

Texas Talks Trial

ISSI.0 Hosted Prototype Trial

Overview and Summary

V2.1 August 14, 2009

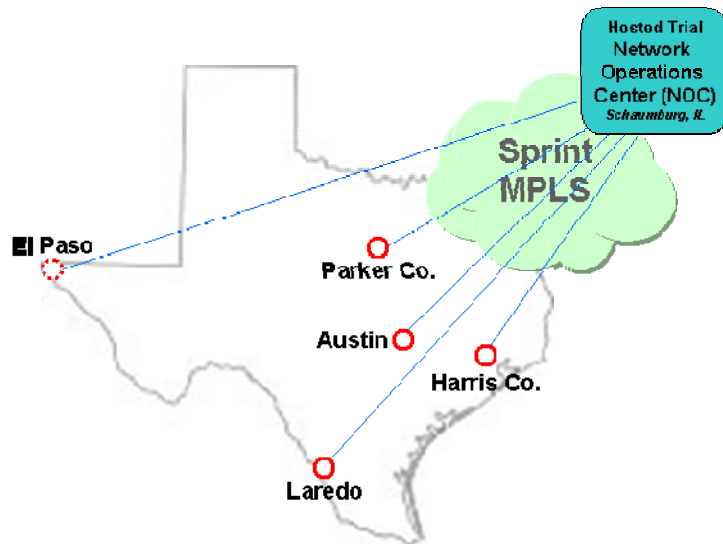
In a historical Public Safety industry first, five regional Project 25 radio network owners have joined together to create an unprecedented “regions of regions” radio interoperability network trial.

The Texas Talks Trial uses standards-based IP network gateways and the nationwide Sprint network to connect each system to a remote Network Operations Center (NOC) operating over 1000 miles away. The project will trial the ability to connect multiple networks and the ability to host real-time Public Safety radio voice interoperability traffic in a method IT professionals often call “cloud computing.”

Standards-Based Network to Network Interoperability

The project will utilize a standards-based solution called the Project 25 Inter RF-Subsystem Interface (P25 ISSI), and will demonstrate how modern IP-based radio networks can be connected to create “Network to Network Interoperability” solutions. Network Interoperability gateways, are being commercialized by a variety of radio network manufacturers, such as Motorola, EADS, TAIT, Harris (Tyco M/A-COM) and JPS Raytheon, among others, and will provide an elegant and powerful means of delivering cost effective, network interoperability for years to come. Commercialized gateways will be rolling out over the next 18 months, with the first commercial P25 ISSI products due out by the end of this year.

As shown below, the participants are Harris County, the City of Austin, Parker County, the City of Laredo and the City of El Paso. The project is being sponsored by Motorola and Sprint



Communications with equipment, support and long distance connectivity provided at no cost to the system participants.

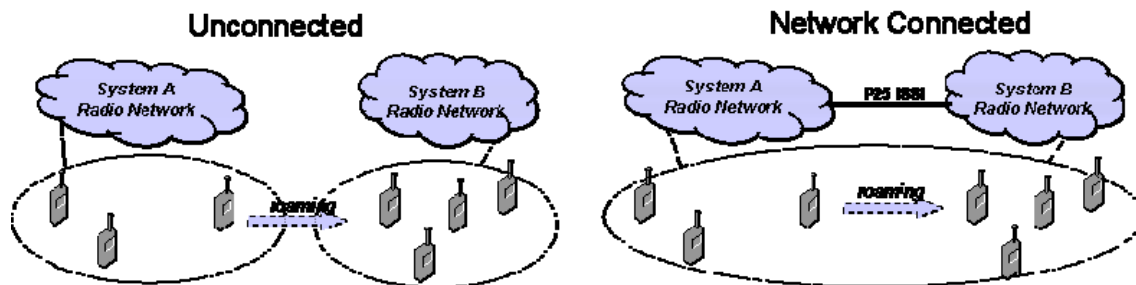
As of August 13th, four¹ out of the five customer systems and a trial system in Schaumburg are interoperating, allowing a single talkgroup call across five Project 25 ISSI trunking systems. We believe this is the first time four or more live Project 25 systems have ever been connected using ISSI Links.

¹ The City of El Paso has experienced delays in their RF site deployment so we are not yet able to connect them; however we are developing a workaround plan. They have been consistently involved so they are included in the overall project as one of the five driving agencies.

Operational Overview of Network-Connected Systems

Today's Project 25 radios, widely deployed across Texas, can move or "roam" freely between systems. In general, however, they lose connection *back* to their "home" systems as they roam and are limited to communications within their systems. By providing network connections, both local and roaming users operate and connect as though they were on the same network, maintaining constant connectivity with their regional dispatchers and work partners. Deployment of P25 ISSI gateways on the respective systems enables "connected roaming" and new levels of inter-system communications.

This general concept is illustrated below.



In addition to the powerful roaming advantages, First and Second Responders can communicate instantly among any of the systems connected. This is a significant advantage for some, but not all, public safety missions. For instance, highly localized operations, such as fire ground incident scenes may not benefit directly, while agencies with wide area missions, such as state police, state department of transportation could benefit tremendously. In addition to helping operations within the state, network connectivity has the potential to dramatically enhance the ability to achieve multi-agency support and coordination among local, state and federal agencies during a hurricane or large storm. One of the objectives of this trial is to understand precisely how this new functionality could enhance regional disaster response capabilities.

Project Objectives

The participating system teams gathered in San Antonio, Texas on May 28th and determined the objectives of the Texas Talks Trial:

Increase Preparedness – Help demonstrate that the State of Texas remains on the leading edge of technologies which can substantively improve the regional response capabilities in the event of natural or manmade disasters.

Build Relationships – Begin the establishment of inter-agency relationships and operational coordination toward a regional interoperability in line with the established Texas' "3Cs" interoperability objectives: **Communication, Cooperation and Collaboration**

Determine Operational Impacts of Network Interoperability – Use the prototype technologies to enable connected systems and determine how this new functionality can improve first responder operations which need to connect, roam and operate over large geographic areas.

Trial Cloud Computing For Mission Critical Voice Operations – Determine the performance impact and acceptability of public safety radio traffic operating over cross-country networks, which could result in longer delays and subtle differences in radio dispatch operations.

Benefits of Cloud Computing

Cloud computing offers a number of intriguing benefits, such as:

- Lower deployment costs enabled by the consolidation of support, facilities and personnel.
- Leverage existing P25 radio network coverage already in place.
- Reduce initial capital outlays and provide procurement flexibility, enabling agencies with more limited budgets to fully participate in regional interoperability.
- Reduce technical and logistical burden on radio personnel, enabling them to focus on coordination and specific logistics unique to their operations.

The trial will utilize a prototype “ISSI.0” gateway that has been demonstrated to be interoperable with seven other Project 25 manufacturers,² and was also previously utilized in a State of Arizona trial deployed in late 2008.³ Essentially, the Texas Talks Trial picks up where the State of Arizona project left off.

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² Baltimore APCO, Aug. 2007: Tyco, EADS, EFJohnson; Las Vegas IWCE, Mar 2008: Tait, Cisco, EADS, Etherstack, Tait; Kansas City APCO: EADS, EFJohnson, Tait, Raytheon.

³ <http://investor.motorola.com/releasedetail.cfm?ReleaseID=367883>