Starting off as a regional Internet Service Provider, Color Broadband quickly expanded their services to include wireless Internet services, international voice trunks, SCADA transport, and most recently, VoIP, to become Los Angeles' largest Wireless Internet Service Provider (WISP). This extensive portfolio of services gives them a distinct competitive edge over other regional ISPs, enabling customers to count on them for all of their communication needs.

As part of its network infrastructure, Color Broadband employed two general-purpose routers to transport Ethernet traffic between two of its sites over another carrier's SONET network using a T3 link. However, as Tom Lockett, Color Broadband's Director of Network Operations, noted: "Using the devices we had in place to terminate a single T3 was a bit ridiculous. For our capacity requirements it was just simply overkill – we didn't need \$12,000's worth of equipment at each end to perform this function. Plus, we just weren't interested in dealing with the device's physical size, power requirements, heat output, and ongoing maintenance costs."

With this observation in mind, Color Broadband sought out the expertise of Pulse Inc., a long-time RAD system integration partner. Andy Long, Pulse's Sales Director, recalls, "While there are a couple of competitors in the market today that can deliver Ethernet services over T3 circuits, none of the competitive products offered the collective value that the RICi-T3 does in terms of minimal Capex and Opex, wire-speed throughput, low power consumption and heat output, and a small form-factor...the RICi-T3's remote and in-band management capabilities made it all the more appealing."

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Andy Long, Sales Director, Pulse Inc., USA



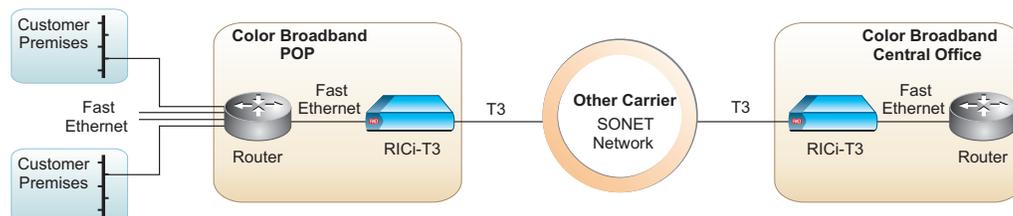
Advanced Features Facilitate Installation, Operation and Management

The RICi-T3 is an essential component in Color Broadband’s infrastructure, not only enabling them to transport customer Ethernet traffic over a T3 link, but also to aggregate and backhaul that traffic to the central office switch in Long Beach, California. It can support a single framed or unframed T3 circuit and a single 10/100 BaseT LAN port. With a built-in Fast Ethernet bridge it can work in filter mode where it learns MAC addresses and filters local traffic, or in transparent mode where any received packet will be forwarded to the other interface. The VLAN tagging and stacking option enables the transparent transport of user traffic, keeping all user LAN settings intact.

In cases of error conditions on the TDM port, a fault propagation feature indicates the error conditions to the Ethernet device connected to the RICi-T3 so that routers can automatically reroute the traffic if required.

Better still, diagnostic tools for TDM and Ethernet networks allow for fast isolation of network problems, saving time and costs. And, remote and local loopbacks isolate problems on the physical layer, while ping, trace-route and ICMP messages support diagnostics of the Ethernet layer.

With a half 19-inch wide, 1U high size, the physical installation of the RICi-T3 is a non-issue; that contrasts with the “700 pounds of steel” with which Tom Lockett and his colleagues had to wrestle previously. With DHCP client support, the RICi-T3 automatically obtains an IP address, IP mask and default gateway, saving precious installation time. Regarding the installation and network configuration of the RICi-T3, Mr. Lockett summed it up nicely, saying: “It was a slam dunk! We were able to set up the RICi-T3 and never look back.”



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