

STARS INTEROPERABILITY

Public safety agencies in Virginia have been working together to improve interagency communications whether to detect and prevent terrorism-related activity, to improve response to natural disasters and other emergencies, or to enhance coverage of special events. When they occur, these situations require that multiple agencies, from different jurisdictions and with incompatible radio equipment, be able to communicate effectively. The Statewide Agencies Radio System (STARS) contract with Motorola contains an interoperability solution named Motobridge, which we renamed COMLINC (Commonwealth Link to Interoperable Communications) within Virginia. When implemented, COMLINC will interface with the STARS network and enable communications between local and state agencies by eliminating the roadblocks imposed by these incompatible radio systems.

Goals for statewide interoperability:

- Establish communications interoperability between state and local public safety agencies.
- Increase interoperability capabilities and coordination by maximizing the use of existing communications systems and equipment.
- Enhance the knowledge and proper use of existing and future communications equipment by providing frequent and routine training for public safety personnel.

Currently the STARS contract with Motorola contains the design to provide a single Radio Frequency (RF) dispatcher to dispatcher patch to each of the counties and independent cities to bring interoperability at no cost to the localities. In addition to the localities, patches will be established to the STARS participating state agencies' legacy radio systems. To achieve these patches, a fixed radio will be placed at a STARS transmitter site that will operate on the localities/state agencies frequency. When an interoperability connection is needed, the appropriate dispatchers will contact each other by telephone to establish a patch. In a wide scale emergency where the situation warrants, localities/state agencies may be interconnected with each other in this same manner to establish regional communications.

COMLINC allows dispatchers at the counties and cities to establish up to eight patches. One of the eight paths will come back to the STARS network. The locality dispatcher may use the other seven patches to connect agencies within the jurisdiction or to other localities. For example, a Sheriff's Department can patch to the Fire Department regardless of the frequencies used by each agency. Patches can also be made to phone networks and used to establish dispatcher conferences. By using COMLINC the requirement to call by phone to establish a patch is no longer required, each dispatcher initiates the patch themselves at their console. COMLINC also provides instant recall of recorded audio. It enables the use of advanced calling features such as Emergency ID, and allows monitoring of the interoperability network activity and associated operations. For agencies requiring end-to-end encryption, COMLINC provides AES encryption over the network. Thus, when agencies are operating on AES-encrypted subscriber radios, end-to-end encryption will occur between the radio users. COMLINC is APCO Project

25 compliant. COMLINC will replace the single Radio Frequency (RF) dispatcher to dispatcher patches to localities and STARS state agencies.

The design provides Work Station Gateway Units (WSGUs) to be placed in the counties and cities. This provides the locality autonomous control of the eight patches that each Radio Gateway Units (RGUs) provides. The locality dispatcher will be able to initiate and terminate patches within their jurisdiction, to adjoining jurisdictions, or regionally without any involvement of a state police dispatcher. The locality will be able to patch to the 21 state agencies in STARS using the WSGU.

STARS includes a transportable site with an 800 MHz five channel Motorola ASTRO 25 trunked radio system. The site will be equipped with 50 portable radios to be distributed among responders. It includes STARS VHF high band and SIRS radios connected via an ACU-1000 for further interoperability. All of the STARS 800 MHz portable radios will be programmed to operate on the transportable site.

COMLINC is being implemented within 14 localities in Division One and six localities in the Roanoke area using grant funding. It is expected that this will be implemented throughout the Commonwealth as funding becomes available.