Engage Communication

Case Study

# Nationwide Railway Company Lowers Costs with Transition from Leased T1 Circuits to Ethernet

## Circuit Emulation Key for Higher Reliability and Lower Costs

Running a complex rail transportation network requires reliable communications. At the same time, managing costs is an important consideration. One of the premier railroad companies in the U.S. found a way to do both with the help of Engage Communication.

**The Challenge:**
A major Railway Company wanted to transition to an Ethernet-based network to connect its corporate and remote office PBXs.

When faced with renewing their contract for T1 connectivity of corporate and remote office PBXs, the Company found Ethernet to be a lower cost alternative. However, replacing their existing PBXs with Ethernet capable systems or migrating to Voice over IP (VoIP) negatively impacted the Return on Investment (ROI) of the project. It would also increase project complexity, requiring training and operational changes.

After careful consideration, the Railroad Company found the ideal solution was to preserve their existing PBX equipment and connect it to lower cost Ethernet networks using circuit emulation technology.

**Engage Solution:**
**Engage IP•Tube** converts PBX T1 traffic to Ethernet packets – and vice versa – for direct connection to the Ethernet network.

## Engage is the Best Route for Railway Communication

After careful consideration, the Railway Company found the **Engage IP•Tube** product line to be a perfect match for their needs.

The **Engage IP•Tube** converts PBX T1 traffic to Ethernet packets for direct connection to the Ethernet network. In the opposite direction, it converts the Ethernet packets back into a T1 circuit.

But, sending real-time traffic through a variable delay Ethernet / IP network can cause issues including voice echo and lost information. In addition, some Ethernet networks are bandwidth constrained and may not have the capacity for T1 traffic and associated packet overhead. Fortunately, the **Engage IP•Tube** delivers high quality T1 services over packet networks by:

**Engage Benefits:**
- Retain legacy equipment while transitioning to Ethernet
- Lower costs
- Echo cancellation
- Data compression

- Canceling echo introduced by the IP network to ensure voice quality is not impacted
- Providing variable length receive buffers to ensure no data loss
- Compressing T1 over Ethernet traffic to reduce Ethernet bandwidth used and lower bandwidth charges

The **Engage IP•Tube** product family delivers high quality performance even in challenging network environments with assured packet delivery. It also supports a wide variety of additional capabilities including automatic switching to a secondary IP path should the primary fail, load balancing onto multiple LAN circuits, dual LAN ports, and stand-alone or chassis configurations.


The **Engage IP•Tube** is used by utilities, enterprises, service providers, local, state and federal governments, the military and other organizations to convert legacy T1/E1, T3/E3, serial, modem, voice band, and other circuits to packets. It is a proven technology with over 10 years of deployment and key features to ensure effective and efficient transport of circuits over IP packet-based networks.

## About Engage

Since 1989, Engage has developed innovative products and solutions that help numerous organizations from various industries across the globe deploy and operate cost-effective and reliable communications, and meet their data security needs. We combine an experienced and responsive engineering team, highly scalable manufacturing resources, and a “whatever it takes” customer service philosophy to meet the demanding needs of our customers.