

TITLE OF NOMINATION

Partnership to Enhance Network Services to Law Enforcement Agencies in Alabama

CATEGORY

Cross-Boundary Collaboration and Partnerships

STATE: Alabama

Executive Summary

The purpose of this project was to upgrade the State of Alabama telecommunication network from a point to point Frame-Relay network into a network based on Multiprotocol Label Switching (MPLS). This project resulted in an increase of bandwidth to the State of Alabama's Criminal Justice Network (CJ Net) that allows the Alabama Criminal Justice Information Center (ACJIC) to provide encrypted data to law enforcement agencies throughout the state. Prior to this upgrade, most agencies were relying on 56Kbps data connections to request and receive National Crime Information Center (NCIC) records, criminal history files, warrant information and other critical criminal justice data. Given the increase in users and the volume of data exchanges over time, the old system was too slow and lacked the capacity to adequately provide time-sensitive information to frontline law enforcement personnel. In response to the need to upgrade the system, the Information Services Division (ISD) of the Alabama Department of Finance approached ACJIC to identify a solution for meeting the increased demands on the network.

Description of the business problem and solution

In September 2007, ISD, ACJIC and at&t embarked on a project to upgrade the statewide ACJIC frame relay network to a fully meshed T1 based Multiprotocol Label Switching (MPLS) network to serve law enforcement agencies throughout the State of Alabama. Prior to this initiative, it was determined that 247 of 251 of the individual sites on the ACJIC network would need to be upgraded from 56Kbps connections to T-1 connections. (The other four sites had existing T-1 lines than only needed to be converted to MPLS.)

To minimize the amount of downtime experienced by the agencies, it was decided to install new circuits at the existing 56 Kbps locations. This allowed at&t and ISD time to test the circuits, install the new equipment, then convert the new circuit to MPLS and move ACJIC's equipment over to the new facilities. To minimize travel time required to visit all 251 sites, ISD worked with ACJIC to determine geographical areas where agencies were concentrated. A conversion schedule based on geographical areas was put in place, and full scale implementation began in the summer of 2007. By January 1, 2008 the conversion was fully operational.

As a result of this project, law enforcement agencies are now able to access critical information in a much more quickly and securely than before the upgrade. This means that efficiency is increased at the local agency level in terms of the amount of time it takes dispatchers and officers to send and receive data. This can mean less time spent on traffic stops awaiting a response concerning a driver's license or tag number and more time spent patrolling. As a result, officer safety has been improved because they are able to receive information regarding suspects and fugitives much more quickly than

before, thus increasing the amount of time available to respond to potentially dangerous situations.

In order to accomplish the upgrade there were several barriers to implementation that had to be addressed. First, the conversion process could not result in any significant downtime in operations. To be effective, law enforcement agencies must be able to access critical systems – e.g. NCIC records, criminal history files, “hot files” containing warrants and stolen property information – on a continuous basis. For instance, whenever an officer conducts a routine traffic stop, he or she will initiate a NCIC query to determine if the vehicle is stolen and/or if the person driving the car has any active warrants. If the system is not up and running, it is possible that a stolen vehicle or felony fugitive could simply drive away because the officer didn’t have the information needed to make an arrest or seize the stolen property. Also, agencies need to be able to post time-sensitive information – such as BOLO’s – to the system to allow other law enforcement officials to “be on the lookout” for stolen cars or fleeing suspects. To minimize downtime, it was decided to install new circuits at the existing 56K sites. This allowed at&t and ISD time to test the circuits, install the new equipment, then convert the new circuit to MPLS and switch the ACJIC equipment over to the new facility.

To further complicate matters, the circuits for CJ Net had to be installed in secure locations within the law enforcement agencies. Typically, access to these areas is limited to sworn personnel and employees of the local agency. Any other person having access to these facilities must be escorted in compliance with FBI policies governing NCIC access. This meant that it took a high degree of coordination between the local agencies, ISD technicians and at&t personnel to make sure authorized personnel could get access to the equipment that needed to be upgraded or replaced. To accomplish this ACJIC’s Field Agents made arrangements with all 251 user agencies to arrange for staff to be on-site to meet with ISD and at&t personnel to perform the system upgrades.

It is also useful to put this project into the context of other ongoing projects. Alabama recently completed upgrades to our state message switch that handles all NCIC transactions that occur among Alabama agencies and the Nlets – the International Justice and Public Safety Network – which links our agencies with all 50 states and international law enforcement representatives including the Royal Canadian Mounted Police and Interpol. As a part of the switch upgrade, the new client that is utilized to perform NCIC transactions has been enhanced greatly. The new user interface is much easier to read and navigate and displays information in “plain English” rather than confusing codes and numbers. It will also support the transfer of image files – such as mug shots or drivers’ license photos – which can be very helpful to officers in identifying subjects. However, this improved functionality also requires bandwidth in order to move data efficiently, and the T-1 upgrade has resulted in an improved experience for the end users of the new NCIC client.

The network upgrade will also allow ACJIC to implement other needed system enhancements in the future. First, the improved network functionality will allow for data

being transmitted via CJ Net to meet encryption standards required by the FBI which had been unachievable through the frame relay network. Additionally, the enhanced routing capabilities achieved through MPLS mean that there is no single point of failure in the network. In other words, if the central node at the state data center was unavailable, traffic would be rerouted along the network to allow law enforcement personnel to continue to send and receive data. As a part of this project, lines will also be installed between the state's disaster recovery sites and data feeds will failover to one of these sites in the event of service disruption at a particular location.

Before deciding on T-1 lines, three sites were initially installed as DSL sites to test for bandwidth capability. After several months testing, it was determined that DSL would not accommodate the ACJIC bandwidth requirements. At that time, it was decided to implement a statewide T1 based MPLS network.

Significance to the improvement of the operation of government

The upgrade to MPLS on the State of Alabama network allows ISD to prioritize voice, video and data on one private network. The added flexibility, reduction of overhead and improved control has allowed all agencies to receive better network services from the State of Alabama and ISD.

The principal beneficiary groups of this project are law enforcement personnel and the citizens of Alabama. Law enforcement personnel benefit because they have access to more information faster than via the frame relay network. This has several implications. For one thing, enforcement efforts can be stepped up without the need for adding personnel, because officers can spend less time on individual traffic stops and service calls and more time patrolling. Investigators can access data in a more efficient and effective manner meaning that more crimes can be solved more quickly. Finally, Alabama's citizens benefit because solving more crimes allows more property to be recovered, more restitution to be made and – most importantly – more dangerous offenders to be locked behind bars.

Benefit of the project

The network upgrade to MPLS provides many benefits to the State of Alabama. ISD has been able to converge and upgrade their network into a secure, low-cost, high bandwidth and robust network that created a common infrastructure to offer a wide range of network services. The MPLS technology allows ISD to prioritize voice, video and data on one private network. This gives ISD the ability to reroute traffic priorities at will and to add new locations to the network when needed. The MPLS network allows ISD to prioritize network traffic over any network connection, including DSL. Future demands on the network to include VoIP can be met by the enhanced quality of service

and network efficiency. The network has become more manageable and network uptime has increased dramatically.

In recent years, the Alabama Governor's Office has required agencies to submit SMART budgeting plans. The goal of SMART budgeting is to make the state's budgeting process more "specific, measurable, accountable, responsive and transparent." One of ISD's SMART budgeting performance measures is to "retire/reduce non-profitable legacy applications or technology." The aggressive replacement of the 56Kpbs circuits is one of the major efforts ISD is taking to increase the quality of services provided in order to help achieve the Governor's goals.

The enhance network services to law enforcement agencies ensures Alabama's citizens benefit because law enforcement personnel have additional time and information to solve more crimes, recover more property, and make more arrests.