# **REDCOM Railroad Communications Solutions**



## Integrated VoIP and TDM, plus Radio Interface, in a single platform

- Fully interoperable SIP-based softswitch solution
- ► Reliable, interoperable with two-way radios
- Back-to-back radio patches with VOX, COR & PTT
- Scalable Operator Platform for call management



## **OVERVIEW**

The convergence of radio, wireless and IP communications is fundamentally changing the way that railroads operate today. The railroad industry relies on these telecommunications systems to comply with safety and communications requirements. In particular, the use of radios to enhance safety practices is widespread within the railroad industry. All locomotives are required to have radio communications capabilities. In addition, railroad dispatchers and conductors are required to maintain radio contact.

REDCOM's SLICE 2100 and HDX with TRANSip® address the needs of the railroad industry with an integrated, drop-in Voice over IP (VoIP) communications solution. These next-generation IP softswitches, based on the industry-standard Session Initiation Protocol (SIP), fully integrate VoIP and TDM in a single Next Generation Network platform. Both the SLICE 2100 and HDX

feature an integrated SIP call controller, media gateway and media gateway controller all housed in a single platform, so there are no expensive server boxes, no separate gateway boxes, and no separate VoIP software to load and configure.

REDCOM systems are designed to interconnect with a broad range of technologies for maximum interoperability, including analog lines, VoIP, satellite, microwave, T1 and E1. Combined with REDCOM's Radio Interface, both the SLICE 2100 and HDX enable any phone in the REDCOM system to dial out to a remote radio, or allows a radio to dial directly into the system and ring a phone, make an outside call, or call another remote radio system. By coupling enhanced VoIP capabilities with legacy support and radio interoperability, a REDCOM softswitch ensures that railroad companies can meet their operational telecom requirements.

## Talk to the communications experts at REDCOM







## **INTEROPERABLE**

REDCOM's TRANSip technology suite empowers railway companies to interoperate with IP and TDM networks, as well as radios and wireless communications, enabling a seamless, incremental transition to VoIP networks. REDCOM's SLICE 2100 and HDX softswitches allows railroads to future-proof their networks to interoperate today and tomorrow with a wide range of protocols and interfaces, positioning them for long-term evolution. With REDCOM solutions, rail companies continue to utilize their existing legacy networks while leveraging next-generation VoIP applications. This functionality provides REDCOM's customers with the flexibility to smoothly and incrementally migrate to IP in a cost-effective manner when it makes sense for their business, while still being able to deploy advanced communications technologies without compromising service quality and reliability.

#### CONFERENCING

REDCOM softswitches offer conferencing capabilities that allow railroad networks to teleconference with multiple participants simultaneously. Conferencing provides a powerful tool for communication, collaboration, and training. Several conferencing styles are available, including "progressive" (participants added one at a time), "meet-me" (participants meet at a valid number at a specified time), and "preset" (conference controller initiates the event, adding participants as they answer). Some or all of these elements can be combined into a single conference.

## **SIP TRUNKING**

The extensive SIP trunking capabilities of REDCOM's TRANSip technology suite allow railroad companies to scale their telecom system faster and more cost-effectively than with traditional phone lines. SIP trunks are used to connect two switches together and to connect them to the Internet. With proper network assessment planning and implementation, SIP trunks can deliver high quality and reliable service with substantial cost savings that directly impact the bottom line of railroad companies.

#### RADIO INTERFACE

REDCOM's Radio Interface, available on both the SLICE 2100 and HDX platforms, provides a simple and reliable connection between REDCOM's switching systems and two-way radio systems. Radio users gain all the same benefits of a REDCOM system normally available to station users. This feature allows any phone in the REDCOM system to dial out to a remote radio, or allows a radio to dial directly into the system and ring a phone, make an outside call, or call another remote radio system. The REDCOM Radio Interface contains two circuits and supports full two-way calling with Push to Talk (PTT), Voice Operated Transmission (VOX) or Carrier Operated Relay (COR). Each circuit can interface with an HF (pulse) or UHF/VHF (DTMF) radio for simplex or duplex operation. The Radio Interface allows direct, back-to-back radio patches with both VOX and COR.

#### **CALL MANAGEMENT**

To provide railroad companies with a complete, user-friendly overview of network services, REDCOM offers the Scalable Operator Platform—a GUI software package call management system that delivers extensive conferencing, call control and

handling capabilities. Working with any standard PC, the system creates a powerful attendant console that allows operators to place, accept, and intercept calls. Operators can also control held calls, active conferences, directory assistance requests, and call queue management.



Scalable Operator Platform

## **RELIABILITY**

Reliable communications is critical to the day-to-day operations of railroad companies. REDCOM systems are designed to withstand extreme operating conditions. And, with redundant processors, REDCOM's HDX softswitch offers industry-leading reliability (99.999%) providing protection against a single point of failure.

## **REDCOM's Converged Communications Platforms**

## **HDX**

REDCOM's HDX softswitch allows users to future proof their networks to interoperate today and tomorrow with a wide range of protocols and interfaces, positioning them for long-term evolution. REDCOM builds the interfaces and supports the protocols

that enable secure and interoperable communications. The HDX is scalable from 100 to 64,000 SIP subscribers, and supports SIP trunking, legacy interfaces and radio interoperability.

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## SLICE® 2100™

The REDCOM SLICE 2100 is the world's slimmest multi-function switching system, featuring an integrated SIP call controller and media gateway in its 1U chassis. A single SLICE 2100 can support up to 2,000 IP subscribers, 6 E1/T1 trunks, interoperability with two-way radios and virtually unlimited SIP trunks. Due to its compact size and low power

consumption, the SLICE 2100 is especially well suited for distributed railroad networks.



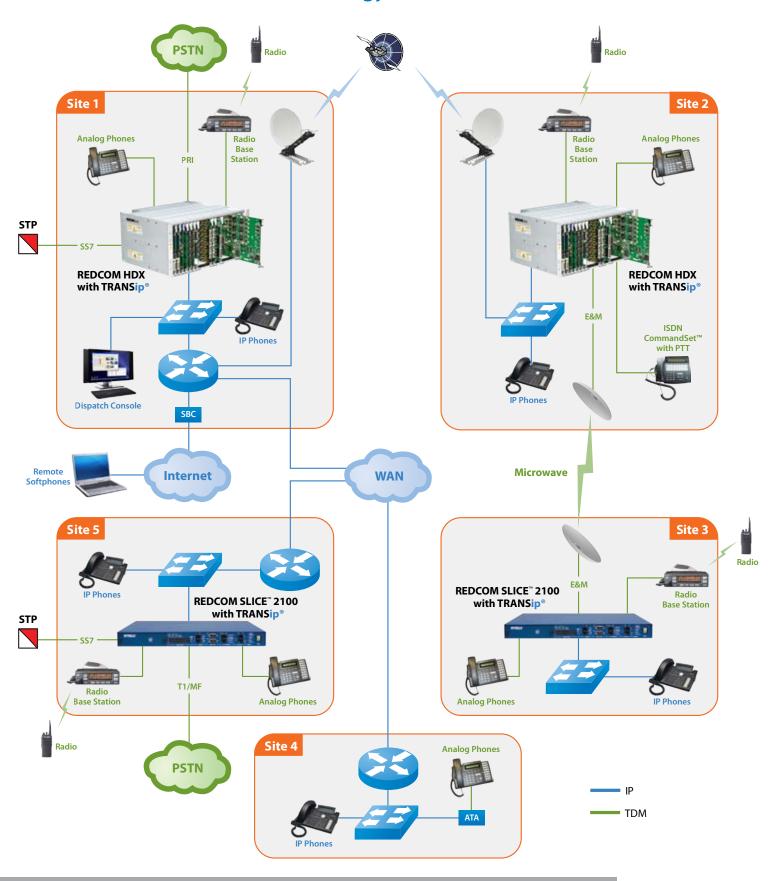
## Talk to the communications experts at REDCOM

For more information about how REDCOM can create a reliable solution for you, call us today at **+1.585.924.6500**, or e-mail **sales@redcom.com**One Redcom Center, Victor, NY 14564-0995, U.S.A. **www.redcom.com** 





# **REDCOM Multi-Technology Communications Platform**



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