

EXECUTIVE SUMMARY

The Georgia Technology Authority (GTA) is dedicated to bringing the benefits of technology to all Georgia state agencies. GTA's assistance helps Georgia's state agencies achieve greater efficiency, provides security safeguards, allows employees and citizens expanded access to government information and services, and encourages economic development throughout the state. Networking of agencies is essential to their success.

Outdated Technology

GTA was supporting four divergent networks (voice, data, and video) which were reaching the end of their lives and becoming expensive to maintain. Over the past few years, agency business requirements for bandwidth and security have steadily increased due to the addition of new business applications and the proliferation of useful IP-based protocols. GTA sought a highly reliable convergent network with a high capacity WAN that would support new business models and services like VoIP and would provide greater security. GTA was also committed to spending no more on the new network, associated access circuits, and other related services than it spent for its legacy Frame Relay-based network.

Upgrading and Outsourcing

In 2004, GTA began planning to replace its aging Frame Relay Network with a modern statewide Multi-protocol Label Switching Virtual Private Network (MPLS VPN) for use by GTA and GTA customers, including state agencies; and state, county, and municipal units of government, as well as public schools and libraries. MPLS is a more reliable, economical, and flexible core network technology that has become widely available and provides better services to agency users. It also satisfies Federal legislation and regulations. To increase efficiency, GTA chose to outsource the network to BellSouth. The transformation, begun in 2005, is nearly complete.

Higher Speeds

GTA can now provide more advanced and varied network services to the state of Georgia, as well as limit further cost growth. The productivity of state agencies has improved substantially as it relates to data access. The new MPLS network has enabled agencies to improve their transfer speeds by an average of 400 percent while the costs have remained the same in most cases. Sampling shows this is a 76 percent reduction in the price per kbps. In addition, GTA contracted with BellSouth to continually update the network to the latest technology.

Getting More for Less

Georgia's state agencies are now getting far more for their money with our MPLS network, as can be seen later in this proposal. Implementation of the new MPLS network provides:

- Needed redundancy and reliability
- Greater speed
- Support for new options like VOIP

- Support for class of service with the ability to give one communication priority over another
- The ease and flexibility to add or delete circuits as needs change; and
- A cost effective solution

A. Concise description of the business problem and solution, including length of time

Until recently, the state of Georgia was supporting four divergent networks (voice, data, and video) which were reaching the end of their lives and becoming more complex and expensive to maintain. GTA needed increased connectivity options and additional bandwidth, but there was a limited budget. The state infrastructure was not positioned to support the evolving business, technological, and regulatory needs of the state.

The Georgia Technology Authority (GTA) began planning in late 2004, and it is now close to replacing its aging Frame Relay (FR) network with a modern statewide MPLS VPN (Multi-protocol Label Switching Virtual Private Network). The new network is utilized by GTA and GTA customers, including state agencies and state, county, and municipal units of government, as well as public schools and libraries. The planned MPLS VPN enables GTA customers to access a reliable network at a low cost regardless of location. In addition, it also helps to expand telework programs, and enforce post-911 security requirements and privacy regulations. Implementation of the new network technology ensures that agencies limit future cost growth for the network services needed to support mission-critical business requirements.

The state of Georgia operates and maintains statewide networks for data, video, and voice transmission. The FR network was primarily based on mature technology, requiring many individual circuits from all parts of the state to be back-hauled to Atlanta to connect with the rest of the state network and the Internet. The Georgia Statewide Academic and Medical System (GSAMS) video network consists of point-to-point circuits, while the voice network primarily utilizes the public switched telephone network. Business and security requirements have changed significantly since the FR network was installed, and new, cost-effective network technology will allow Georgia to have a state-of-the-art system.

Over the last few years, agency business requirements for bandwidth have steadily increased. The addition of new mission-critical business applications that utilize the network and the proliferation of useful IP-based protocols have made the old network obsolete.

The agencies have seen a dramatic increase in requirements for secure communications, including use of virtual private circuits, encryption, authentication, and intrusion detection. Most of these new security and privacy requirements — such as the Health Information Portability and Accountability Act (HIPAA), the Criminal Justice Information System (CJIS), and the Graham-Leach-Bliley — arise from the need to satisfy Federal legislation and regulations. Others arise indirectly from the need for secure communications with state business associates such as banks, healthcare providers, and insurance companies that are also directly impacted by these Federal requirements.

MPLS is a more reliable, economical, and flexible core network technology that has become widely available and provides better service to agency users.

B. Significance to the improvement of the operation of government.

The technical features/functionality of MPLS technology is providing GTA with the ability to supply more advanced and varied network services to the state of Georgia and limit future cost growth. GTA was committed to spending no more on the MPLS VPN, associated access circuits, and other related services than it spent for the legacy Frame Relay-based network. The consolidation to a single managed network technology and careful selection of access circuits is allowing for vastly improved services for the same overall cost.

The benefits of the MPLS network to Georgia include:

- A partnership with BellSouth, which enables GTA to keep up with changing technology without the capital outlays experienced with the previous contract. BellSouth continually upgrades its network to the latest technology and has invested \$400 million in the last five years.
- Costs that are shared over a larger pool of users.
- Faster deployment of technology enhancements – enhancements can be applied across the entire network.
- Increased reliability and redundancy – there is no single point of failure in the network.
- Uniform and common types of access – the network leverages existing access types that are uniformly available throughout the state.
- Scalability – increases in core access capacity can be accomplished with minimal or no disruption in service.
- Support for Governor Sonny Perdue's goal to have 25% of all state employees begin to telework (the Work Away Program) outside of the standard office environment. Enabling network access for state agencies located in underserved areas, particularly outside the metro Atlanta area, is a high priority.
- Support for the delivery of mobile solutions for mobile workers; for example, Division of Family and Child Services (DFCS) case workers are being supplied with laptops.
- The technical support necessary to expand the use of wireless services by state agencies.
- Statewide dial-up access to enable all home or regional office workers, even those without DSL or cable modems, to securely access the MPLS VPN core network.
- Increased security because GTA can create virtual user communities on a shared infrastructure that offers the levels of security that are necessary for successful government. Also, additional security services can quickly be applied to the entire network if needed.

The new network includes stringent service level assurances related to network performance, installation, and maintenance support. With aggressive capacity management policies and a core that includes significant excess capacity, GTA can provide an infrastructure that alleviates concerns about bandwidth availability.

Within the WAN architecture, MPLS-based IP/VPNs provide seamless connectivity to move data to any point on the network regardless of geographic location. This design eliminates the requirement for an agency-managed, meshed network infrastructure along with the expense of the supporting hardware and software. MPLS enables elements at the edge of a network to simply apply labels to packets (frames), thus allowing connectivity between any points throughout the core infrastructure.

By partnering with BellSouth and procuring a managed solution, GTA is accomplishing the following business objectives:

- Leveraging BellSouth's state of the art Network Operations Center (NOC)
- Launching a network monitoring environment which provides real-time alarms and predictive network statistics.

B. Benefits realized by service recipients, taxpayers, agency or state.

GTA is responsible for providing technology leadership to most state government organizations. These responsibilities include the selection and adoption of information technology policy and standards and governance for the expenditure of funds for IT products and services.

The following entities have/will benefit from the MPLS network:

- Executive Branch departments, agencies, boards, bureaus, commissions, and authorities that are subject to GTA's jurisdiction
- All other state governmental entities including, but not limited to, the judicial branch, and the University System of Georgia, as well as counties and municipalities that choose to participate.

The largest beneficiaries are state agencies, which can now be more productive due to the network's additional speed and higher levels of reliability.

As a result of winning the contract, BellSouth has expedited its plans for growing its network. LeAnn Boucher, Manager Media Relations for BellSouth says:

“Georgia residents enjoy enviable access to broadband services. Because of our relationship with and commitment to the Georgia Technology Authority (GTA) as an anchor tenant of our MPLS backbone, we are aggressive in our investment and rollout, which benefits all of Georgia.”

Cindy Moss from the **Office of Child Support Services (OCSS) Office of Child Support Services (OCSS)** sums up her agency's appreciation for the MPLS technology. Not only has it helped OCSS, but it has improved the support that it is able to provide to its constituents.

"Words cannot express what this effort means to us. We have been working to get improved performance for our STARS application for almost a year.... Thanks for making things better for the children of Georgia."

Examples of the benefits/increased performance for OCSS include:

- Time to register a case reduced from 30 to 14 minutes
- Time to establish an order reduced from 18 to 6 minutes
- Database search reduced from 4 minutes to less than one
- Enables workers in different counties to share time-sensitive information
- Enables workers to spend less time on administrative tasks and more on direct service.

The Department of Revenue upgraded to MPLS circuits at 12 regional offices:

- The upgrade resulted in 10 times more bandwidth for data transmission
- DOR regional offices used to request copies of printed documents from headquarters in Atlanta. The process took several days. Compliance officers now have instant, online access
- The upgrade has given DOR an encrypted Virtual Private Network between Atlanta headquarters and regional offices, and that network complies with federal requirements.

The bottom line for DOR is faster, more efficient revenue collections.

John Link, Assistant Commissioner for Technology at Department of Revenue says:

"It's been a tremendous help to us and to our regional offices."

The **State Board of Workers' Compensation** is implementing an automated, electronic system to manage cases. The board receives about 40,000 claims and 15,000 requests for hearings each year. It holds approximately 1,400 hearings annually. The board recently upgraded its WAN circuits to MPLS at 9 field offices. The upgrade makes it possible for staff to quickly access information stored in the system's database.

Major features of the new system allow the Board to:

- Submit claims over the Internet
- Send and receive information between physicians and insurance companies over the Internet
- Scan paper claims to convert them to electronic documents
- Schedule hearings.

Productivity improvements include:

- A quicker response to requests for mediation
- More efficient scheduling of hearings
- The ability to settle claims faster.

C. Realized return on investment, short-term/long-term payback (include summary calculations).

GTA chose to outsource the State's WAN for two primary reasons:

1. Greater choice of telecom services
2. Competitive pricing.

Outsourcing resolves problems with the state's ability to:

- Replace aging equipment
- Keep up with changing technology
- Recruit, retain, and train technical staff.

This arrangement also provides greater opportunities for economic development:

- The state as an "anchor tenant" supports the development of advanced telecommunications services in every county.
- Smaller telecom companies are benefiting as BellSouth subcontracts with them to complete "the last mile." BellSouth met in March with the Georgia Telephone Association to begin negotiating rates for "the last mile." The association represents 30 independent local exchange carriers (ILECs).

The productivity of state agencies has improved substantially as it relates to data access. The new MPLS network enables agencies to improve their transfer speeds by an average of 400% while the costs have remained the same in most cases. Sampling shows this is a 76% reduction in the price per kbps.

Once the transition of all sites to the MPLS network is completed, GTA will be able to decrease the needed GTA internal resources to support the network by approximately \$1 million per year. These savings were taken into account when determining the cost of network services to the agencies and allow GTA to offer more competitive pricing to its member agencies.