Engineering Support and Coordination for Justice/Public Safety/Homeland Security

Outputs

- Technical evaluations of industry R&D and community grant proposals.
- Interoperability and performance evaluations of Project 25 equipment.
- Summit on Interoperable Communications for Public Safety.

ITS is conducting a technical program aimed at facilitating effective interoperability and information sharing among dissimilar wireless telecommunications and information systems within the justice/public safety/homeland security community. The primary focal points of the program are: (1) Standards support, (2) Research and Development (R&D) support, (3) Test and Evaluation (T&E), and (4) Technical Coordination among local, State, and Federal departments and programs associated with interoperability activities. All efforts described here are complementary to the ITS technical programs focused on wireless telecommunications interoperability standardization and information technology interoperability standardization.

The ITS program is sponsored by a number of different Federal departments and programs that have a keen interest in public safety interoperability, including: National Institute of Standards and Technology (NIST) Office of Law Enforcement Standards (OLES), National Institute of Justice (NIJ) AGILE Program, Department of Justice Office of Community Oriented Policing Service (COPS), National Communications System (NCS), Public Safety Wireless Network (PSWN) program, Federal Law Enforcement Wireless Users' Group (FLEWUG), and NTIA.

Standards Support

ITS provides contributions to several standards development organizations supporting justice, public safety, and homeland security goals. The proposed technical solutions offered in such contributions are validated in the Institute's Interoperability Research Laboratory (IRL). This process will be especially useful in the coming year for Project 25/Telecommunications Industry Association TR-8 interface definition work.

R&D Support

At the request of several Federal Departments and Programs, ITS worked alongside practitioners from the justice/public safety/homeland security community to technically evaluate grant proposals. By acting as the Government's common "technical thread," ITS engineers helped ensure that R&D proposals from industry and telecommunications integration proposals from local and State government agencies were feasible and consistent with long-term interoperability strategies. Evaluations were conducted on behalf of NIJ's AGILE Program, SAFECOM, the COPS Program, and the Department of Homeland Security's Emergency Preparedness and Response Directorate.

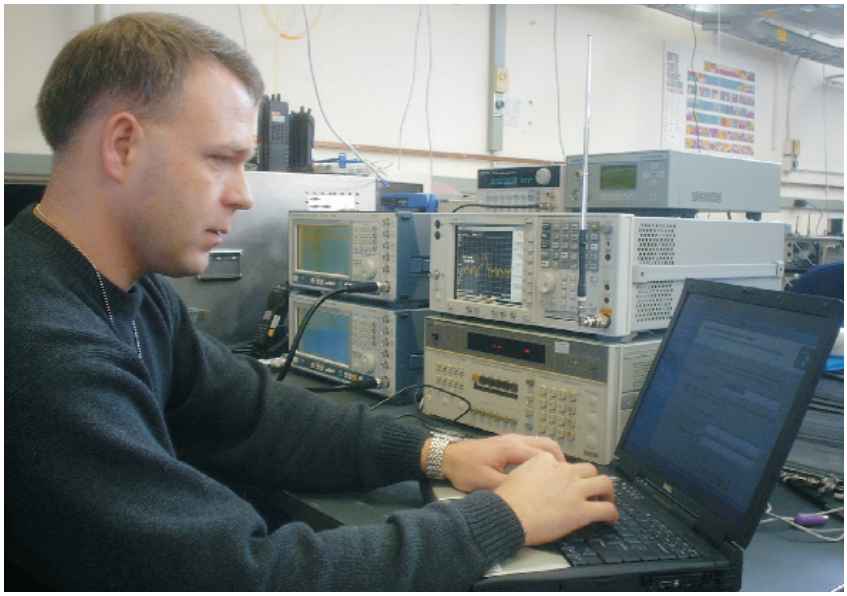

Figure 1. An ITS engineer conducting performance measurements on digital land mobile radio equipment in the ITS Interoperability Research Laboratory (photograph by E. Gray).

Test and Evaluation

The IRL has been designed to accommodate a wide variety of testing requirements for public safety applications that have arisen, are occurring now, or are expected in the near future. Interoperability and performance testing of standardized products has already commenced (e.g., for Project 25 radio equipment) with portable, mobile, base station, and repeater equipment being scrutinized in the conventional mode of operation (see Figures 1 and 2). (Trunked system operation will be investigated in FY 2004.) Test and evaluation has also been done on an interim interoperability solution (a crossband technology device) and on a hybrid network product (that interconnects a radio frequency network to the Internet). T&E in all of these areas will continue in earnest during FY 2004. In addition, laboratory assessments of R&D concepts and prototypes are expected to occur next fiscal year, with some emphasis being placed on the examination of software defined radio functionality.

Figure 2. An ITS engineer making equipment configuration changes on land mobile radio base station equipment in the ITS Interoperability Research Laboratory (photograph by E. Gray).

Technical Coordination

On behalf of its sponsors, ITS planned, conducted, and documented the *Summit on Interoperable Communications for Public Safety* that was held at NIST in Gaithersburg, Maryland, on June 26/27, 2003. With the purpose of coordinating technical efforts related to wireless telecommunications and information technology interoperability, over 50 different Federally-supported programs, and 104 representatives, were located and invited, and participated in the summit. It was the first opportunity for program managers to share viewpoints regarding public safety communications and interoperability. To facilitate further coordination among participants, a briefing book was produced for all attendees that contained salient information about all of the programs, and what particular public safety requirements each program was targeting. Information on the summit is available at http://pssummit.its.bldrdoc.gov.

Other Support

In addition to the established areas of activity mentioned above, ITS frequently responds to the immediate needs of its sponsors by performing a variety of other research and applied engineering activities. These activities may include strategic and tactical planning, system engineering, technical analysis, economic benefit studies, etc. During FY 2003, ITS compared the performance and application of conventional radio systems against trunked radio systems for public safety applications. A technical report providing the results has been drafted and is undergoing internal ITS review. Once released, it will help guide agencies as to the advantages and disadvantages of each system for particular operational scenarios.

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