

Cellular Backhaul over Metro Ethernet

Case Study



Cellular Backhaul over Metro Ethernet Time Warner Cable-Houston Division, Texas, USA



“When we first began promoting the benefits of an all-Ethernet solution we knew that the superior performance, scalability, and value of Time Warner Cable’s Metro Ethernet would attract many commercial customers. We quickly learned that many potential enterprise and carrier customers still have one or more legacy systems that require TDM support.”

Chuck Sweeney, VP of Business Solutions,
Time Warner Cable-Houston Division, Texas, USA

Challenge

Deliver superior Ethernet alternative to traditional access facilities while addressing the critical need to support wireless customers’ legacy TDM systems

Solution

RAD’s IPmux TDMoIP gateways enable Time Warner Cable to leverage its Ethernet-over-MPLS network to deliver low-latency, high-quality Ethernet and TDM Pseudowire services as a single integrated package

Benefits

- Provides Time Warner Cable customers with a migration path to Metro Ethernet services by eliminating the need for separate, costly T1/T3 circuits
- Cost-effective, low maintenance, compact and scalable solution
- Failover capabilities ensure resiliency over Time Warner Cable MPLS Network
- Large positive impact on Time Warner Cable revenue forecast for the coming years

Time Warner Cable Uses RAD Equipment to Extend T1/T3 Circuits over MPLS Network

Pseudowire Solution Supports Legacy TDM Services for Cellular Backhaul over High-Speed Metro Ethernet

Time Warner Cable-Houston is the second largest Time Warner Cable division in the USA and a leader among cable companies in delivering fiber-based Ethernet alternatives to legacy TDM access services. With thousands of miles of fiber deployed in the Houston area and throughout Texas, Time Warner Cable had the vision to build a high-speed metro Ethernet network, providing commercial customers with an attractive alternative to incumbent service providers. “We likely have the largest contiguous and completely independent fiber network in the metro space servicing enterprise and carrier customers—we’re completely independent of Bell facilities and span the geography currently served by at least five separate ILECs here in the Houston metropolitan area,” said Chuck Sweeney, VP of Business Solutions for Time Warner Cable-Houston.

The Need to Support Legacy Services

As Time Warner Cable began deploying metro Ethernet solutions, it became apparent that despite the huge demand for Ethernet to support existing and emerging IP applications, many customers still required T1 and T3 interfaces to support legacy TDM equipment. As a result, Time Warner Cable undertook a formal process to evaluate various Pseudowire (PW) solutions and to select a provider to support TDM-over-Ethernet across the Time Warner Cable Metro Ethernet network.

According to Mr. Sweeney, “We decided we needed to do a vendor bake-off and to perform a formal network trial. We had to make sure the vendor we buy from is financially stable, that they have adequate support capabilities, and that we could count on them to support our customer applications over the long term. We also wanted a provider that can service other Time Warner Cable technology needs.” Following exhaustive laboratory testing with multiple vendor solutions, and a subsequent three-month, live, on-network trial, RAD’s IPmux TDMoIP® gateway was ultimately selected for deployment in Time Warner Cable’s network to support customer Pseudowire applications. “The success of the trial has made a large positive impact on our revenue forecast for the coming years,” said Mr. Sweeney.

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“RAD’s Pseudowire solution is helping us realize our goal of leading the telecommunications industry in advanced Ethernet and fully converged network solutions.”

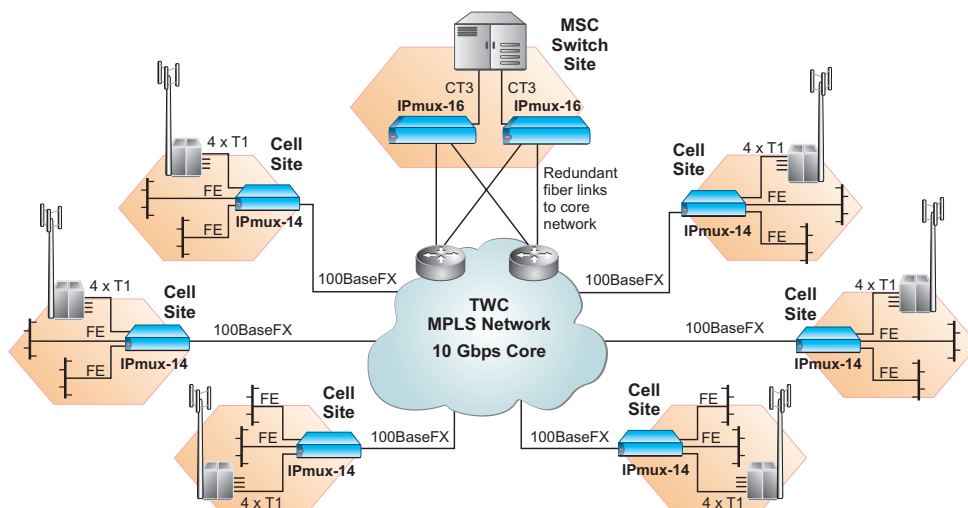


Chuck Sweeney, VP of Business Solutions,
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Cellular Backhaul

One of Time Warner Cable’s first customers for integrated Ethernet-and-TDM access was a large, nationwide cellular telephone provider. Since the costs for backhauling traffic from cell towers to Mobile Switching Centers (MSCs) accounts for a large percentage of wireless operators’ ongoing costs, there is a high demand for efficient, reliable, and cost-effective solutions. Time Warner Cable’s solution not only reduces “2G” access costs by providing T1 circuits for backhaul, but also provides the high speed Ethernet necessary to position the cellular provider for future “3G” network expansion.

With the Time Warner Cable service, operators have access to high bandwidth, low latency Ethernet connections for tower-to-MSC connectivity and use RAD’s IPmux Pseudowire technology to transport their TDM traffic across the same Ethernet link—eliminating the need to manage two separate networks. Cellular traffic is extremely sensitive to latency and packet loss. RAD’s IPmux leads the industry with ASIC-based performance ensuring very low latency with jitter buffers starting at 0.5 msec and adaptive clock recovery accurate to within 16 parts per billion. The link redundancy feature of the IPmux-16 provides redundant paths from Time Warner Cable’s MPLS core to the MSC to ensure rapid failover in the event of a fiber cut.



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