

Annual State IT Report

FY 2013

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State of Georgia



Annual State Information Technology Report

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State Chief Information Officer Statement

Statement by Calvin Rhodes, State of Georgia, Chief Information Officer

The state of Georgia's IT landscape is vast. Business needs across the enterprise are diverse, and finding the right solutions to support effective government services is critical. Georgians must be able to access their state government in a manner that is responsive, secure and stable. State workers must be able to work efficiently and meet citizens' expectations.

The state's \$600 million technology enterprise achieved a higher level of maturity in 2013. This report offers insight into how technology supports state services and how new investments are delivering results for state agencies in innovative and sustainable ways.

Progress depends on a confluence of necessary resources – staff, industry partners, appropriate management disciplines and technologies. The work is painstaking: every option must be evaluated with an eye toward reducing risk and complexity; enterprise standards must be applied and maintained; and relationships with vendors and agency partners must be managed.

Implementation of the state's ongoing IT transformation continued to be a major focus in 2013. Ours is the largest state IT modernization going on in the nation today. Through the Georgia Enterprise Technology Services program, we have built a reliable and stable platform for new systems and technology driven innovation that could not have been achieved with the old, fragmented approach to technology. We moved beyond the 75% point in transformation in 2013, and we are on track for 95% completion by the end of 2014. The program is yielding useful data about costs and consumption of technology services that allows the state to make fact-based decisions while managing costs.

Ensuring that citizen data is secure must always be an emphasis for the state. GTA's coordinated, enterprise-focused approach to IT security remains essential as cyber-crime continues to threaten IT systems throughout the country. The state has significantly improved its security posture, and we address risks and exposures every day. Vigilance is required as we face ever-changing attacks from nation-state sponsored cyber-terrorism and organized cyber-crime.

As we work with our state agency partners to mature the IT enterprise and support them in serving Georgians, the delivery of IT services and projects demands our continued attention. I believe you will find in this report both evidence of commitment and examples of progress.

Purpose

The State IT Annual Report conveys the current state of technology in Georgia state government as assessed by the State Chief Information Officer (CIO). The report is also a requirement listed within the enabling legislation of the Georgia Technology Authority (GTA). The Annual Report is intended to provide information to state leaders to help them make informed decisions about investments in technology.

The report represents IT for the state's executive branch agencies only. The report does not include information regarding IT matters in the legislative branch, judicial branch or the University System of Georgia. The data used to create the report is provided by executive branch agencies and data feeds from enterprise systems of record. The data is compiled by GTA and reflects the efforts of the State CIO to improve technology use in support of the operation of state government. The Annual Report contains the following major sections:

- CIO Statement
- Executive Summary
- Governor's Goals
- Current State
- Stakeholder Value
- IT Governance
- IT Strategy
- IT Financial Management
- Appendix

Executive Summary

This report highlights a range of topics dominating the state of Georgia's information technology landscape:

Current State of IT. Through a more rigorous review of technology consumption and spending, we have determined that the state of Georgia's administrative branch of government is spending close to \$600 million each year on technology see *Enterprise IT Spend*, p.18. As the state moves to a consumption-based financial model from a capital-based spend model, the shape of the technology portfolio is shifting and becoming more transparent see *IT Investment Management*, p 21. New IT investments and projects continue to exceed industry averages in terms of successful delivery see *Project Delivery Effectiveness*, p. 25. A significant amount of the planned IT transformation has been completed see *Georgia Enterprise Technology Services*, p 27. A new initiative is under way to enhance the service delivery quality and experience, while continuing to provide quality IT services at market rates see *GETS+ Enterprise Services Made Better*, p 30. The focus on training and education will extend into 2014. The state's **Georgia.Gov** enterprise portal moved to a new content management system, Drupal, in the 2012-2013 timeframe and has seen a dramatic increase in mobile traffic through the use of responsive web design see *Portal* p. 36.

Stakeholder Value. State agencies are in alignment with Governor Deal's goals, and one can see significant improvements in the way citizens engage with and consume state services see *Stakeholder Value* p. 44. The way the state plans, collaborates and manages the enterprise IT portfolio see *IT Governance* p. 61 continues to mature and drive important changes to state services, especially in the increasingly important areas of broadband, spectrum management, geographical information systems, data lifecycle management and portfolio management.

CyberSecurity. This continues to be a focus area, especially for risk management and continuous monitoring see *Georgia's Information Security Program* p. 78. Georgia state agencies are strengthening their security risk profile and ability to handle computer threats and emergencies see *The Future of Georgia's Security* p. 85. Related to these activities are the ongoing emphasis on business continuity see *Business Continuity* p. 86 and newly evolving efforts to reduce waste, fraud and abuse see *Waste, Fraud and Abuse* p. 87 and protect citizen privacy see *Georgia Privacy Program* p. 88.

IT Financial Management. Consumption management tools are helping the state to better track IT costs and to forecast future spending see *IT Financial Management* p. 90, with the goal of enabling greater transparency and management of limited IT dollars. While the state's financial health has steadily improved since 2008, agencies still face challenges in meeting the needs of the state and its citizens. The use of a technology roadmap see *Technology Road Map* p. 96 and a cohesive IT strategy will leverage and enable technology for key areas of need: business processes, workforce mobility, citizen access, cloud services, and data management. Couple this with a modern, transformed IT infrastructure and network see *Service Provider for Infrastructure* p. 102 and see *Service Provider for Network* p. 106, and Georgia will be a leader in the use of technology for the effective and efficient delivery of government services.

Governor's Goals

Technology supports state agency alignment to Governor Deal's strategic goals for the state.

Governor Nathan Deal's vision for the State of Georgia is "A lean and responsive state government that allows communities, individuals and businesses to prosper".

Georgia government supports economic prosperity through a structure of government goals intended to ensure Georgia's success through education, health, safety, business growth, transportation and sound government.

Goals:

- *Educated*
- *Mobile*
- *Growing*
- *Healthy*
- *Safe*
- *Responsible and Efficient Government*

Educated

Because strong schools are the only proven route to tomorrow's good jobs, Georgia government is focusing on producing well-prepared students who are life, college and work-ready. The Educated Goal focuses on requirements to prepare students to compete nationally and internationally.

Governor's Strategic Goals for Educated:

- *Increase the number of students reading at grade level by the completion of 3rd grade – a strategic benchmark for lifelong learning.*
- *Increase the percentage of students who hold a postsecondary credential.*
- *Improve and expand science, technology, engineering and mathematics (STEM) education.*
- *Identify and implement innovative strategies that increase teacher effectiveness and student achievement.*
- *Increase the percentage of high school graduates who are college and career-ready.*
- *Empower citizens with public school options and local flexibility for the purpose of improving student achievement.*

Mobile

Economic development requires the continued ability to move people and goods efficiently. A transportation infrastructure is key to economic competitiveness, and Georgia's transportation network – including airports, highways, rail lines and ports – has always been a selling point. The Mobile Goal strives to prioritize transportation investments to ease congestion and improve population mobility.

Governor's Strategic Goals for Mobile:

- *Improve the movement of people and goods across and within the state.*
- *Expand Georgia's role as a major logistics hub for global commerce.*
- *Leverage public-private partnerships and improve intergovernmental cooperation for successful infrastructure development.*

Growing

The Growing Goal supports the creation of jobs and growing businesses. The state of Georgia believes that its economic development requires dependable water supplies as well as a competitive business environment with access to capital for start-ups and growing businesses.

Governor's Strategic Goals for Growing:

- *Implement strategic tax and regulatory reforms that make Georgia more competitive.*
- *Promote small business growth and entrepreneurship.*
- *Maximize access to capital for startups and growing businesses.*
- *Conserve and enhance natural resources, with an emphasis on increasing state water supplies and security.*

Healthy

Improving the health and wellness of Georgians is essential to promoting our state as a great place to live, work and play. Economic development requires a well-managed healthcare delivery system providing positive outcomes and contained costs. While Georgia is home to excellent healthcare institutions and practitioners who are pioneering new advances in medical research and clinical care, the Healthy Goal recognizes that it needs to address growing demand on the healthcare system, finding innovative ways to attract and retain highly qualified providers to our state.

Governor's Strategic Goals for Healthy:

- *Reduce childhood obesity in Georgia.*
- *Increase access to health services throughout the state.*
- *Increase consumer choice and personal responsibility in health care.*
- *Improve access to treatment and community options for those with disabilities.*

Safe

Georgia government is striving to identify and implement innovative strategies and solutions to better execute on the core mission of government to protect its citizens. In addition, Georgia's economic development requires healthy, safe communities. The Safe Goal drives toward common-sense laws, well-trained and well-equipped law enforcement agencies and an efficient judicial system. Georgia government is also concerned with delivering a comprehensive, statewide solution that addresses illegal immigration and the burden it is creating on our correctional, educational and healthcare assets.

Governor's Strategic Goals for Safe:

- *Implement alternative sentencing options to improve offender rehabilitation.*
- *Promote successful offender re-entry and compliance.*
- *Reduce injury and loss of life on Georgia's roads.*
- *Promote safe communities and stable families where children thrive.*

Responsible and Efficient Government

The Responsible and Efficient Goal recognizes that many state agencies do not have a direct role in providing state services, but rather have a support role for other agencies. The Responsible and Efficient Goal encompasses functions such as human resources, fiscal services and information technology.

Governor's Strategic Goals for Responsible and Efficient Government:

- *Maintain Georgia's AAA bond rating.*
- *Increase the availability of state services through innovative technology solutions.*
- *Build and maintain a quality state government workforce.*
- *Focus state resources on essential services and employ enterprise solutions.*
- *Enlist community support and public-private partnerships to leverage available resources.*

Current State

The current state of Georgia's Information Technology (IT) is one that is in transformation. The state for many years had a non-integrated environment that is difficult to understand or use. The state is making improvements to IT while controlling costs and continuing to support the various functions performed by the state; in Georgia, almost all state functions performed use IT.

IT Investment Tracking

New tools provide the ability to do better capacity management of IT resources; costs are more transparent.

The state of Georgia spends a large sum of money every year on information technology, including services, equipment, application development and maintenance, and personnel. However, determining exactly how much is spent, where the money goes, and what taxpayers are getting in return is difficult. Coupled with this challenge is the need to understand whether Georgia is receiving value for the dollars invested in information technology.

The General Assembly has charged the Georgia Technology Authority (GTA) with compiling information from state agencies about their IT expenditures and presenting a report to state leaders every year (see O.C.G.A. 50-25-7.10). With comprehensive and accurate information, state leaders can make facts-based decisions about the allocation of limited state resources to support technology.

The GETS program ensures a clear understanding of infrastructure and network costs.

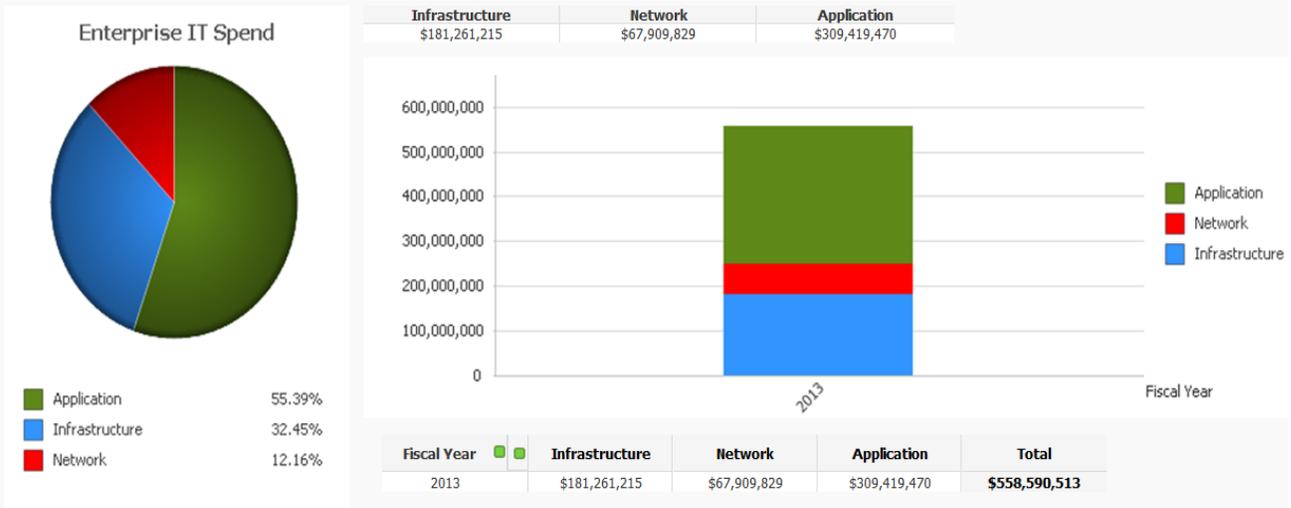
In FY 2013, GTA implemented a new tool called the State Annual Report Register (STARR) to collect data about IT expenditures from the agencies. STARR changed the way information is requested. In the past, data on IT expenditures was based on high-level accounts from the state's financial system. With STARR, information is requested by application, infrastructure and network. As a result, the state's IT financial picture is clearer this year than in past years.

The state has a more comprehensive understanding of the cost of infrastructure and network services than it does for applications. Infrastructure and network services are provided through the Georgia Enterprise Technology Services (GETS) program. Under GETS, Georgia is able to measure consumption and value through detailed reporting for all agency users of infrastructure and network services (see IT Financial Management).

Enterprise IT Spend

The following graph depicts the most comprehensive summary available of IT expenditures by application, network and infrastructure in FY 2013.

Enterprise spend by cost category



Approximately \$560 million was spent in FY 2013 on IT.

Agency participation in IT expenditure reporting

Not all state agencies are required to report their IT expenditures, and the number of reporting agencies actually declined from 74 in FY 2012 to 50 in FY 2013.

What led to the decline?

The agencies in Appendix A with N/A in the "Reported 2013" column did not submit reports because:

- They no longer exist
- Their expenditures were included in the report from an agency to which they are administratively attached
- They are attached to one of the state's constitutional agencies, which are exempt from filing expenditure reports

Other state entities that are exempt from reporting requirements include some with large IT expenditures, such as the University System of Georgia.

While the number of state agencies that are required to submit expenditure reports declined in FY 2013, the rate of agency compliance increased. A total of 45 out of 50 agencies submitted a report, or 90%, which compares to 80% in FY 2012. However, commissioners in only 39 agencies, or 78%, signed off on their agency's submission.

Agency Participation Year to Year

	FY2011	FY2012	FY2013
<i>Agencies Required to Report</i>	74	74	50
<i>Agencies that Reported</i>	59	59	45
<i>Percentage</i>	80%	80%	90%
<i>Agencies Not Required to Report</i>	15	15	14
<i>Agencies that Reported Voluntarily</i>	4	5	5
<i>Percentage</i>	27%	33%	36%

Did IT expenditures actually decline in FY 2013?

Participating agencies spent almost \$560 million on technology in FY 2013, significantly less than the \$733 million reported in FY 2012. The difference is attributable to:

- Less spending on applications
- More accurate reporting due to a change in requirements and use of the STARR tool
- Lack of consistency in reporting for some categories

GTA is working with the agencies to increase both the quantity and the quality of data received.

The table below shows the dollars invested in state IT operations at participating agencies for FY 2013. It also provides related data to identify an increase or decrease from the preceding year.

Dollars Invested in IT Operations

Applications accounted for 55% of IT spend in FY 2013

2013 State Overview	FY2011	FY2012	FY2013	Year over Year Increase / (Decrease)
Infrastructure and Network				
<i>Total:</i>	\$187,122,666	\$214,586,602	\$249,171,043	\$34,584,442
Applications Support				
<i>Total:</i>	\$860,543,420	\$519,027,892	\$309,419,470	(\$209,608,442)
<i>Aggregated Total:</i>	\$1,047,666,086	\$733,614,494	\$558,590,513	(\$175,023,980)

IT Snap Shot

Georgia is moving from a fragmented IT service model to an integrated yet federated, shared-service model based on consumption.

The current state of Georgia's Information Technology (IT) is one that is in transformation. The state for many years had a non-integrated environment that is difficult to understand or use. The state is making improvements to IT while controlling costs and continuing to support the various functions performed by the state; in Georgia, almost all state functions performed use IT.

As the state transforms IT, agencies begin to have a better grasp of what their IT infrastructure costs. New tools introduced as part of the transformation allow the agencies to drill down and better understand where they may have costs that are growing more rapidly than expected. Agencies are moving towards a capacity management model, monitored on a monthly basis and away from the traditional annual cost true up model.

However, there are still challenges ahead. The state operates many independent applications to support various agencies. If a citizen is receiving services from more than one agency, updating information like change of address requires an update for each system. He or she has to maintain two different user accounts with unique credentials. This is neither cost effective for the state nor convenient for the citizen.

The reasons for this poor level of integration are historical, and they have been costly. Until 10 years ago, few agencies shared applications, and their IT departments didn't use their combined requirements to develop purchasing power. Each agency's IT department procured, operated and supported all of the systems required by the agency, and IT budgets were integrated with the services being provided. The ability to obtain quantity discounts or leverage resources was non-existent with minor exceptions. It was even impossible to know the cost to operate many of the systems.

IT Investment Management

The state is moving towards an Investment Governance model to make technology decisions.

State Implements New Investment Governance Model

Over the past several years, the state has developed project assurance policies, standards and guidelines, and provided training and consulting to help assure successful technology projects. While the overall performance of projects has improved as a result of these efforts, we still continue to find that many project issues result from:

1. Poor business case development
2. Insufficient business requirements
3. Poor procurements
4. Undefined success measures
5. A lack of executive leadership

Many problems are "baked in" before the project gets off the ground, so that mature project management processes alone can't prevent troubled projects.

The best way to influence how the state is investing in technology is to become involved before the state is obligated in a financial or fiduciary capacity. This will ensure that both initial and long-term cost implications are considered and a comprehensive sustainability model has been defined

before funds are invested.

To address these needs, an Investment Governance model has been developed. The model is defined as:

“Utilizing governance best practices to make better decisions about technology spending for Georgia government”.

Investment Governance encompasses the activities and strategies for initiation, planning and procurement support of IT investments. Over the past few years, the model has been piloted with individual agency initiatives focused primarily on new investments. GTA has worked with the business community to provide feedback on business cases, prepare initial risk assessments and review procurement documents.

It is now time to expand and standardize the approach at the enterprise level through awareness and cross-agency collaboration. In the initial roll-out, the enterprise process will focus on:

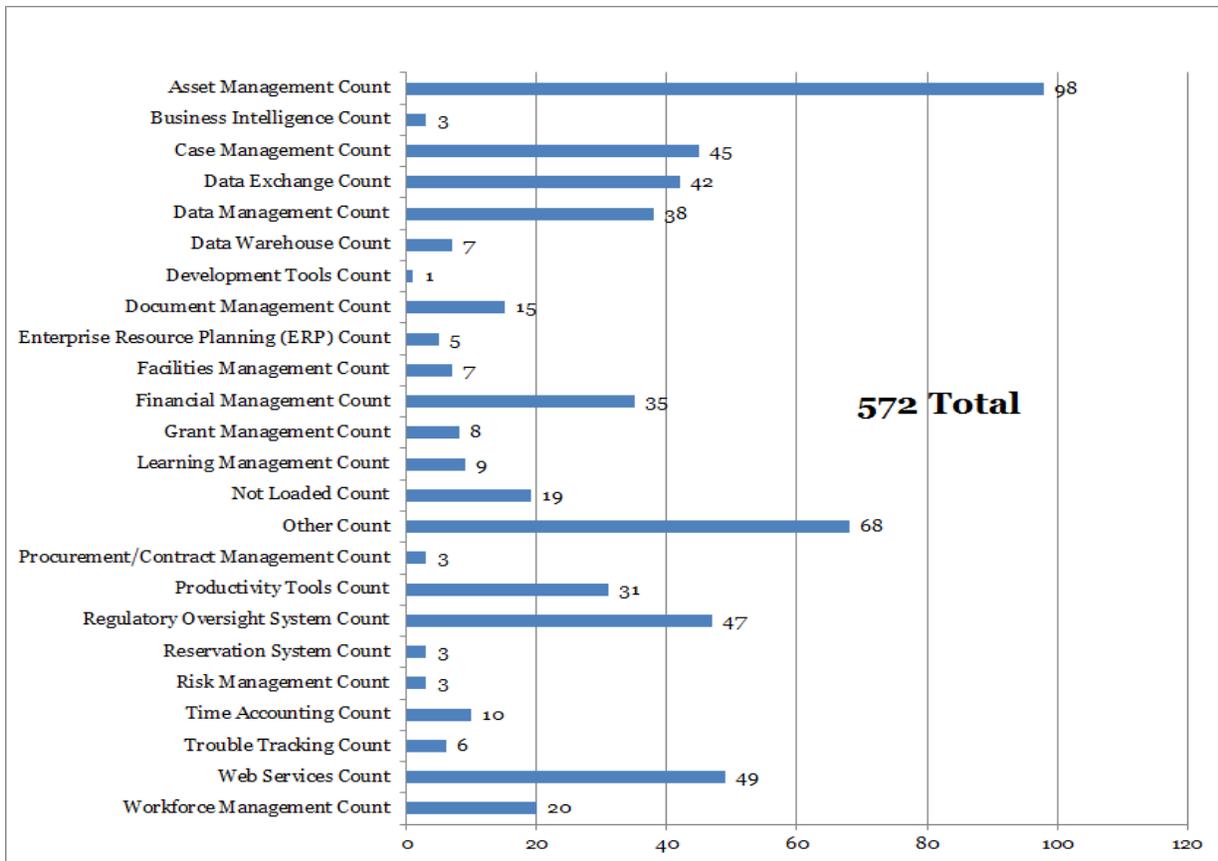
- Improving the quality of data available on current technology assets and IT spending
- Working with the Department of Administrative Services to educate procurement professionals on the unique needs and challenges of technology purchasing
- Identifying opportunities to leverage technology spending across agencies to reduce overall investment costs

We will then use this information to create enterprise-level business cases and procurements that will bring the most value to Georgia.

IT Application Portfolio

GTA collects information about the applications that agencies use to support their business operations.

In FY 2013, GTA started collecting more detail about the agencies' applications. The current inventory includes 572 applications. The following graph shows the number of applications by category.



IT Project Portfolio

The state's IT Project Portfolio shows expenditures by agency; the health sector has the largest spend.

GTA's Enterprise Portfolio Management Office monitors IT projects to ensure that the state gains the greatest value on the dollars invested. Enterprise Portfolio Management provides a framework for the governance process and allows decision-makers to view the range of projects to ensure that the right projects are executed at the right time with the minimum amount of risk.

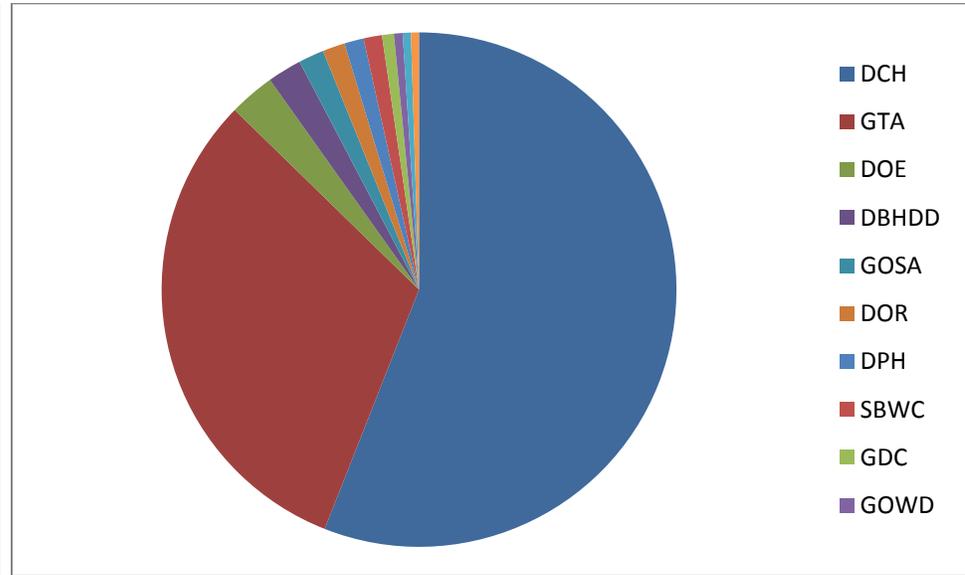
The Enterprise IT Project Portfolio includes agency projects that are in the planning phase as well as projects that are in the build phase. Tracking for the portfolio projects is by fiscal year, which begins on July 1 and ends on June 30.

The FY 2013 total project portfolio of \$335 million shows an increase of \$14 million, primarily due to the increased number of IT projects undertaken in the healthcare sector. As indicated in the graph below, the FY 2013 portfolio is tracking over 20 active projects, totaling over \$312 million and spanning multiple years and 13 agencies. In addition to the active projects, there were six projects in the planning phase, which total \$23 million.

Percentage of Total Budget by Agency

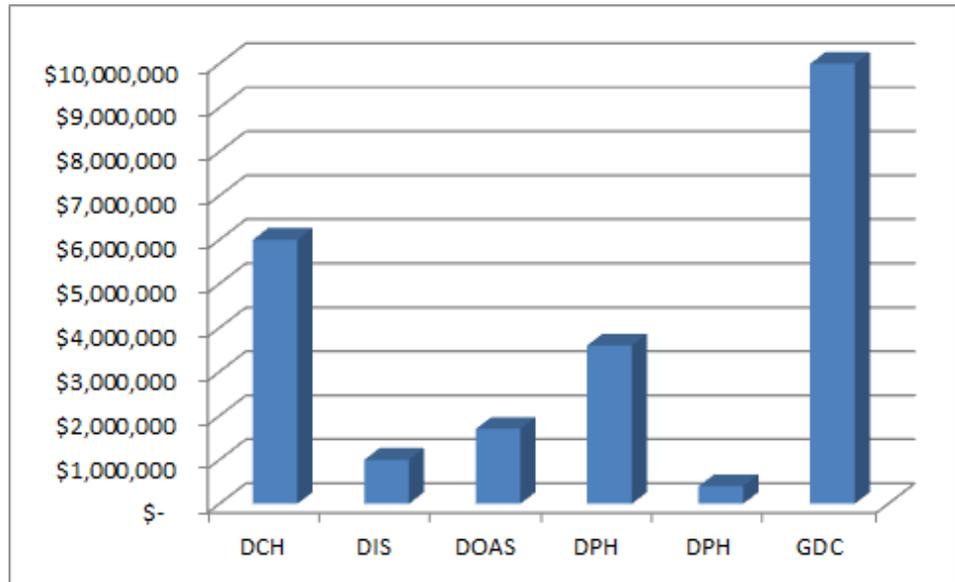
Agency Spend

DCH	56%
GTA	31%
DOE	3%
DBHDD	2%
GOSA	2%
DOR	1%
DPH	1%
DOAS	1%
GBI	1%
GDC	1%
GOWD	1%
SBWC	1%



Project Budgets (New Investments) by Agency

The graph at right identifies agencies with significant new IT investment.



Project Delivery Effectiveness

Fact-based decisions help agencies better manage their projects.

The review panel mitigates risk for large projects.

Portfolio management yields results.

Critical Project Review Panel

For more than nine years, GTA has facilitated the Critical Project Review Panel, which provides a business context for large, critical technology investments. The panel also evaluates and addresses risks before they become issues, makes fact-based decisions rather than relying on speculation, escalates to appropriate points in the state business, leverages enterprise influence to support agency outcomes and encourages learning across agency domains on best practices.

The executive level of state government is able to see the performance of critical state technology projects and better understand the issues and risks that need management action before serious problems occur. If a serious problem does occur, the right people are getting correct information to make informed decisions, rather than speculating on the situation and making uninformed decisions.

The panel limits its reviews to the most critical projects in the portfolio. For FY 2013, the Critical Project Portfolio was valued at \$312 million and covered 23 projects for 12 agencies. Over the past five years, the panel's reviews, coupled with project assurance, have saved taxpayers an estimated \$424 million (through cost avoidance and based on industry standards) that would have been lost to failed or challenged technology projects. The chart below puts into perspective the value and benefits of portfolio management and oversight:

Disciplined portfolio / project management coupled with Critical Project Panel Review and project assurance will save (through cost avoidance) the state up to \$144 million in FY 2013 on a portfolio of \$312 million.
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Applying industry statistical information* to our current active and approved portfolio of critical projects yields the following projected results:
--

- | |
|---|
| <ul style="list-style-type: none"> • 30% of projects would be cancelled = \$93.6 million • 52% would cost 189% of the original estimate = \$306.6 million • 18% would be successful with no cost increase = \$56.2 million |
|---|

Without disciplined project, program and portfolio management, the current portfolio of \$312 million would deliver only 70% of the functionality originally planned.

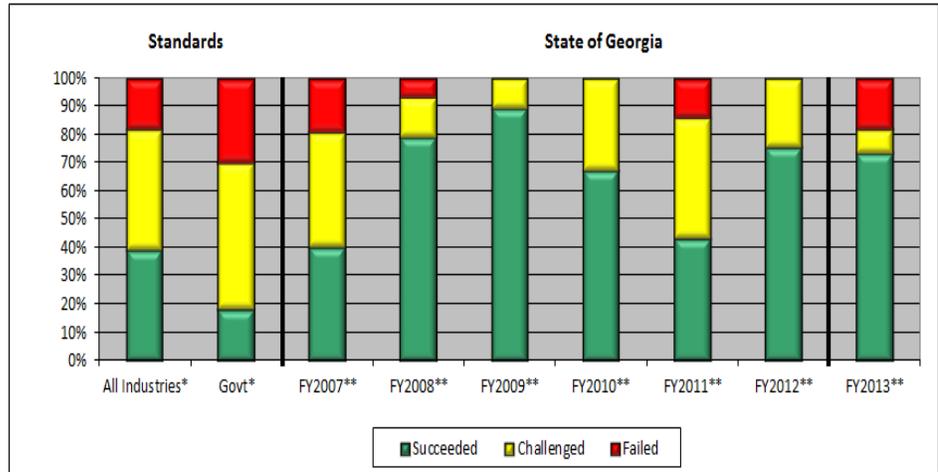
*Based on Standish Group CHAOS Report

The chart below displays how the state of Georgia compares to government and industry metrics compiled for the Standish Group's 2010 Chaos Report.

Project Delivery Effectiveness (by % of \$) FY13

The graph at right is based on the Standish Group CHAOS Report for government projects.

It measures only critical projects that were completed in FY 2013.



The data from the chart above also indicates an increase in failed projects in FY 2013. This increase results from two troubled projects that were stopped prior to completion. Of the 23 projects in the Critical Project Portfolio, 11 were completed during FY 2013.

Georgia Enterprise Technology Services (GETS)

The GETS program is modernizing the state's IT infrastructure and allowing better management of IT resources.

A great deal of progress was achieved within the GETS program during FY 2013. Efforts to modernize the state's IT operations continued to be challenging and produced mixed results. In particular, transformation of the state's IT application infrastructure services, which encompasses the relocation of applications to modernized servers in the state's highly secure data center, had fallen behind the revised plan developed in 2012. Decisive action was required to regain traction. GTA, representatives from the program's full-service agencies and the program's service providers came together to develop a course correction in FY 2013 to overcome the setbacks in the execution of the integrated transformation plan. The new plan incorporated lessons learned from our previous experiences and renewed our focus on getting the work done.

The goal of the program is to move the state of Georgia's IT operations into the 21st century. The transformation to a modern, secure, reliable and cost-effective technology infrastructure is essential to enabling state government to meet its service obligations to the citizens of Georgia.

IT transformation is 75% complete.

GETS transformation is scheduled to be completed by 4th quarter 2014, and we are now positioned to meet that goal. The transformation program is made up of 134 projects, and 84 projects were completed by October 2013. Another 47 projects were in progress, and work had yet to begin on three projects. The following sections discuss how transformation activities are improving IT services to agencies while removing risk from the state's IT enterprise. The work completed represents 75% of the planned tasks.

IT Infrastructure Services

Significant progress has been made in Active Directory and e-mail migrations.

Over the last fiscal year, the most significant progress was made in Active Directory and e-mail migrations. These projects are consolidating directory services and more than 41,000 e-mail accounts onto a single, standardized platform based on Windows Active Directory (AD) and Microsoft Exchange. The migration to a single e-mail system is enabling agencies to communicate more easily with each other. At the same time, it is improving system stability and simplifying technical support. The first phase of the AD/e-mail migration, moving users from a Microsoft to a Microsoft environment, was 100% complete in June 2013. The second phase, moving users from a Novell to a Microsoft platform, began in FY 2012 and was nearing 50% complete during FY 2013. The finalization of this second phase is still on schedule to be completed by December 2014.

The Files Service program has migrated 4 of 12 agencies.

The File Services program had completed migrations to the new file servers at four of the 12 agencies by end of FY 2013. The state's IT infrastructure services provider continues to work with each agency to complete the program by the second quarter of FY 2014.

Malware and anti-virus software has been upgraded at seven agencies.

Another area of significant progress was the transformation of seven full-service GETS agencies to new server malware and end user computing anti-virus software. This project, which was completed in FY 2013, ensures that the latest malware and anti-virus updates are delivered to computing devices in the program environment. By standardizing on the same software, we are better able to support the operating environment and streamline updates to keep our environment more secure.

End User Refresh

State employees are being provided with current technology.

The GETS program requires IBM, our IT infrastructure services provider, to replace laptop and tablet computers every three years and desktop computers every five years. These refresh cycles match IT industry best practices. The total number of end user computing (EUC) devices in scope is about 37,000.

Processes for replacing EUC devices were formalized in FY 2010 by GETS full-service agencies, GTA, IBM and Dell, IBM's subcontractor. About 1,700 devices were refreshed in FY 2010. FY 2011 and FY 2012 saw continued refinement of those initial processes for refreshing EUC devices and a significant acceleration of activity. About 8,800 devices were refreshed in FY 2011, 7,600 in FY 2012 and 5,100 in FY 2013. About 11,700 devices were refreshed as part of special projects over the four-year period, making the total number of EUC devices refreshed roughly 34,900 or 94 percent of the state's total EUC devices covered by the GETS program.

All laptop and tablet computers, totaling about 5,800 devices, were refreshed before the end of FY 2012, meeting our goal to have all of those devices refreshed in the 3-year window. This was a significant accomplishment that ensures the state realizes maximum value from the IT privatization contract. All desktop computers are on target to be refreshed by May 2014, meeting our goal to have all of those devices refreshed in the 5-year window.

Managed Network Services

The state's network is running more efficiently and securely.

The state's managed network services provider, AT&T, recently enhanced the security posture for all customers. The GETS program provides managed network services to over 1,400 state and local government agencies across the state, which includes approximately 100,000 end users. This security enhancement included upgrades to the intrusion prevention systems and network analysis tools located in the state's two enterprise security nodes. The fully redundant and diversely located security nodes provide advanced protection for all managed network services customers. Continuous improvement is extremely important in this area since the state's systems experience a large number of probes each day from those looking for security vulnerabilities.

AT&T has also made great strides in transforming the state's IT enterprise by completing three of its key projects. The first project was IP re-addressing, which ensures that all workstations within the scope of the GETS program have a unique IP address. Since all workstations that are part of the program connect to the operating environment at the state data center, the IP re-addressing project is a cornerstone on which many other projects rely.

The second project involved AT&T's establishment of a centralized IP address management system. The system stores and manages the IP address space for all devices in the operating environment. The third involved completion of the Radius project, which provides wireless access upgrades throughout the environment.

Meanwhile, AT&T continues upgrading all full-service network customers. AT&T is replacing all LAN/WAN hardware with new equipment and moving

agencies to its state-of-the-art, Multi-Protocol Label Switching (MPLS) network. By October 2013, 1,164 out of 1,335 sites had been migrated to the MPLS network. AT&T is also migrating the state IT enterprise to AT&T Remote User VPN Managed Services and nearing completion of deployment of the centrally managed DNS/DHCP architecture to support state agencies. All of these changes enhance the reliability and security of the state's network.

The refresh of voice technology is also underway. It involves replacing old Key and PBX telephone systems in state agencies and migrating phone lines to Centrex where it makes sense. The scope of the voice refresh includes 24 PBXs, 572 Key systems and 45,000 Centrex phones/lines. By October 2013, AT&T had refreshed 15 PBXs, 443 Key systems and 33,723 Centrex phones/lines.

GETS+ (plus) Enterprise Services Made Better

Overview

The GETS+ program helps agencies better account for their IT dollars.

In an outsourced environment, you can account for every dollar spent on services. This transparency gives the full-service GETS agencies and the state of Georgia better visibility into their IT budgets. As a result, they are able to easily account for every dollar spent on IT services. In the past 12 months, the state embarked on an enhancement program called GETS+. The program expands visibility into IT budgets by enabling full-service agencies to predict their future consumption using better tools and more detailed knowledge about the outsourced services. GETS+ is focused on improving reporting, streamlining processes and evaluating new services to meet the needs of state agencies for information technology in each of their businesses.

Purpose

- Help agencies better manage GETS consumption and budget

Objectives

- Ensure agencies have data, tools, and training to make sound decisions about consumption and spending for GETS services
- Improve reporting, streamline processes, and realign services with continually evolving market offerings

GTA Role

- Provide contemporary IT services at competitive rates with technology options to meet agency business requirements

Agency Role

- Manage GETS consumption
- Balance business and technology requirements
- Live within OPB budget parameters

Governance for GETS+ Initiatives

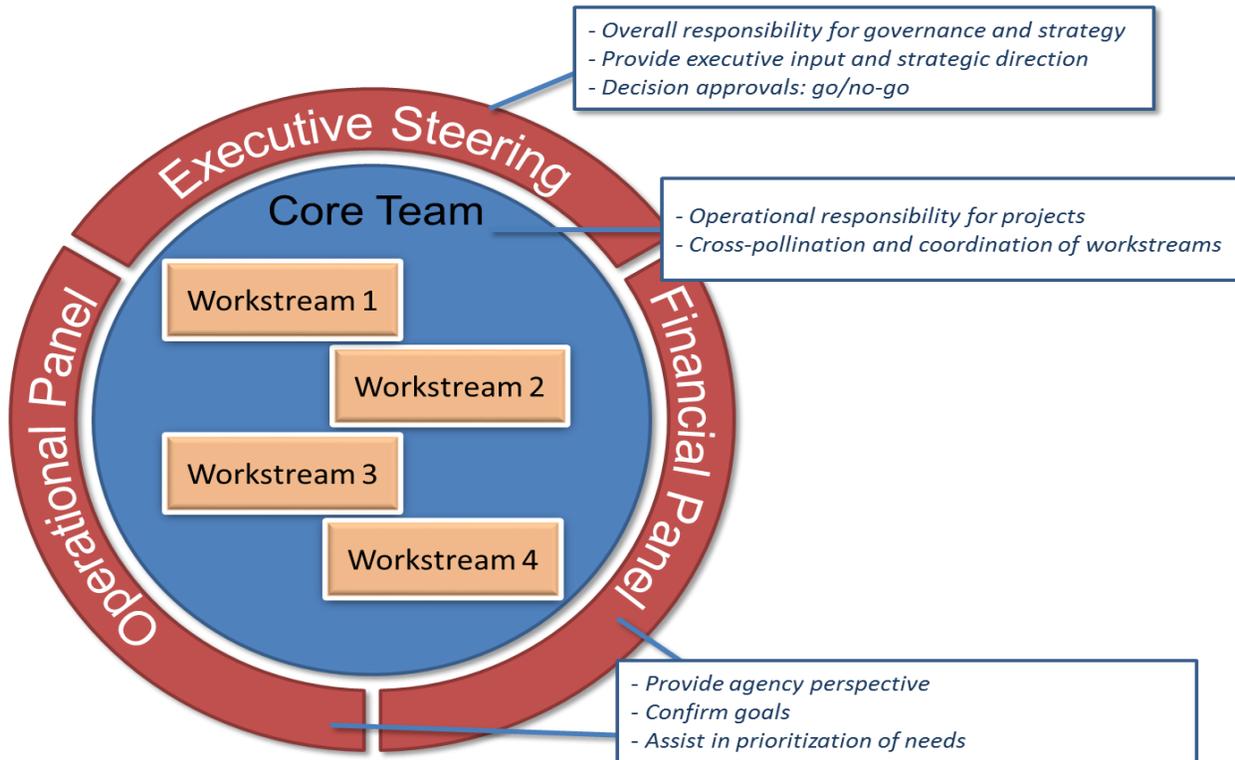
GTA established a GETS+ Executive Steering Committee.

GTA engaged key agency personnel in the decision-making process for the GETS+ initiatives. GTA established a GETS+ Executive Steering Committee, which includes a cross section of agency CIOs and CFOs, as well as representatives from the Office of Planning and Budget (OPB) and the Governor's Office. This committee met monthly to offer strategic insight and to ensure that agencies do not let IT "just happen" without knowing the business and financial impacts to the state.

Additionally, GTA incorporated other agency representation as needed. We

referred to these groups as the Agency Collaboration Panels and engaged these panels for input and reviews, including reporting on enhancements, financial processes and new services.

Within GTA, we formed a GETS+ Core Team, which met weekly to review progress and coordinate activities across the various work streams or initiatives.



Work Streams

GETS+ established four work streams.

GETS+ contains the following work streams, each with a specific goal:

- **Consumption Management and Data Accuracy** – Agencies are using the right amount of service at the right time.
- **Billing, Accuracy and Financial Processes** – Agencies know they are paying the right amount for the right services.
- **Contemporary Services at Competitive Pricing** – The state is confident that it has current IT services at competitive rates.
- **Communication and Training** – The state understands how the services work and how to use them in the most efficient manner.

Consumption Management and Data Accuracy

GETS+ enhances the transparency of the state's IT infrastructure services.

The full-service GETS agencies have asked for more information so they are able to consume IT services even more efficiently in the future. Though the GETS program has enhanced the transparency of the state's IT infrastructure and network services, GTA knows improvements can be made to help the agencies with this information deficit. With input from the agencies, GTA has worked to provide additional reports focused on connecting operational data with invoice dollars. These reports began rolling out in May 2013 and will continue into 2014.

GTA also established a structured consumption management program to ensure that agencies are requesting, receiving and paying for the right level of IT infrastructure and network services. The primary focus of the consumption management program is to make sure the state is efficiently using its resources. The program is also helping GTA improve its internal processes and implement best practices.

The long-term vision of the consumption management program is to create an ongoing, cyclical review of the full environment in collaboration with the agencies. GTA will provide agencies with a schedule for monthly, quarterly and semi-annual reviews of specific service components in their environments via a consumption management tower manual. For example, the schedule may indicate monthly automated checks of PC asset inventories against billing, quarterly reviews of e-mail accounts versus employee lists and semi-annual analysis of whether applications are on the ideal server based on the needs of the agency and the availability and complexity of the applications.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
EUC												
DDM vs. Maximo	Yellow	Green	Green	Blue								
Book to Personnel						Blue					Blue	
Floor to Book Audit										Blue		
Server												
Tiering	Green						Blue					
Tape Archiving		Green			Blue				Blue			Blue
App Storage		Red				Blue				Blue		
WAN												
Hot/Cold Review	Green	Green	Yellow	Blue								
Site vs. Circuit			Green			Blue			Blue			Blue

Sample Tracking Matrix

Legend	
Targeted	Blue
Conducted, but Issues Remaining	Yellow
Not Done / Past Due	Red
Completed	Green

These reviews will help ensure the right amounts of services are being consumed. While creating the consumption management program, GTA also identified and addressed some specific, one-time opportunities:

- Analyzing the mainframe infrastructure to ensure the availability of the right amount of processing capacity
- Working with agencies to implement data retention policies
- Removing surplus PCs

After talking with many states who are members of the National Association of State Chief Information Officers, GTA believes this program is a first-of-its-kind in state government. It will help ensure that Georgia is proactively and efficiently managing its technology and financial resources, continually driving process improvement and defining best practice policies for service consumption.

Billing, Accuracy, and Financial Processes

GETS+ improves financial processes.

Agencies asked GTA to make the billing process more accurate and easier to use. GTA has responded with the GETS+ Billing, Accuracy and Financial Processes work stream. GTA has worked with the state's IT service providers to make changes to invoicing and how the agencies correct the invoice when necessary. GTA and the service providers have defined "billing triggers", which clarify the time between a service decommissioning request and when the charges disappear from the bill. GTA shortened the dispute processing timelines, both internally and with the service providers. GTA also made changes to the invoice so the agencies can differentiate billing adjustments from standard service charges.

The agencies also asked for more clarity into the IT dollars being spent. In collaboration with the agencies, GTA and OPB continue to evolve the financial forecasting process. In the past, GTA provided OPB with a forecast of GETS expenditures, which were put forward into budget requests on behalf of the agencies. As the state entered the AFY 2014 and FY 2015 budgeting cycle, GTA provided the agencies with a baseline forecast and a tool to allow them to forecast their own consumption reductions, organic growth and project impacts.

Contemporary Services at Competitive Pricing

The GETS program provides improvements in security, quality, consistency and transparency of services and invoicing.

The GETS program overall has provided the state with improvements in security, quality, consistency and transparency of services and invoicing. Since the contracts were signed in 2008, technology has continued to evolve. Cloud computing, particularly e-mail, has become more mature as a service. Meanwhile, state workers have become more mobile and require fewer landline phones and desktop computers. Instead, they need more mobile devices to respond to constituent needs.

In February 2013, GTA met with the executive leadership of the state's IT service providers to create a plan for the state to stay current with technology that will meet the needs of both agencies and the constituents they serve. The goals shared were threefold:

- **Innovation** – Accessing relevant, new services and improving transparency into the state's existing IT environment
- **Collaboration** – Build on the strength of GTA's relationship with the service providers to better serve the agencies
- **Optimization** – Identify opportunities for the agencies and the state to become more efficient

GTA separated the resulting plan into two waves. The first wave, completed in June, was intended to address "quick wins" for the agencies and better position them to manage consumption. In this wave, GTA restructured and lowered some existing rates, established billing triggers and planned new reporting.

The second wave was focused on longer-term solution enhancements and operational efficiencies. Specific focus areas included new or enhanced services such as cloud e-mail, contact center, mobility device management and instant messaging.

Communication and Training

GETS+ enhances communication and training.

The most frequent questions from the agencies were in the category of communication and training.

- How can we train new people on a service?
- How does this service work?
- How can we start or stop this service?
- How are we being billed for this service?
- How can we get a new service to help us...?
- How can we train our finance team on what to look for within IT services?

These are only a few of the many questions on the minds of agency staff.

GTA wants to give the agencies all of the training and tools they need to use the right amount of services at the right time. Because of the many questions and the inconsistent answers, we realized that both agencies and even GTA needed more information and training. Many months of training had been completed with the agencies following the launch of the GETS program, but many individuals had changed roles over the years and individuals moved from one agency to another. The training created at the beginning of the GETS program needed to be updated along with the way training was provided to the agencies. In addition, ad hoc and informal training updates throughout the years to various groups had not proved effective.

Beginning in February 2013, GTA hosted nine training sessions for the GETS agency CIOs, CFOs and key IT staff. The first sessions covered foundational items such as the role of GTA's Service Management Organization (the part of GTA which manages the program), the purpose and progress of the GETS program and the statewide IT transformation, and details of the invoicing forms and processes. The remaining sessions

focused on each of the services (e.g., end user computing, server, storage, mainframe, voice) and explained how to active and de-activate the services as well as how the services are invoiced.

The training sessions were recorded and posted on GTA's website (<http://gta.georgia.gov/managing-your-gets-services>). This process is building not only a broader and consistent understanding of GETS, but also a permanent library of resources for new individuals.

Training will continue into 2014, diving more deeply into service components. We have already scheduled specific training with the agencies on how to use the new backup and recovery services after transformation takes place.

The agencies have been asking relevant questions about IT infrastructure and network services, and GTA has been responding with training, communication, reporting, tools and process changes to give the agencies what is needed to serve their constituents in an environment where IT infrastructure plays an important role.

Portal

New GeorgiaGov web platform serves state needs well.

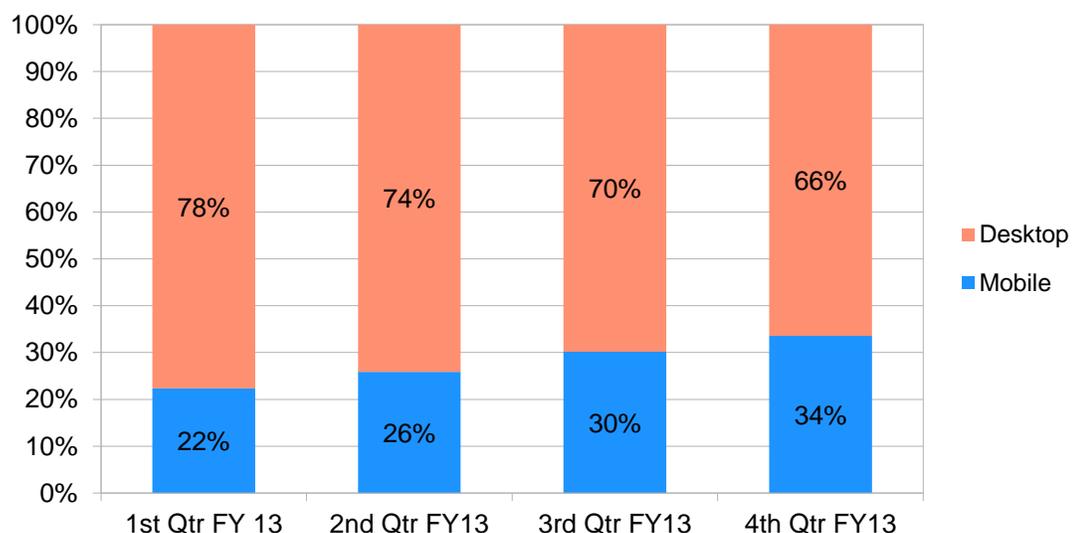
In FY 2012-13, GTA switched to Drupal as the enterprise content management system for state agency websites and established the GeorgiaGov platform. This platform replaced a failing content management system running on two separate server groups. Since the switch to Drupal, GTA has added 13 new websites to the existing 65 websites that use the state's enterprise content management system. Drupal brings flexibility and stability, and with a 99.98% uptime, the new system guarantees high availability with just a few minutes of downtime throughout the year.

In the past couple of years, mobile traffic on the GeorgiaGov platform grew exponentially – from 4% in calendar year 2011 to 15% in 2012 and more than 25% in 2013. At some agencies, there is more traffic from mobile devices than desktop and laptop computers. These increases are coming from constituents who exclusively or in combination use mobile devices to access state websites.

In the past, websites were scaled downward to fit onto the smaller screens of mobile devices, and users were reduced to memorizing touch-screen gestures. But a new technology called **Responsive Design** senses the type of device being used and adapts the website's layout to provide an optimal view based on the device. Responsive Design has been widely implemented in the IT industry, and GeorgiaGov was one of the first state portals to adopt this technology. The GeorgiaGov platform is undergoing a Responsive Design makeover, and soon agencies will be able to implement the technology on their websites to better serve constituents who use mobile devices.

The chart below shows the trend of mobile vs desktop in Georgia Health Agencies:

**Health Agencies Visits
Mobile vs Desktop**



Industry Trends

As Georgia continues to move ahead in modernizing the way it operates and delivers IT services, certain industry trends are worth studying. Gartner, an IT research and advisory firm, recently reported on changes that are affecting both business and technology. Meanwhile, the National Association of State Chief Information Officers (NASCIO) surveyed state CIOs to identify their top priorities for 2014. Gartner's and NASCIO's findings are summarized below.

Business Drivers

Business drivers affecting IT:

- *Budget*
- *Workforce*
- *Security*
- *Performance*

Tight budgets will continue in the near future. Hard decisions will need to be made to best utilize scarce resources. Gartner points out that the scarce resources will not just be monetary but will also be a scarcity of human resources. With the aging of the Baby Boomers, many seasoned IT professionals will be retiring. The need to replace retiring employees with these scarce IT skill sets with younger workers, who need training, will be a continuous challenge to the state.

There will continue to be threats from inside and outside of the state to the security of the state's IT systems. The risks involved in keeping systems safe and available will also continue to be of concern to the state.

There will be four business drivers effecting IT in the future:

- Budget
- Workforce
- Security
- Performance

Technology Drivers

Technology Drivers affecting IT:

- *Mobility*
- *Information*
- *Cloud*
- *Social Media*
- *Security*

Gartner

Gartner notes four areas of technology that are current and future challenges for technology leaders:

- **Mobility** – both citizens and state employees who need access for the explosion of portable devices that they now use on a daily basis
- **Information** – data that both citizens and state employees need to make decisions that affect their jobs and their standard of living
- **Cloud services** – the movement towards services hosted on the Internet and not at the citizens' or state employees' locations; many of these services are purchased on a monthly basis rather than permanently
- **Social media** – all of those technologies such as Twitter and Facebook that let users interact with people in their local, national or international communities

These four technologies are called disruptive technologies because of their ability to disrupt people's lives, for good or bad, and bring about change. Gartner advises that there are several areas on which the state needs to

The National Association of State CIOs notes top 10 priorities in strategies, processes and solutions.

focus in order to effectively handle disruptive technologies. First, the state needs a **skilled IT work force** that can adapt to changes in technology. The state will need to **mature its governance structures and bodies** to be able to adapt to changes and make timely decisions.

The state will need to develop **new policies** to help navigate the disruptions caused by technology. The state will need to look at **correct investments** to take advantage of these new technologies. New ways of looking at the state's **data** will need to be developed to provide **information** for the state's decision makers. The state will need to develop an **architectural framework** to ensure that these disruptive technologies are used to achieve the state's **business goals**.

NASCIO

Below are the results of a survey taken by the National Association of State CIOs to rank its membership's top priorities for 2014. The survey was published in November 2013.

Priority Strategies, Management Processes and Solutions

Top 10 Final Ranking

1. **Security:** risk assessment, governance, budget and resource requirements, security frameworks, data protection, training and awareness, insider threats, third-party security practices as outsourcing increases, determining what constitutes "due care" or "reasonable"
2. **Consolidation / optimization:** centralizing, consolidating services, operations, resources, infrastructure, data centers, communications and marketing "enterprise" thinking, identifying and dealing with barriers
3. **Cloud services:** scalable and elastic IT-enabled capabilities provided "as a service" using Internet technologies, governance, service management, service catalogs, platform, infrastructure, security, privacy, data ownership, vendor management, indemnification, service portfolio management
4. **Project and portfolio management:** project management discipline, enterprise portfolio management (EPM), oversight, portfolio review, IT investment management (ITIM), training/certification of staff, traceability to mission and strategy, scope management, execution
5. **Strategic IT planning:** vision and roadmap for IT, recognition by administration that IT is a strategic capability, integrating and influencing strategic planning and visioning with consideration of future IT innovations, aligning with Governor's policy agenda
6. **Budget and cost control:** managing budget reductions, strategies for savings, reducing or avoiding costs, dealing with inadequate funding and budget constraints
7. **Mobile services / mobility:** devices, applications, workforce, security, policy issues, support, ownership, communications,

wireless infrastructure, bring your own device (BYOD)

8. **Shared services:** business models, sharing resources, services, infrastructure, independent of organizational structure, service portfolio management, service catalog, marketing and communications related to organizational transformation, transparent charge back rates, utility-based service on demand
9. **Interoperable Nationwide Public Safety Broadband Network (FirstNet):** planning, governance, collaboration, defining roles, asset determination
10. **Health care:** the Affordable Care Act, health information and insurance marketplaces, health enterprise architecture, assessment, partnering, implementation, technology solutions, Medicaid Systems (planning, retiring, implementing, purchasing), eligibility determination

Priority Technologies, Applications and Tools

Top 10 Final Ranking

1. **Cloud computing:** software as a service
2. **Security enhancement tools:** continuous diagnostic monitoring (CDM), digital forensics
3. **Mobile workforce:** technologies and solutions
4. **Enterprise resource planning (ERP)**
5. **Virtualization:** servers, desktop, storage, applications, data center
6. **Legacy application modernization / renovation**
7. **Business intelligence (BI) and business analytics (BA):** applications, big data
8. **Disaster recovery / business continuity**
9. **Identity and access management**
10. **Networking: voice and data communications, unified**

The National Association of State CIOs notes top 10 priorities in technologies, applications and tools.

Other States

Case studies on what other states are doing in IT.

Michigan

Other states, including Michigan, are facing some of the same problems as Georgia. Along with Georgia, Michigan was one of the first states to create a statewide Chief Information Officer (CIO) position and charge the CIO with moving the state towards enterprise-wide management of IT resources. Michigan has developed a position paper about IT management practices.

Gartner in January 2006 captured the changes that Michigan went through in

a paper entitled *Michigan's Successful Experience with Centralizing Government IT*. A summary of that paper is below. A full copy of the report can be obtained from Gartner Research.

Michigan has seen both tangible and intangible results from the practices it has adopted:

- **Cost** — The number of IT personnel employed by Michigan dropped from nearly 4,000 to 1,700 in four years. IT expenditures are lower in Michigan when compared to state governments of equal size, but the state has continued to maintain a capable IT infrastructure.
- **Improved Public Policy, Strategy and Planning Alignment** — Michigan's Department of Information Technology is engaged in planning at the highest levels. Engagement has led to a planning process that aligns IT with the governor's priorities and individual agency business plans.
- **Prioritization** — Priorities are set in the state's overall budget process. Agencies must provide a business case for their use of IT.
- **Customer Service** — Constituents' support needs are addressed on an enterprise level.
- **Data and Information Sharing** — IT consolidation allows for greater emphasis on data, information and knowledge management, which in turn enables improved information sharing across the multiple levels of government within Michigan.
- **Enterprise Applications** — The environment for introducing enterprise applications has been improved.
- **Economies of Scale** — IT consolidation saves money by eliminating resource duplication. In particular, fewer technicians are required to support IT infrastructure, resulting in lower personnel costs.
- **Disaster Recovery** — Savings from IT consolidation allow Michigan to maintain an enterprise disaster recovery capability through a redundant data center, rather than having each department maintain its own infrastructure at far greater expense.
- **Staff Capability and Training** — With smaller personnel needs, it is easier for a single organization to make certain it has the right skills to maintain its systems.

Colorado

In 2008, the Colorado Governor's Office of Information Technology (OIT) began to consolidate IT systems spread across 17 executive branch agencies. Through system standardization, the intention of OIT is to achieve cost savings, reduce the complexity of administering multiple platforms and improve service delivery.

Prior to transformation, the delivery of information and communication technology in Colorado state government had been provisioned in an agency-by-agency manner, which resulted in the state owning and operating more than 40 data centers, 15 disparate networks, over 400 line-of-business systems and 1,800 servers, including 122 servers dedicated to provisioning email services on different versions of Lotus Notes, Microsoft Exchange and Novell GroupWise. Many of these were aging and sorely in need of replacement. Sixteen of the seventeen agencies were not eDiscovery compliant, and half did not have adequate disaster recovery capabilities, putting data and services at risk. This siloed environment was not sustainable, especially in light of the budget reductions Colorado is continuing to endure.

As part of transformation, Colorado is adopting a cloud sourcing strategy. The

business case, entitled *Moving Colorado to the Cloud: A Business Case*, can be found on OIT's website at www.colorado.gov/oit under publications.

As stated in the business case, the advantages of cloud computing are:

- A net reduction in infrastructure and facilities
- Improved agility to meet changing demands
- Improved system availability and, therefore, improved customer service
- Improved security and disaster recovery
- A sustainable delivery model

Colorado plans on adopting a hybrid cloud model, which will best meet its business and security requirements:

- Private cloud for line-of-business/highly secure data and systems
- Virtual private cloud for archival storage, disaster recovery, Software as a Service or Platform as a Service
- Public cloud for commodity computing, email, office productivity applications, collaboration tools and websites

The conclusion of Colorado's business case states:

"Colorado has set into motion a new model for sharing services across jurisdictional lines, while shifting state priorities from commodity to core business functions to aggressively reduce costs and increase sustainability. The viability of cloud computing for government agencies is being tested worldwide, and market forces are pushing providers to improve their security and functionality. OIT believes the timing is right to pursue this strategy. The perfect storm of budget reductions with the rise of cloud computing as a viable alternative has raised expectations. If OIT's testing proves successful, the estimated cost savings, avoidance of future costs and improved security complete a solid business case for implementing cloud computing."

New Hampshire

New Hampshire is also moving towards centralizing its IT service. A white paper entitled *Realizing the Value of Centralized Services* discusses the benefits of centralization and can be found on the Department of Information Technology website at www.nh.gov/doit/internet/innovation.php. The benefits of centralization are:

- **Leveraging the state's buying power**
New Hampshire is negotiating and establishing aggressive statewide contracts to be able to obtain best pricing from vendors and partners. Independently agencies are small, but collectively they represent 10,000+ employees with significant buying power. New Hampshire wants to use that buying power to its advantage to create a win-win relationship.
- **Standardizing on common platforms and vendor solutions**
It's important to standardize on "best in class" solutions that meet the state's needs. By doing this, New Hampshire reduces its research, training and maintenance costs. This practice encourages common platforms and enables shared services. Solutions-oriented alignment between agencies is an additional and desired byproduct of this process.

- **Centralizing IT utility-like services**
 Certain networking and desktop services that are required by all state employees will be centralized to help drive efficiencies and effectiveness of those solutions. Rather than duplicating efforts in many agencies, the state will begin to deploy certain services by adopting a statewide, cross-agency approach to deployment.
- **Developing areas of expertise**
 To build a world-class organization, it's important for the state to develop its technical IT staff to become experts in the areas they support. By centralizing certain services and redefining the delivery model, the goal is to allow staff members to begin to focus on their strengths, moving from generalist to specialist in their respective positions.
- **Managing and tracking IT expenditures**
 The state is collectively beginning to track IT spending not only by agency but also from a statewide IT perspective. This practice will help identify areas that might be targeted for future savings. Disciplined accounting for IT spending is an important step towards operating within a defined budget.
- **Using technology to simplify paper processes**
 Moving services, forms and interaction with state government from a paper process to automated transaction-based operations will yield tremendous cost savings and efficiencies. Internal and external e-government initiatives are a critical component towards using technology to conduct state business.
- **Embracing new technology to drive efficiencies**
 A program will be established to evaluate new technology to determine how it might positively impact state government and help drive efficiencies. New Hampshire will embrace new technology that helps the state reach its business goals and contributes to cost savings. The result will be an optimized IT environment that is fully capable and ably staffed to meet the demands of doing business with or for the state.
- **WAN efficiency planning**
 The state has an extensive Wide Area Network that is essential to meeting its business needs. Currently, most state buildings are connected with either point-to-point or Frame Relay circuits. In some places, the state has leveraged the benefits of a Virtual Private Network (VPN). The WAN efficiency team will review the statewide design to look for redundancies and inefficiencies. The goal is to identify areas that can be consolidated or migrated to more cost-efficient connections.

Some of the **expected outcomes** of New Hampshire's efforts include:

- More efficient, standardized systems designed to support multiple agencies
- More effective processes to leverage IT investments across multiple state agencies
- More effective procurement of IT equipment and services
- Improved information technology support for small agencies and departments
- Enhanced security and privacy measures for the storage and distribution of electronic data

- Expanded statewide digital networks and standardized IT activities
- New electronic access opportunities for citizen access to services and data
- More responsive support of agency initiatives
- Balanced priorities between developing the proper IT back office capabilities and implementing citizen-focused applications
- Improved information support systems for budgeting, operational and managerial decisions
- Reduced redundancy and variation of IT infrastructure
- Closer coordination of state IT activities with municipal and county governments

Stakeholder Value

Georgia's agencies are using IT to improve business operations.

Overview

Technology in the state exists to enable government to serve its citizens. Georgia's focus since the implementation of the IT transformation effort in 2008 is to enhance service delivery by improving how citizens connect to their government. Getting the right foundation in place to build upon will be essential to connecting Georgians with their government. The focus continues to be on improving the customer experience and value to stakeholders. In addition to the citizens of the state, the term "stakeholders", in its broadest definition, includes the state workforce, which needs to have increased quality of service from service providers to provide a higher level of service to their customers.

Throughout FY 2013, the state worked to strengthen the governance of the state's IT enterprise. Through greater transparency in IT project management, operations and costs, state leaders are able to make better fact-based decisions about investments in technology. Our commitment is to continue to work with our private-sector partners to transform the state's use of technology through consolidation, virtualization, and integration.

With dependable, modern, and secure technology systems and a strategic partnership between technology and business, we will be able to provide innovative business services and ensure a robust, transparent IT enterprise where decisions are made with the citizen in mind.

The Stakeholder Value section of the report is organized according to Governor Deal's goals. Each of the seven goal areas has IT projects that highlight support of those goals. This is not a complete accounting of state projects that support the goals but a sample of the projects.

Educated

The Point Implementation

The Board of Regents deploys an innovative solution to control software costs.

Agency: Board of Regents of the University System of Georgia (USG)

Problem:

Colleges and universities are more likely to make uninformed decisions when purchasing software if they are unable to find valid information about existing contracts and previous experience with software products. USG's Information Technology Services manages more than 50 system-wide contracts to ensure predictable, value-based pricing. However, faculty and staff often did not know what contracts were available, what software USG already owned, what purchases were being considered or what software training was available. In addition, USG lacked a comprehensive and effective way for faculty and staff to contribute to the development of the terms and conditions of the contracts they use.

Solution:

The Point is an online information repository and self-service application that allows faculty and staff at USG's 31 institutions and the Georgia Public Library System to access data for making more informed decisions when purchasing software. It provides real-time access to information about vendors, cost-saving possibilities, licensing options and software training. No other state college system or individual institution in the nation has a solution with capabilities as comprehensive as The Point.

How:

Following a series of onsite meetings at USG institutions with faculty and staff, university system leaders decided to develop a centralized, self-service information repository to organize, index and provide easy access to information. The resulting repository – called The Point –also helps faculty and staff better understand the value and cost savings that can be achieved through enterprise contracts.

The Point includes five applications: Opportunity, Vendor Contracts, Campus Contacts, USG Teams, and Requests. Each application provides "quick view" summary information and the capability to drill down for detailed, real-time data.

By acting as a single enterprise, as opposed to 31 independent institutions, USG is realizing substantial cost savings. An agreement for one software suite alone has saved \$10 million based on academic pricing and \$38 million over "big box vendor" pricing. As an added bonus, the number of licenses is unlimited.

Benefits:

The applications allow users to:

- Search for information about vendors and system-wide contracts
- Review agreements currently under consideration
- Maintain contracts
- Ensure review team engagement in selecting software
- Create and respond to requests

- Provide input about their software needs

The application allows for cost savings, for example:

- Cheaper prices
- Unlimited licenses

Mobile

Geographic Transportation Reporting, Analysis and Query System

GeoTRAQs provides transparency into Georgia transportation projects.

Agency: Georgia Department of Transportation (GDOT)

Problem:

GDOT needed to replace its Transportation Explorer (TREX) system because it lacked the necessary levels of performance, scalability and usability. In addition, TREX could not use GeoPortal and other web services to display mapping data in layers. GDOT also found the Georgia GIS Data Clearinghouse unreliable for distribution of its GIS data since site maintenance and data publication are voluntary and enhancements are unfunded.

Solution:

GeoTRAQS, www.dot.ga.gov/maps/geotraqs, allows for browsing, searching, downloading and connecting to geospatial data and web services managed by GDOT. Workers in the field, GDOT managers, local governments, business partners and the general public can quickly and easily locate information about statewide transportation projects, traffic volumes and motor vehicle accidents through a feature-rich and easy-to-use online mapping application.

How:

With GeoTRAQS, users can search for information about transportation construction permits, projects, bridges, traffic volumes and motor vehicle accidents in several ways. They can select a county or enter a specific place such as the Georgia World Congress Center. They can search by intersection, address, interstate exit, longitude and latitude, route and miles, GDOT districts, congressional districts, State House districts, State Senate districts, special tax districts, and transportation management or maintenance areas. Users can save preferences and bookmark locations for quick reference.

GDOT employees can quickly update transportation-related data, thereby ensuring information is more current, reliable and useful. GeoTRAQS brings disparate data sets together in a unified mapping experience to reveal information and patterns in ways other applications cannot. As a result, it identifies opportunities for managing state assets more effectively, alleviating traffic congestion and improving highway safety. As a critical tool for helping maintain Georgia's outstanding transportation infrastructure, GeoTRAQS plays a strategic role in supporting economic development and improved quality of life.

Benefits:

GeoTRAQS improves the efficiency of state operations by enabling GDOT employees to:

- Determine a transportation project's status, including funding, so state resources can be coordinated and scheduled more efficiently
- Improve collaboration by quickly and easily involving project

- managers from adjacent projects
- Visualize new project areas so rights-of-way and utilities can be identified and reviewed
- Access subsurface engineering plans
- Review crash and traffic data when evaluating safety projects
- Improve the availability of information to the public
- Incorporate data more easily into GDOT's business processes

Online Customer Service Tools for Georgia Drivers

Online tools help with driver licensing.

Projects: *Create a Customer Checklist; Wait Time Online; Online License Status Check; Monitored Driver Service*

Agency: *Department of Driver Services (DDS)*

Problem:

DDS and its customers – anyone who drives or carries a state identification card – face many challenges these days. As identification requirements changed for drivers' licenses and ID cards, DDS needed better ways to prepare customers for their visit to a customer service center. Besides needing to know what documents they were required to provide officials before receiving a license or ID card, customers had little insight into the least crowded days and times at different customer service centers around the state.

One of the most common questions customers ask when they call or visit a customer service center is, "What is the status of my license?" In addition, law enforcement and other DDS business partners frequently need to quickly validate a driver's license or ID card.

DDS deployed web-based, self-service options to meet these customer needs. Self-service options reduce waits, allow customer service agents to spend more time with customers needing special assistance and help DDS better manage budget cuts.

Solution:

Web-based tools are helping to better manage customer service at DDS. Because of budget cuts, DDS has been forced to eliminate over 100 positions at its customer service centers, but new self-service options are making it possible for some customers to avoid phone calls or visits to the centers altogether. If they need to conduct business in person, customers can use other new online services to help them plan their visits when the centers are less crowded and to know exactly what documents they need to bring with them. User-friendly technology is making it possible for DDS customers and employees to save time, money and a lot of frustration. Meanwhile, large customers with fleets of drivers can take advantage of a new service that's designed to help them know whether their drivers are maintaining good driving records.

How:

To help customers comply with new identification requirements, DDS enhanced its public website with **Create a Customer Checklist**. Customers begin by completing an online questionnaire, which allows them to select from among various documents that can be used to meet identification requirements. For example, customers must provide one form of primary identification. The questionnaire lists all acceptable forms, which include a valid U.S. passport and an original birth certificate or a certified copy, and a customer simply checks which form is most readily available to them. After completing the questionnaire, the tool lists all a customer's selections on a single webpage, which can then be printed or saved as a PDF file. A set of frequently asked questions assists customers in understanding new identification requirements. More than 100,000 customers had used Create a Customer Checklist through March 31, 2013.

But even if you have all the documentation you need, is there a way to avoid long waits in line at a customer service center? DDS' new **Wait Times Online** is designed to help customers do just that. The tool lets customers see two weeks of historical, average wait times at any of 64 customer service centers. An interactive map on DDS' homepage lets you identify the nearest customer service center. By right clicking on the customer service center icon, a small box opens with links to directions, wait times and required documentation. Selecting wait times opens a new window that displays green, yellow and red symbols to indicate average wait times by date and time at your selected customer service center. The tool has received an average rating of 4 out of a maximum of 5 from more than 1,700 people.

Online License Check Status answers the question, "What is the status of my license?" The tool contributes to a safer Georgia by alerting drivers about a suspended or expired license so they can take steps to resolve the issue. It also enables law enforcement and DDS business partners to determine if a license is legitimate or fraudulent. It eliminates thousands of calls and visits to DDS customer service centers each week and provides customers with the convenience of being able to check the status of their driver's license or ID card any at time. About 45,000 people use the tool each month.

DDS customers with fleets of drivers are concerned with re-insurance costs and making sure their drivers maintain good driving records. The **Monitored Driver Service** relies on DDS' database to provide near real-time driving histories and assist customers in making decisions that are influenced by the driving behavior of their fleet drivers. The service was built so it's quick and easy to bring new customers on board. Using secured File Transfer Protocol, customers provide DDS with a file containing identifying information for its drivers, and DDS searches for the drivers in its database to determine if they have received a citation or their license has been suspended during a specific time period. If activity is found for a driver, customers can then decide whether to obtain more detailed information by requesting a Motor Voter Report.

Benefits:

DDS online tools provide substantial benefits. They:

- Allow customers to more easily meet identification requirements
- Help customers avoid long wait times
- Give customers the status of their license online
- Cut down on fraud

- Eliminate thousands of calls
- Allow for anytime services
- Provide online driving histories

Growing

Georgia Dome Wi-Fi

Georgia Dome installs new and enhanced Wi-Fi system.

Agency: Georgia World Congress Center

Problem:

When the Georgia Dome upgraded its point-of-sales system, which includes about 150 portable concession stands, stadium officials needed to ensure the wireless network could reliably process credit card transactions at those locations. In addition, they wanted to provide wireless technology that would enable the stadium to compete more effectively with the growing popularity of home theaters, NFL RedZone and other viewing options, including the Atlanta Falcons' mobile app for iOS, Android and BlackBerry devices. The app allows fans to stream live video to their smartphones using the stadium's Wi-Fi network. With the prevalence of smartphones, the Wi-Fi system is also used to offload 3G and 4G data services from the in-building cellular system, thereby providing better voice and SMS services for fans.

Solution:

The Georgia Dome completed the installation of a high-density wireless network to extend its technology infrastructure and provide Wi-Fi access to 1.5 million annual visitors. The new network consolidated several disparate networks into a single, centrally managed system that's used for portable point-of-sales terminals, ticket scanning, and media and public access. The Georgia Dome is home to the Atlanta Falcons, the Southeastern Conference Football Championship and other high-profile events.

How:

The Georgia Dome engaged CDWG to perform an in-depth site survey and spectrum analysis, and then design a Wi-Fi solution that could accommodate a maximum of 14,000 concurrent users, which equals 20 percent of the stadium's total capacity. The high-density design creates micro-cells of Wi-Fi coverage by utilizing directional antenna and scaling back the transmission power of each access point throughout the stadium's seating area. A 10 percent geographic overlap between cells ensures each attendee has sufficient signal strength to connect to the network, which consists of five Cisco 5500 series wireless controllers and 500 Cisco 3500 and 3600 series access points with various internal and external antennas. Cisco's Prime Network Control System enables network engineers to manage all of the network's various elements from a single web-based interface. The new Wi-Fi system requires no increase in staff and support. In addition, it is expected to pay for itself within two to three years as a result of sales increases at the mobile concession stands.

Benefits:

During the 2012 NFL season, the Georgia Dome averaged 7,200 concurrent wireless network users and 11,000 unique users per game. In a fan survey of Wi-Fi-enabled stadiums in 2012, the Georgia Dome received the highest rating of those surveyed for wireless access. With W-Fi connectivity a requirement for high-profile national events, the new wireless network allows the Georgia Dome to compete for such events as the NCAA's Bowl Championship Series, among others.

Rural Broadband Research and Case Study Development

Digital Georgia program enhances broadband in rural Georgia.

Agency: Georgia Technology Authority

Problem:

Businesses, governments and consumers in rural Georgia want the same services and benefits made available by broadband Internet access that's found in the state's cities and urban markets. There are many challenges to participation in the digital economy of the global Internet. One challenge is the availability and capacity of broadband services to businesses, governments and consumers. Many rural Georgia markets are unattractive to private sector broadband investment, and the Digital Georgia Program seeks to identify and understand the options for these communities to overcome this challenge.

Solution:

Georgia has two rural regions where unique approaches were used to obtain funding to increase broadband service availability. The Digital Georgia Program partnered with the University of Georgia to investigate and report on these projects through a formal case study. The resulting report will serve as an informative guide on challenges faced, lessons learned and outcomes, and provide a perspective for other communities, providers and governments in the state who are seeking to increase broadband services.

How:

Using a case study approach, the University of Georgia's Grady College of Journalism and Mass Communication assigned project researchers to conduct research and develop the case studies.

For the project, researchers used a combination of document-based research and extensive in-person interviews with principles who were involved in obtaining funding and those charged with developing, implementing and managing the broadband service offerings in both market areas. Findings from the document research provide the researcher with a foundational understanding of the projects, including the size and scope of both projects. The methodology included frequent meetings with GTA and a systematic review of findings throughout the research process. The project included six main phases: initial document research, live interviews, a preliminary findings summary, additional research as needed, a draft case study report and a final case study report.

Benefits:

The case studies for rural broadband allow readers to understand:

- The environment prior to the broadband project launch
- What each broadband project entailed, including requirements to launch
- The business case, including how funding was obtained
- How funds were deployed once obtained
- Project results to date
- Lessons learned

Healthy

GaMap2Care

Community Health offers new mapping solution to improve access to healthcare information.

Agency: Department of Community Health (DCH)

Problem:

DCH conducts inspections and gathers extensive data about state-regulated facilities in Georgia, such as personal care homes, nursing homes and hospitals. How could DCH make it quick and easy for consumers to access and organize the vast amounts of information contained in its databases so they could make better informed decisions about where to place their loved ones for care? At the same time, DCH managers needed an easy-to-use tool to help schedule inspections of healthcare facilities. Still facing budget constraints, they saw an opportunity to reduce travel costs by assigning surveyors to facilities near the surveyor's home.

Solution:

GaMap2Care, www.gamap2care.info, provides consumers and other healthcare stakeholders with the ability to search for licensed healthcare facilities throughout Georgia, access their inspection reports, learn about available services and more with the click of a computer mouse. GaMap2Care is Georgia's user friendly search, see and select tool for making more informed decisions when choosing a healthcare facility.

How:

DCH created GaMap2Care – a web-based, interactive geomapping tool – as one of the first of its kind in the nation. With separate components for the public and for DCH staff, GaMap2Care embeds Google maps in the website and connects the maps to its database of more than 7,000 licensed healthcare facilities. Consumers can create a map of particular types of healthcare facilities in a designated area. They can then select a facility on the map to obtain detailed information, including licensed capacity, services offered, and the administrator's name and contact information. They can download state inspection reports for the last two years and view street-level photographs of the facility.

While enhancing transparency and public access to important information about a wide range of healthcare facilities, GaMap2Care also helps DCH improve its operational efficiency. DCH managers routinely use it when selecting surveyors for facility inspections. Surveyors are home-based and live throughout Georgia, and GaMap2Care enables managers to make assignments based in part on a surveyor's proximity to facilities. As a result, travel times and associated costs are reduced. In case of a natural disaster or other emergency, it supports state officials in their efforts to identify and notify facilities about the possible relocation of patients and residents.

GaMap2Care demonstrates how the integration of web-based services with large state databases can achieve significant benefits for both consumers and state government.

Benefits:

- Allows the public to easily find healthcare facilities in specific areas
- Allows easier, faster access to information about local healthcare facilities
- Improves DCH's operational efficiency
- Lowers travel times and cost for state surveys of healthcare facilities
- Improves response in the event of a disaster or emergency

Safe

Automated Accident Reporting System

DeKalb County improves accident reporting by breaking down barriers to siloed databases.

Agency: DeKalb County

Problem:

DeKalb County's Transportation Division, the Georgia Office of Highway Safety and other state and local officials rely on accident data from DeKalb County's Central Records Department to perform fatality investigations, develop safety forecasts and provide transportation planning and support. For years, workers in Central Records received paper reports from the DeKalb County Police Department, whose record system was separate from Central Records' system. The paper reports were scanned into Central Records' database, and copies were then mailed to state officials, who in turn had to scan them into their database. With the annual volume exceeding 20,000 reports, the process proved time-consuming and cumbersome. To complicate matters even more, it could be difficult to accurately determine how accidents occurred because of the hand-drawn diagrams on police reports. Inconsistencies in street naming conventions on police reports made it hard to query data with any level of reliability.

Solution:

DeKalb County's Automated Accident Reporting System simplifies and speeds the gathering and sharing of information between county and state agencies about motor vehicle accidents by eliminating manual processes and breaking down barriers to previously siloed databases.

How:

County officials implemented an instance of the Georgia Electronic Accident Reporting System (GEARS), which is used to report on motor vehicle accidents statewide.

Executive sponsors in the DeKalb County Office of Public Safety formed a steering committee to recommend both operational and technical requirements for implementing GEARS. Public Safety and the Department of Information Technology collaborated on the implementation of operational and technical changes that were based on functional analyses and assessments. They also led work to re-engineer business processes where appropriate to ensure the project's success.

The GEARS application is now installed on all mobile computing terminals in police cars. It includes maps for proper street coding and Easy Street Draw, a software program specifically designed to make diagramming an accident scene quick, easy and accurate. Police officers submit accident reports electronically; the reports can be reviewed by sergeants within minutes and submitted directly to the state's accident information repository. Once reports are submitted, they are immediately available at www.buycrash.com for citizens and insurance companies to purchase. A daily batch job exports all reports to DeKalb County's records management system, and accident

reports can be viewed from both the county's system and GEARS.

Benefits:

DeKalb County's Automated Accident Reporting System provides substantial benefits:

- Allows DeKalb County police to clear accident scenes more quickly
- Enhances public safety; officers spend more time on policing duties and less time on reports
- Eliminates errors in accident reports
- Provides the public with online access to accident reports
- Enhances service to the public by eliminating onsite visits to a county facility to obtain copies of reports
- Generates more than \$20,000 in revenue each month by selling reports online to insurance companies and individuals
- Eliminates duplicate work, ensuring the most cost-effective use of taxpayer dollar

Tracker Prosecutor Case Management System

Prosecutors implement efficient and effective case management system.

Agency: *Prosecuting Attorneys' Council of Georgia (PAC)*

Problem:

In 1998, PAC purchased and supported an automated case management system for the use of all prosecutor offices in Georgia. However, support from the vendor proved inadequate. Over time, the system became increasingly difficult and costly to manage, and it was unable to keep up with growing demand. In addition, some prosecutor offices were using different case management systems, including commercial and custom-developed systems, and other offices had no case management technology in place at all. In response, PAC conducted a thorough analysis and decided to implement a new technology solution designed to address all of these concerns.

Solution:

The efficient and effective management of criminal complaints requires a case management system specifically designed to monitor the flow of cases from arrest to final disposition. The system also needs to provide policy makers at all levels of state government with data to properly allocate personnel and ensure the orderly preparation and disposition of criminal complaints. To accomplish these goals, PAC developed the Tracker Prosecutor Case Management System, a web-based suite of software, and deployed it to prosecutor offices throughout the state.

How:

The new solution, Tracker Prosecutor Case Management System, was developed in-house by contract staff from Riverside Consulting Group LLC, a Georgia-based company. It uses an Internet-based, central server architecture with application and database server facilities in downtown Atlanta. The client side is zero footprint and browser-based, and it's compatible with Firefox, Internet Explorer and Microsoft Office productivity software. Clients access Tracker through standard, public Internet TCP

connections, and security is ensured by the use of SSL and https browser technologies.

A total of 137 counties and 1,750 prosecution staff in Georgia use Tracker, and other prosecutor offices are awaiting deployment. Tracker is used by all prosecution staff to meet their individual caseload management needs, including attorneys, legal assistants, administrative staff, investigators and victim witness assistance staff.

The system tracks over 150,000 open cases, and on a monthly basis, it generates:

- 7,500 victim-related documents
- 7,000 charging documents
- 17,000 evidence-related attachments
- 40,000 other documents, such as motions, orders, subpoenas and case-related correspondence

Tracker can communicate with other external criminal justice systems on a local or statewide basis by using XML technologies. It receives statewide arrest data from the Georgia Crime Information Center (GCIC) on a daily basis, which reduces data-entry time and eliminates keystroke errors. In five judicial circuits, Tracker is integrated with Judicial Data Exchange (JDX), which includes booking reports, warrants served, bond releases, dismissals, appointments, indictments and accusations.

Future enhancements will include the ability to:

- Report prosecutorial dispositions to GCIC and automatically update criminal histories
- Integrate with the Sex Offender Registry Board for sex offender prosecutions, the State Board of Pardons and Paroles for parole notifications and the Georgia State Patrol for citations

Benefits:

The Tracker Prosecutor Case Management System provides substantial benefits:

- Uses a browser-based client
- Deployed in a large majority of Georgia counties to ensure a standardized, state-of-the-art platform
- Reduces data entry time
- Eliminates errors
- Integrates with a number of other justice systems
- Ensures the orderly preparation and disposition of criminal complaints

Responsible

Employment Systems

Department of Labor technology tools make it easier to pay unemployment taxes and prevent overpayment of benefits.

Project: *Electronic Check Deposit System, SIDES E-Response System*

Agency: *Department of Labor (DOL)*

Problem:

DOL wanted to take advantage of technology solutions to lessen the burden on businesses when paying unemployment insurance taxes and providing information to state labor officials about employee separations. At the same time, DOL was looking for ways to reduce the costs of managing Georgia's unemployment insurance program.

Solution:

DOL implemented related projects to make it easier for Georgia businesses to pay unemployment insurance taxes and provide information about employee separations. The enhancements are part of DOL's continuing efforts to be user-friendly and technologically up-to-date. The projects increase communications between DOL and Georgia businesses and help prevent payments to people who might not be eligible for unemployment benefits.

How:

The Electronic Check Deposit System offers businesses the option to pay unemployment insurance taxes online at no extra cost. For businesses paying by check, the system enables DOL to transmit checks electronically for deposit.

In addition, the State Information Data Exchange (SIDES) E-Response System allows businesses to quickly, easily and securely provide DOL with detailed information related to claims for unemployment benefits filed by former employees.

Employers can register for SIDES E-Response on a public-facing website. Although its use is voluntary, SIDES E-Response enables employers to respond promptly to DOL when a former employee files a claim for unemployment benefits. After a claim is filed against an employer's account, DOL immediately notifies the employer electronically. The employer may respond by confirming the claim's validity or contesting it. A secure website allows the employer to provide details about the reasons for separation using a standardized questionnaire designed to increase accuracy in determining eligibility for unemployment benefits.

Before the implementation of SIDES E-Response, all correspondence between DOL and employers took place through the U.S. Postal Service. The employer had 10 days to respond to notifications from DOL. If DOL did not receive a response within the 10-day period, the former employee could be ruled eligible for unemployment benefits and payments could begin. If the employer subsequently filed a successful appeal of the initial determination, the former employee would be required to repay any benefits received. DOL's new system prevents many "overpayments" because current information is more readily available.

The number of businesses using the Electronic Check Deposit System during the first year of operation increased 140 percent, and savings totaled \$350,000, primarily through the avoidance of banking and courier fees. Over 800 businesses registered to use the SIDES E-Response System during its first year, when savings in supplies, postage and labor reached \$80,000.

Benefits:

DOL's technology tools:

- Reduce the cost of Georgia's unemployment system
- Quickly provide detailed information on unemployment claims
- Decrease turnaround times when doing business with DOL
- Prevent "overpayments" because information is readily available
- Realized \$350,000 in annual savings with Electronic Check Deposit
- Realized \$80,000 in annual savings with SIDES E-Response System

2011 SPLOST Fact Sheets and Interactive GIS Web Maps

Cobb County increases the ability of citizens to track expenditures.

Agency: Cobb County

Problem:

Cobb County voters approved a four-year Special Purpose Local Option Sales Tax (SPLOST) in March 2011 to provide \$492 million for projects affecting transportation, parks and recreation, county facilities and public safety.

Cobb County needed a cost-effective way for citizens to easily access the latest information available about projects that are part of the 2011 SPLOST program – information such as location, budget, expenditures to date, start and end dates, public notices and contact information for project managers. Depending on the county department, project information was available only in computer spreadsheets or other applications. In some cases, a system needed to be created to hold a department's project information. It almost goes without saying that funds for developing a technology solution were extremely limited, so Cobb County's Information Services Department was determined to use existing, in-house resources to keep costs at a minimum.

Solution:

Beginning In January 2012, Information Services partnered with other county departments to create online fact sheets for each project and an interactive GIS web map. Information Services also deployed a 2011 SPLOST application for mobile devices. Since June 2012, Cobb County citizens have had convenient access to the latest information about the various projects through the web and their mobile devices.

How:

Web-based project fact sheets were developed in Visual Studio 2010, and an interactive GIS web map of SPLOST projects was developed and is presented through GeoCortex Essentials, Cobb County's web-based mapping system. Fact sheets for each project are dynamically linked to various departmental data management systems so they display the most up-to-date project information possible. Users can find links to lists of projects by type (i.e. transportation, parks and recreation) on the 2011 SPLOST website. After

selecting the type of project, users can access fact sheets for specific projects from a drop-down menu. They can also link to the county's interactive GIS web map of SPLOST projects and access fact sheets for specific projects while viewing the map.

Cobb County citizens do not need to contact a county department by e-mail or telephone to obtain information about projects of interest to them. As a result, communication with the public has been greatly enhanced, and calls to county departments concerning SPLOST projects are minimal. Linking fact sheets to the interactive GIS web map enables users to visualize SPLOST projects countywide and in their neighborhoods. Users can search for specific projects, conduct a variety of analyses, and produce reports and maps of SPLOST projects that can be easily shared with others.

The fact sheets and GIS web mapping were developed entirely with county resources, and no new technologies were acquired. They have led to other transparency initiatives in the county and created a better citizen/government relationship by setting a new standard in delivering timely information to the public.

Benefits:

- Communications with citizens have been enhanced.
- Calls handled by county employees have been reduced, allowing employees to focus on other activities.
- Citizens can review projects that directly affect them.
- Citizens can produce their own maps.
- Citizens can produce their own reports.

IT Governance

The state continues to improve IT governance.

During FY2013, the state is making significant progress in the governance of its technology enterprise. There is still progress to be made in how the state makes decisions about technology investments. Many times decisions are reached without adequate information to understand the potential costs, risks, and impacts of new technology solutions. We have worked to ensure that investments are implemented efficiently, but we now need to focus on whether those investments deliver the services and benefits needed by the state.

GTA is working with business and technology leaders in state agencies to improve their collaboration. Our goal is to make sure these leaders are at the table together when making decisions about strategic directions for service delivery and new investments. We are eliminating barriers to their collaboration. We are shifting the thinking and focus from "how to keep the lights on" to enabling business services with technology. One recent example is where individual agencies invested in time-tracking software. After seeing the patterns emerge, agencies working together were able to find a collaborative, enterprise approach that will save all agencies dollars in future support costs, while providing an easier and less-costly path for other agencies that want to take advantage of the enterprise solution.

Going forward, the state needs to improve its management of the business applications supporting critical agency services. Agencies invest more on the development and support of their business applications than any other category of technology expenditures. However, the evidence points to a lack of adequate lifecycle management. We need to do a better job of system lifecycle planning upfront for new systems, upgrades to existing business applications, and even their eventual retirement or replacement.

A strong governance program for the state's IT enterprise will ensure the best decisions possible are being made about investments in both technology infrastructure and services in support of the business and Georgia's citizens.

Strategic Planning

Georgia has a strategic planning process where IT investments are aligned with the state's strategic goals.

The goal of IT strategic planning in Georgia is to identify opportunities and needs, and to provide a path for change in the way agencies provide services to citizens. The state does this by facilitating a better understanding of the role of IT in supporting change, and assuring that decision makers at all levels have the information necessary to make strategic decisions.

Knowledge of agency business is critical to understanding how IT investments link to business results, such as productivity gains, reduced costs, job performance and citizen services. IT strategic planning is essential for responsible and efficient government in Georgia, and it is even more important to sustain the gains achieved through previous investments.

Strategic Planning for Georgia

How strategic planning works in Georgia.

In Georgia, agencies are guided by the policy imperatives formally captured in the Governor's Strategic Plan for Georgia. The Governor's plan describes specific goals to help make Georgia a better educated, healthier, safer, more mobile, growing state with a responsible and efficient government.

View the Governor's [Strategic Plan](#).

GTA recognizes that agency business objectives drive IT needs. While GTA is responsible for providing policies, standards and guidelines that address the needs of individual agencies, it is also charged with overseeing the state's entire IT enterprise to ensure the maximum benefit possible accrues to the state as a whole. We strive to understand the business needs of agencies so that our guidance helps leverage state IT resources effectively.

Strategic Planning Results for FY 2013

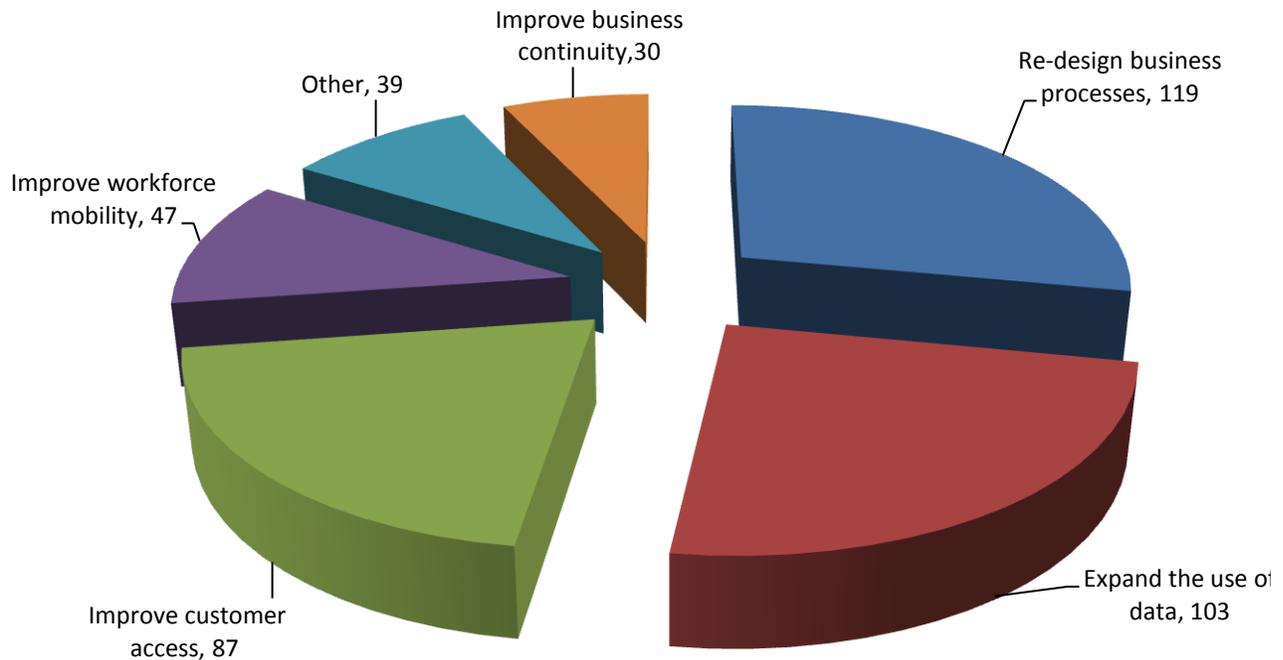
The largest drivers are in agency process changes or new services.

During the FY 2013 strategic planning process, every state agency was required to submit a strategic plan to OPB. For every strategy in the plan, the agency indicated whether it depended on IT for success, and if so, how IT would be used. Of the 800 strategies reported to OPB, about half were identified as IT-dependent, which means they would not be successful without the use of information technology. IT was identified as being used primarily to:

- Redesign business processes
- Expand the use of data
- Improve customer access
- Improve workforce mobility
- Improve agency business continuity

Agency Strategies Dependent on IT

(In FY2013 Strategic plans, about 400 strategies show IT dependence)



Enterprise IT Strategic Planning Summit

GTA holds a joint strategy summit with OPB to gain a better understanding of agencies' strategic objectives.

To gain a better understanding of how agencies' strategic objectives depend on information technology, GTA hosted an Enterprise IT Strategic Planning summit in conjunction with OPB. Business and technology leaders and strategic planners from all agencies were invited to the one-day summit. In the morning, GTA brought in speakers to provide important information about the state's demographics, the future of technology relative to Georgia and the use of technology in Georgia businesses. In the afternoon, agencies separated into focus groups based on which of the Governor's policy areas their agency most closely aligned.

The purpose of the summit was to:

- Share the importance of achieving Georgia's state strategic goals
- Share a vision of Georgia today and in the future
- Share a vision of how technology can make Georgia policy areas more efficient
- Identify business priorities, relative to the Governor's strategic goals, from agency business leaders and likely supporting technology from IT leaders
- Increase agency business leader participation in enterprise IT strategic planning
- Determine how the needs of different agencies overlap

- Identify areas where technology assets can be leveraged across the enterprise, across policy areas or among agencies
- Identify areas where new technology can support innovative business processes
- Establish a shared, comprehensive view of how emerging technology is enabling other similar businesses
- Define a shared priority for strategic enterprise technology for upcoming years

As a result of the work in the summit breakout sessions, GTA was able to determine the number of agencies that used each of the following high-level strategies to achieve their objectives. These represent areas with the potential for enterprise solutions.

Enterprise-spanning Strategies

Agency Count

- Data Management 19
- Web Services 19
- Document Management 17
- Mobile Workforce 13
- Information and Training 10
- Time Tracking 4
- Grant Management 3

The table below shows which agencies felt the high-level strategy was important enough for their agency to commit time and resources to it.

Count of agencies spanned:						
19	19	17	13	10	4	3
Data Management	Web Services	Document Management	Mobile Workforce	Info and Training	Time Tracking	Grant Management
CJCC	BPSTC	BPSTC	CJCC	DBHDD	DBHDD	DBHDD
DBHDD	CJCC	CJCC	DBHDD	DCH	DCH	DHS
DCH	DBHDD	DBHDD	DCH	DHS	DHS	DPH
DCSS	DCSS	DCH	DDC	DJJ	DPH	
DDC	DDC	DDC	DHS	DOC		
DDS	DDS	DHS	DJJ	DPH		
DHS	DHS	DJJ	DOC	GBI		
DJJ	DJJ	DNR	DPH	GPSTC		
DNR	DNR	DOAS	DPSTC	OCA		
DOAS	DOC	DOC	GBI	PAP		
DOC	DOH	DOL	GPSTC			
DOL	DOL	DPH	OCA			
DPH	DOR	GBI	PAP			

GBI	DPH	GPSTC				
GPSTC	GBI	OLA				
GVRA	GPSTC	PAP				
OCA	GVRA	SRTA				
PAP	OCA					
SRTA	OLA					

Spring Technology Summit 2013: Georgia Runs on Data

GTA hosts a summit on using data to support informed business decisions.

On May 6, 2013, GTA hosted its second annual Spring Technology Summit: Government Runs on Data. About 150 representatives of state and local government attended the day-long summit at the Georgia Tech Global Learning Center. The event was aimed at preparing agencies to best manage their data to support informed business decisions, and to handle that data safely and securely.

IBM's Tim Paydos led off the day with a session about big data and what it means for government. During the luncheon, Curtis Carver Jr., Ph.D., Vice Chancellor and CIO of the University System of Georgia, discussed opportunities to transform a business or agency through data analytics while balancing real threats and available security mechanisms. Breakout sessions throughout the day offered attendees the chance to explore a variety of facets of data management.

About one-third of participants completed event surveys, and the result was positive. About 96 percent reported that they were pleased with the knowledge they gained about using data to make informed business decisions in state and local agencies. Attendees at the summit were challenged to make fuller use of their data and to collaborate with other state and local agencies in this regard to better serve the needs of Georgians.

Collaboration

State agencies continue to collaborate on IT.

The private sector continues to offer an increasing number of innovative, online services to its customers. These services benefit customers by providing greater convenience and speed of service delivery, and it's less expensive for businesses when customers take advantage of these self-service options.

Citizens increasingly expect this same level of customer service from state government. Meanwhile, the historic pressures on agency budgets are leading to greater pressures on technology to support more cost-effective ways of doing business. Unfortunately, barriers in the state's IT enterprise must be overcome before these expectations can be met.

One of the first barriers – an out-of-date, insecure and unreliable IT infrastructure – is being addressed by the Georgia Enterprise Technology Services program.

Consolidation is leading to "IT as a utility" in state government. Freeing agency IT staffs from "keeping the lights on" will enable them to focus on greater integration and data sharing among state agencies – a second barrier to innovative service delivery.

Examples already exist, but far more remains to be done. Getting agency heads and agency IT staffs to work together as strategic partners is a third barrier to innovative service delivery.

GTA launched an initiative in 2010 to improve the integration of agency business planning with agency technology planning. Two councils were formed – one for agency chief information officers and another for agency business leaders. GTA worked with the councils to identify gaps in how technology and business work together within their respective agencies. Business and technology leaders are following a set of activities to improve their collaboration while GTA is monitoring their progress and providing assistance as needed.

Our goal is to make sure business and technology leaders are at the table together when making decisions about strategic directions for service delivery. This level of integration and collaboration will go a long way toward providing Georgians with the fast, reliable and convenient services they expect and deserve while constraining the cost of delivering those services.

Broadband

GTA's broadband program is supporting a number of important initiatives.

GTA received a \$5.2 million grant from the U. S. Department of Commerce in 2009 to fund broadband infrastructure analysis, regional planning, and capacity development projects statewide through 2014. The grant enables GTA to collect detailed broadband deployment information by private- and public-sector entities throughout Georgia every six months and to assist private and public entities with broadband-related technology planning and utilization. Information on the program is available at <http://digital.georgia.gov/map/>.

GTA's broadband program has used the funding and technology resources to support Georgia initiatives by:

- Providing funding and technical support for the development of

regional digital economic strategies in partnership with Georgia's 12 regional commissions and the Department of Community Affairs to increase technology-based economic development

- Providing funding and technical resources for the Department of Community Health (DCH) to develop the requirements and a business case to support deployment of telemedicine to all 159 counties in Georgia
- Providing funding for the development of broadband management tools for 12 regional commissions through a partnership with Georgia Tech and Georgia K-12 districts
- Identifying healthcare entities without access to broadband for remediation as DCH moves services online
- Providing advisory services to the Department of Public Safety and the Georgia Emergency Management Agency as the state begins to plan for FirstNet, the upcoming national public safety broadband network

In addition, GTA has worked with broadband service providers, residents and small businesses throughout the state to identify and address coverage gaps. GTA is currently analyzing the FCC's Universal Service Reform program and meeting with industry representatives to understand what the state can do to help the primarily private telecommunications industry thrive throughout rural Georgia and deliver services that provide Georgia with a competitive economic development advantage.

Broadband service availability continues to increase primarily through investment in wireless expansion, with the largest change consisting of wireless 4G rollouts. Georgia's unserved population for broadband service availability has decreased more than 50% since 2011.

Going forward, GTA's broadband program plan will focus funds and resources to:

1. Integrate projects and outcomes with priorities, goals and strategies of the state
2. Develop information and capabilities to use project outcomes for economic development
3. Collaborate with, leverage and enhance existing public- and private-sector investments in programs for increasing broadband supply and demand
4. Identify and promote Georgia's innovative use of broadband services and applications

Spectrum Management

Public safety radio spectrum is a critical asset of the state.

Spectrum management involves planning, coordinating and managing the joint use of the public safety radio frequency spectrum through operational, engineering and administrative procedures. The objective of spectrum management is to enable mission-critical radio communication systems to perform their functions in the intended environment without causing or suffering unacceptable interference.

Value to the State

The 9/11 and Hurricane Katrina commission reports unanimously agreed that additional spectrum and better management of the public safety spectrum would go a long way in solving the interoperability issues faced during these or any future disasters. The recent passage of the "Middle Class Tax Relief and Job Creation Act of 2012" addresses the additional spectrum requirement, but there continues to be a need to manage, especially at the state level, new and existing spectrum to ensure maximum utilization and to avoid any interference issues.

Georgia's Spectrum Management

GTA oversees, manages and processes over 12,000 Federal Communications Commission (FCC) licenses, applications and queries annually. GTA's spectrum management group focuses on supporting the radio frequency needs of both state and local public safety agencies, ensuring compliance with state plans and federal regulations, and processing and validating FCC license applications prior to their submittal to the FCC. GTA is an active member of and works closely with the Association of Public Safety Officers (APCO) and the Region 10 (Georgia), 700 and 800MHz Regional Planning Committee (RPC) to ensure adherence to their plans and requirements.

The following is a list of state and local agencies that utilize **GTA's spectrum management services.**

- Department of Agriculture
- Department of Corrections
- Department of Human Services
- Department of Juvenile Justice
- Department of Natural Resources
- Department of Public Safety
- Department of Transportation
- Georgia Bureau of Investigation
- Georgia Forestry Commission
- County and city public safety agencies throughout Georgia
- Public safety agencies at university and technical schools

Federal Regulations

FCC licenses authorize public safety agencies to operate their mission-critical radio communication systems on designated public safety frequencies. These radio communication systems are used by 911 and emergency dispatch centers to dispatch public safety, fire and emergency medical personnel to life-threatening incidents or assist public safety officers in car chases that involve multiple jurisdictions. Without a FCC license, public safety agencies cannot operate their mission-critical systems and face heavy fines and/or penalties if they operate them without a license. The great danger occurs when an unlicensed public safety agency tries to operate a radio communication system that interferes with an adjacent or co-channel public safety user, which could make the adjacent or co-channel system completely inoperable.

2013 Activities

The following projects and activities were completed during FY 2013:

- Led and assisted state and local public safety agencies in meeting

federal narrowband and re-banding requirements; the mandates impacted all public safety agencies in Georgia

- Processed over 8,500 FCC applications and inquiries from both state and local public safety agencies throughout Georgia
- Consulted with over 100 state and local public safety entities in the planning and licensing of new or expanded radio systems
- Assisted the Georgia Ports Authority in the design and licensing of its wireless container tracking system

Projects still in progress include:

- Redesigning, implementation and relicensing of the forestry commission's statewide radio repeater system
- Reconfiguring and redesigning of Corrections' radio systems to compensate for coverage losses incurred as a result of the federal narrowband mandate
- Coordinating and working with adjacent states (Florida, Alabama, South Carolina, Tennessee and North Carolina) to identify public safety interoperable frequencies that can be used by the adjacent states during an emergency or disaster
- Revamping, redesigning and relicensing of the public safety frequency plans for the Board of Regents and the Technical College System of Georgia
- Redesigning and licensing of Public Safety's and Natural Resources' statewide frequency plan

Geographical Information Systems

Geographical Information Systems (GIS) enhance our ability to visualize spatial data and make better decisions.

Geographical Information Systems (GIS) operations across the state are currently decentralized with limited enterprise oversight and/or assistance. In 2014, GTA plans to support agency GIS program leaders through the creation of enterprise data management policies, standards and guidelines as needed to encourage cross-program data and resource sharing.

Here are some examples of state agency GIS programs:

Georgia Department of Transportation (GDOT)

GDOT is a large user of GIS. The agency supports 360 internal desktop users and over 65,000 annual unique visitors accessing GIS applications. Internally, GIS is used to collect, process and distribute geographic data to other agencies, business partners, local governments and researchers. Additionally, GDOT staff use GIS for mapping and data analysis for project planning, environmental reviews, emergency management, construction materials, traffic operations, safety analysis and asset management.

GDOT uses GIS to provide information on the state's transportation system through the online application GeoTRAQS (<http://www.dot.ga.gov/informationcenter/maps/geotraqs/Pages/default.aspx>). This award-winning application enables visitors to search for construction projects, permits, crashes and bridge information in their community. Records link to documents, photos and plans associated with GDOT activity. GeoTRAQS improves agency transparency and customer service with everyone accessing the same information. Implementing the application eliminated duplication and reproduction costs (about \$400,000 per year)

previously expended in providing information to the public and project contractors. On average the site receives 4,000 unique visits per month.

GeoTRAQS now provides extended Adobe GeoPDF capabilities with the free TerraGo Toolbar (<http://www.terragotech.com/products/field-data-collection/terrago-toolbar>) to navigate, markup and export geographic data.

GeoTRAQS is also linked to a GIS data clearinghouse portal (<http://geoportal.dot.ga.gov/geoportal/catalog/search/browse/browse.page>) to search, browse and access GDOT GIS data. This enables GDOT to provide GIS data and services directly to local governments and the public. It also facilitates the publishing of metadata to state and national portals such as Data.gov for access by a larger audience, and it eliminates agency dependence on the legacy Georgia GIS Clearinghouse (<https://data.georgiaspatial.org/login.asp>).

GDOT developed the Emergency Operations Center GIS application to help track the impact of emergencies and disasters on the state's transportation system. GDOT maintenance staff mark roads as being passable, treated or closed. Traffic and speed sensors indicate congestion based on events. The application has eliminated the inefficient process of rolling up spreadsheets and word processing documents, which were previously used in each of the GDOT districts to track activity. Data is also highly visible to all GDOT staff on the web. To facilitate the coordination of the state's response to emergencies, information from GDOT's GIS application is shared with workers at the State Operations Center through the Georgia Emergency Management Agency's GODAWGS application. The application time-stamps the data to allow for post-event playback analysis; as a result, the state can make improvements to its future responses. Enhancements enable tracking and reporting on multiple events and bridge closures and inspections. In addition, local governments are able to use the application during an emergency.

Another GDOT application, Georgia STARS (<http://www.dot.ga.gov/informationcenter/Statistics/stars/Pages/default.aspx>), provides citizens and business developers with traffic counts, which helps communicate annual traffic trends at a specific location (<http://www.dot.ga.gov/informationcenter/statistics/stars/Pages/TrafficCounterDetails.aspx?county=089&tc=3276>). Providing data on the web instead of requiring the public to visit or call a GDOT office enabled GDOT to reduce staffing at its call center to one person while improving customer service. There are approximately 2,400 unique visitors per month to the Georgia STARS website.

Department of Public Health (DPH)

DPH operates OASIS (Online Analytical Statistical Information System) (<http://oasis.state.ga.us>), a public-facing web application that offers tools for analyzing public health data, which is important for setting health priorities, conducting analyses and developing health policy. OASIS consists of a web query, a mapping tool that includes tract-level data, an animated charting tool and a community health needs assessment dashboard.

Data Lifecycle Management

GTA will collaborate with agencies to implement a Data Lifecycle Management Framework.

Constituent data is the most valuable asset of a service-provisioning agency. Not only must the data be protected from unauthorized external access, it must be safeguarded and managed in a manner that ensures the data artifacts are used only for state business purposes.

According to Gartner, **Data Lifecycle Management** is the process of managing business information throughout its lifecycle, from requirements through retirement. The lifecycle for data crosses different application systems, databases and storage media. The cycle is made up of phases of activity including Create, Use, Share, Update, Archive, Store and Dispose. Management best practices indicate a need for each phase to be governed by a framework that provides for the most effective enterprise business decisions.

GTA intends to collaborate with agencies that provide services directly to constituents to implement a Data Lifecycle Management Framework that is appropriate for the state government enterprise.

Data Sharing

Georgia is unique among states in having an enterprise process and technology for seamlessly exchanging data among agencies.

In 2002, GTA created a "web portal" environment for use by many state agencies. The environment includes an integration function that supports data feeds from one application to another, no matter which agency or platforms are hosting the applications. Using webMethods, this function was implemented with middleware to provide what is called the Enterprise Service Bus (ESB). The intention is gradually to replace direct application-to-application connections with connections through the ESB, which allows "any to any" connectivity regardless of the age, format or complexity of the systems or applications involved.

Information **technology benefits** offered by ESB include:

- Less agency development effort
- Information published in any format
- Decreased number of interfaces needed by each exchange partner
- Rapid response times to meet changes

Business benefits include:

- Increased automation of manual business processes
- Shared business processes across the enterprise
- Faster access to data
- Reduced staff costs

Organizational benefits include:

- Reduced FTE resources

- Visibility into data being produced or consumed
- Compliance with government and industry regulations
- Single point of contact when multiple exchange partners are involved
- Easier access to new opportunities

Benefits to constituents include:

- Faster processing of claims, requests, reports and status
- Faster retrieval and assembly of data sources from multiple agencies to serve a single business function for a single agency
- Faster online experiences

GTA **Data Sharing as a Service** provides:

- Operational infrastructure
- Standards
- Architectures
- Policies
- Operational processes
- Licensing
- Publish and subscribe access to data
- Technical consultation

GTA manages directly the integrity of the operational environment and connection points. More than 900,000 transactions are handled daily by ESB, involving more than 20 government and third-party business partners, and spanning law enforcement, judicial, health and human services, educational and financial business towers.

The **main benefits** of the Data Sharing Service include:

- Providing a non-complex means to connect agencies, which leads to increased data sharing opportunities and improved efficiency of data exchange between agencies
- Decreasing statewide system complexity by offering a central integration infrastructure rather than many separate systems connected independently
- Improving system security by layering standards-based tools according to prevailing security needs and requirements
- Containing costs by allowing the ESB middleware to absorb common development tasks and provide the tools and software needed to accomplish common agency business processes tied to data processing and data exchanges

Enterprise Portfolio Management

Enterprise Portfolio Management helps reduce risk and deliver beneficial outcomes.

The state is building project management expertise.

Reducing Risk

GTA's Enterprise Governance and Planning (EGAP) organization provides a staff of highly skilled and experienced professionals in various technology management areas. The primary objective of EGAP has been to promote industry-leading best practices in the form of policies, standards and guidelines and then to support compliance within the agencies. This is done in conjunction with pursuing the GTA objectives of improved maturity and practices in technology and portfolio management across the state enterprise. In this federated model, the challenge has been in collecting enough information and knowledge about the agencies' businesses in order to provide meaningful solutions and improvements. When there are opportunities for enterprise IT decisions, those decisions typically come from some combination of the Governor's Office, the State CIO, the Office of Planning Budget, the legislature and/or participating agencies.

In the absence of central IT decision-making, EGAP is changing its engagement model and "value proposition" with agencies. EGAP is utilizing its experienced personnel to engage with agencies to solve problems while building its knowledge of the environment. This knowledge base will provide a common foundation for joint decision-making and will drive more analytical decisions within the state. The following services are currently offered.

Assessments (Project, Program, Application)

GTA reviews agency projects, programs or applications and assess their ability to meet business needs.

Governance Support (Project, Program, Application)

GTA provides guidance for agencies in developing governance structures for projects, programs and applications.

Investment Management Support

GTA assists agencies through the Initiate and Planning phases of a project to help identify any potential problems before the project moves to the Build phase. We work with the agency business owners to understand their requirements, and identify and engage the appropriate GTA and/or infrastructure and network service provider resources to work with the agency throughout the procurement process.

Professional Development

GTA helps agencies build expertise in project management through the Professional Development Program. Courses are offered at no charge to state of Georgia employees through GTA's Enterprise Portfolio Management Office. Participants earn Professional Development Units (PDU) or Educational Contact Hours to satisfy PMP® certification requirements on all courses taken. Course descriptions and schedules can be found on the GTA web site at www.gta.georgia.gov/egap.

Project Assurance

GTA conducts an impartial assessment of a project to identify activities that

are critical to the successful delivery of the project. Most project assurance is provided through the Information Technology Project Assurance (ITPAS) contract.

Project Management Support

We assist agencies with the creation of project and program management offices. We guide agencies in managing projects or programs using tools, methodologies and other resources, and in establishing and managing their project portfolios.

Information Technology Project Assurance Services (ITPAS)

Project assurance provides guidance and counsel on the planning, execution and delivery of large, complex technology initiatives. With the introduction of the Enterprise Performance Lifecycle (EPLC) model and the need to broaden project assurance services, GTA established the Information Technology Project Assurance Services (ITPAS) contract with eight pre-qualified contractors to provide Independent Verification and Validation (IV&V) for technology projects costing more than \$1 million, Project and Strategic Planning, Business Process Management and other project-related services.

In addition to IV&V, the ITPAS contract provides other services such as Planning, Business Process Re-engineering and Management, and Business Continuity/Disaster Recovery. The contract helps agencies to more quickly meet needs that may require a Request For Proposal, which may take months to complete. Using the ITPAS contract can significantly reduce the time to procure a qualified contractor to deliver these services. During FY 2013, \$2.8 million in services were procured through the ITPAS contract, including \$1.7 million in IV&V services.

Georgia Enterprise Management Suite (GEMS)

GTA implemented a new Enterprise Project Portfolio Management (EPPM) tool in FY 2013. Called the **Georgia Enterprise Management Suite (GEMS)**, it tracks projects throughout their lifecycle and applies best practices and industry standards to aid in decisions about moving forward at various stages of a project. GEMS uses dashboard dials to depict various indicators of a project's health, including schedule, budget, risk, issues, community and quality. Data is gathered from questionnaires completed regularly by stakeholders, such as project team members, business owners and agency executives. The result is greater insight into the performance of projects, programs and portfolios within the state of Georgia. In FY 2013, all projects reporting to the Critical Project Review Panel were using GEMS for their monthly reporting.

EPPM is the practice of taking a more integrated and top-down approach to managing all project work across an enterprise. It involves a combination of tools, business practices and processes that enable organizations to manage projects as a strategic portfolio, thereby ensuring the alignment of programs and projects with organizational objectives.

State Annual Report Register (STARR)

In FY 2013, GTA implemented a new tool to collect information from the agencies for the State Annual Information Technology Report. The new application, called **State Annual Report Register (STARR)**, is web-based and uses questionnaires to collect IT-related data such as application inventory, business continuity, IT expenditures and security compliance. The

Project Assurance provides independent verification.

Portfolio management software tracks projects throughout their lifecycle and applies best practices.

STARR application aggregates questionnaire responses for each agency and provides more reporting information to the agency than in the past. The information can also be aggregated by policy group, selected agencies or at the state enterprise level. STARR promotes consistency in the reporting of agency information.

Project Management Development Program

GTA's Project Management Development Program allows the state to increase the competency of state project managers while holding down costs and reducing risks on state IT projects.

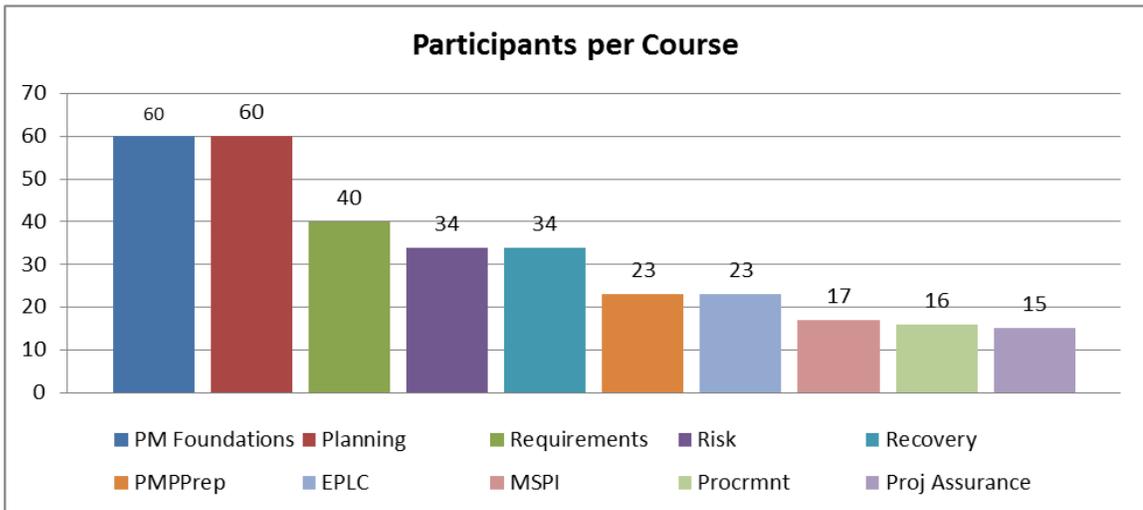
GTA's Project Management Professional Development Program continues to be enthusiastically accepted by state agencies and their personnel. In January 2013, the program added four new courses as well as the Georgia Certified Project Manager (GCPM) and the Associate Project Manager (APM) certification programs, which are integral to advancing the project management and leadership competencies for all state agencies. GTA's overarching objective for the program is to achieve a business-focused project management practice across state government.

Participation levels in the certification programs and the professional development courses remain high, and interest continues to rise. There were 66 individuals from 19 agencies participating in the certification programs in FY 2013, while 322 individuals across 17 agencies were participating in the professional development courses. The agency business community is demonstrating a desire to understand project and portfolio management in a way that will enhance their ability to meet the agencies' business objectives and constituent needs.

Professional Development Courses

The purpose of the Project Management Professional Development Program is to enhance and increase the competencies of project managers within Georgia state government. This is being accomplished by concentrating on development initiatives that are based on industry best practices, standards and processes. The program supports 15 courses designed to build the project manager and personal attribute competencies described in the Competency Framework. Participants are tested in each course on their understanding and knowledge of course objectives.

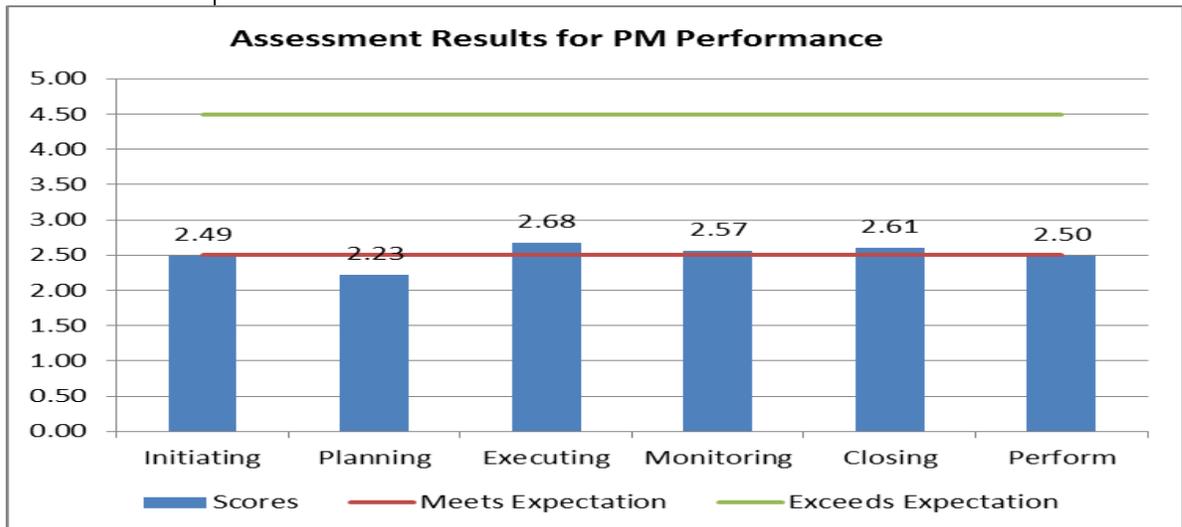
Four new courses were included in the offerings this year, along with the PMP Exam Preparation course, which is licensed from TenStep, Inc. The PM Foundations and the Planning courses continue to have the highest attendance. There were three sections offered for these two courses due to the high demand. The new offerings experienced a high attendance, particularly the Requirements class. The remaining new courses are full, and we expect similar attendance results for these courses as well.



Certification Programs

Competency Evaluations

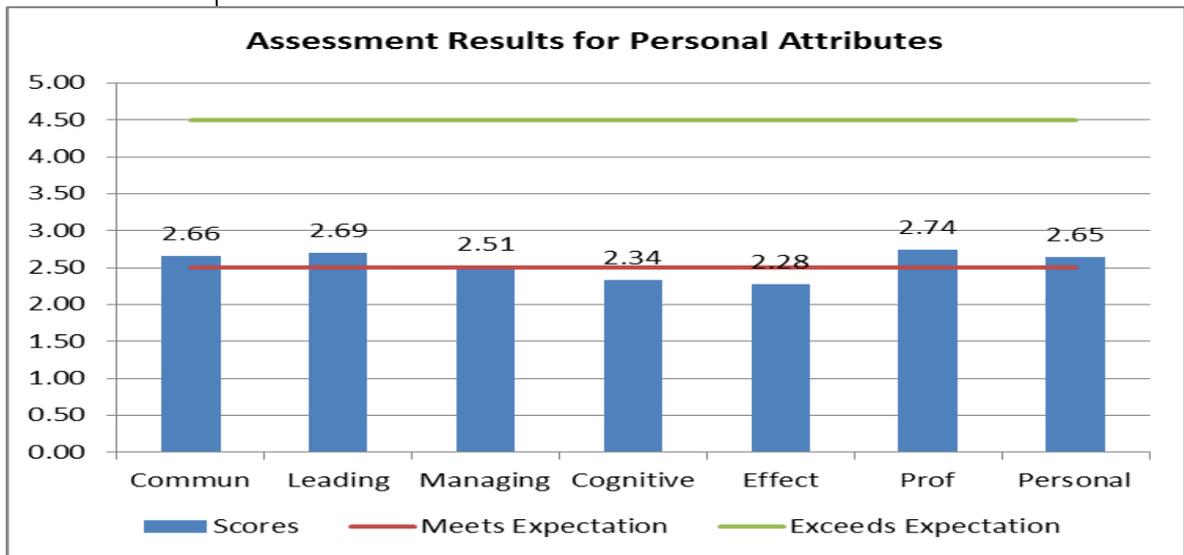
The programs track two levels of project management competency: project management performance and personal attributes. When participants enter the program, they complete a self-assessment in these two competency categories. These assessments are used to capture a baseline for the participant to gauge improvement over time in the competency categories and are only seen by the participant and the program director.



The program uses the Project Management Competency Framework developed by the Project Management Institute (PMI®) as the basis of its assessment. The scores of the current participants are combined to determine the overall assessment averages for each category.

Initial results indicate that on average, the participants are just below or just

above competency expectations in the project management performance competencies. Participants score slightly higher in the personal attributes competencies.



These results indicate a solid justification for a project management development initiative and its continued support. State of Georgia project management competencies are in need of improvement at least as indicated by this initial assessment of program participants.

Georgia's Information Security Program

Cybersecurity continues to be a high priority for the state.

Each Georgia agency is charged with providing appropriate information security for the information and information technology used to support that agency. In this section, information security will be referred to as security. Information security is the protection of information's confidentiality (improper disclosure), integrity (improper modification or deletion) and availability (available when needed), with these characteristics commonly referred to as the CIA of security. This means there are dozens of operational security programs across the state, with GTA's Office of Information Security (OIS) acting as the state's central security program. In this role, OIS works with the GTA Board of Directors and GTA's Executive Director (who is also the state CIO) to establish technology security standards and services to be used by all agencies. This responsibility is derived from O.C.G.A. § 50-25-4(a)(21) (2013).

In this role, OIS has sought for its security efforts to be both efficient and effective for the state. For example, it has "borrowed" much of the risk management framework created by the National Institute of Standards and Technology (NIST) in support of the Federal Information Security Management Act of 2002 (FISMA). This step aligns the state's security requirements for all state agencies with the federal requirements that apply to many of the state's agencies. This avoids the duplication of effort that might be required when following two or more security frameworks, and it allows the focus to be placed on actual security measures.

FISMA's primary focus is to plan for a system's security needs from its inception to its decommissioning. It attempts to identify the risks associated with a system and to prioritize security measures based on the risks they address. It also allows the prioritization across systems based on the potential worst impact of a security incident. Within Georgia it is the responsibility of each agency to plan for, fund, implement and operate the appropriate controls for each of its IT systems. In security a control is a safeguard or countermeasure used to protect the information. NIST breaks these down into management, operational and technical classes, and each class has multiple families, such as contingency planning.

OIS also offers services and training to assist agencies with their security programs. In cooperation with the University System of Georgia (USG) Department of Information Security, OIS has developed training opportunities for state staff who are responsible for an agency's security program. This training consists of several three-day classes offered by USG and another series of half-day workshops offered directly by OIS. The classes and workshops target the various roles and duties within the security departments, and the classes qualify for continuing education credit.

GTA's Office of Information Security provides multiple services to the agencies.

OIS also offers the following services:

- Advanced cyber threat identification and characterization in cooperation with the state's Fusion Center, the Multi-State Information Sharing and Analysis Center (MS-ISAC), and the U.S. Department of Homeland Security
- Computer Emergency Response Team and Forensics services to support state agencies
- Information system vulnerability studies and analysis
- Consultation on security matters of concern for the agency
- Access to pre-approved security vendors who are already under

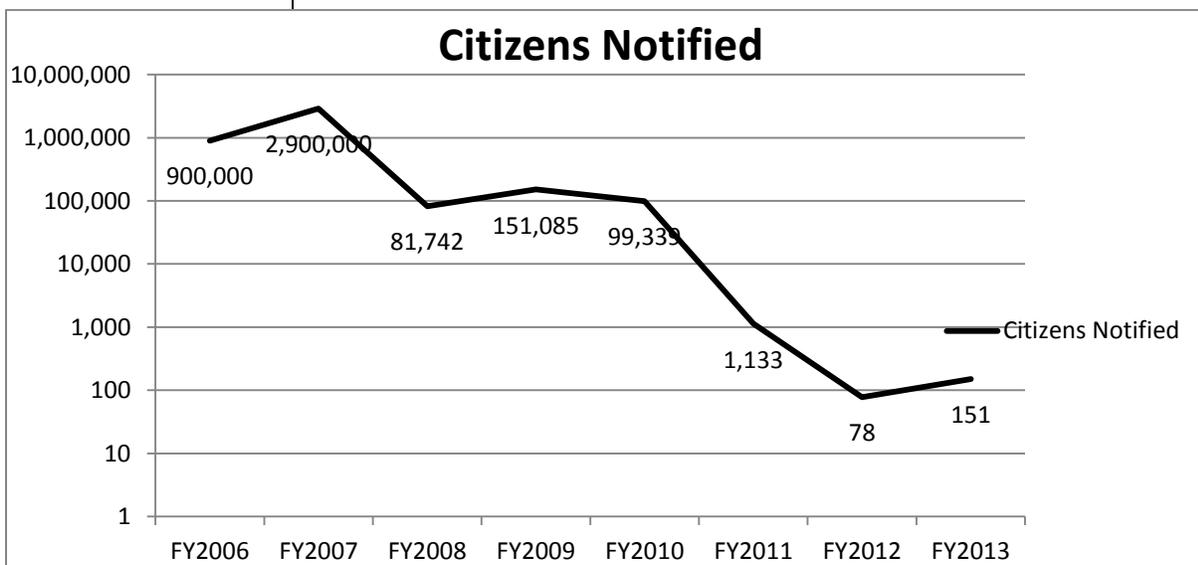
- contract to provide for-cost security services
- Reviews of agency security programs

OIS also acts as the state’s representative to various security organizations and disseminates security information to the various agencies. Some of those external organizations are various agencies of the federal government, MS-ISAC, the National Association of State CIO’s Information Security and Identity Management Working Groups, and other states and territories.

How are Georgia’s state agencies handling security?

The Current State of Security

Most state agencies participate in GTA’s security program (but some don’t for various reasons). The program provides a standardization of processes and measures that has allowed GTA to measure each agency’s progress in implementing the FISMA framework. It is important to remember that FISMA became law for federal agencies in 2002, and it has taken nearly a decade for many federal agencies to implement it. GTA adopted FISMA as Georgia’s model in 2008, and while agencies have worked to implement it, budget constraints require that agency leadership balance this priority with other state and agency priorities.



Note the vertical scale is logarithmic to show detail)

With those constraints, one measure has shown remarkable progress. In a press conference in December 2007, then-Governor Sonny Perdue stated, “Today, I can’t even assure Georgians that we have the basic, essential security and disaster recovery levels worthy of a 24-hour-a-day, 7-days-a-week operation serving the needs of over nine million Georgians.” One reason for the Governor’s statement is shown in the above chart. Whenever a state agency potentially exposes confidential information to an unauthorized person, they are required to notify those impacted citizens. This is so the citizens may take steps to protect themselves against identity fraud or other adverse impacts.

Under Governors Perdue and Deal, an emphasis has been placed on the efficient and effective operations of IT. Security is now provided on a 7-days-

a-week by 24-hour-per-day basis by the GETS program. This emphasis has included upgrading the state's security to detect exfiltration of state information, and as the chart shows, there has been great improvement. During the two years prior to Governor Perdue's announcement, over 3.8 million people were notified by state agencies. In the six years since the press conference, 333,528 people received notifications. Also, most of the recent notifications are not IT or hacker related.

Besides the number of required notifications that occurred during a given year, the agencies also report other information about their overall security program and system-specific information for each system operated on their behalf. These systems may be operated by the agency's IT staff, outsourced to the GETS program or outsourced to some other service provider. From a security responsibility perspective, that doesn't matter. Each agency is responsible for the security of its information and its information systems.

The following 52 agencies reported their security information for FY 2013. This is a net increase of three agencies over FY 2012.

Criminal Justice Coordinating Council	Georgia Bureau of Investigation
Department of Administrative Services	Georgia Emergency Management Agency
Department of Agriculture	Georgia Firefighter Standards and Training Council
Department of Banking and Finance	Georgia Forestry Commission
Department of Behavioral Health and Developmental Disabilities	Georgia Ports Authority
Department of Community Affairs	Georgia Public Safety Training Center
Department of Community Health	Georgia Regional Transportation Authority
Department of Corrections	Georgia State Financing and Investment Commission
Department of Defense	Georgia Student Finance Commission
Department of Driver Services	Georgia Technology Authority
Department of Early Care and Learning	Georgia World Congress Center Authority
Department of Economic Development	Governor's Office for Children and Families
Department of Education	Governor's Office of Consumer Protection
Department of Human Services	Governor's Office of Highway Safety
Department of Insurance	Office of Planning and Budget
Department of Juvenile Justice	Office of State Administrative Hearings
Department of Labor	Office of the State Treasurer
Department of Law	State Accounting Office
Department of Natural Resources	State Board of Pardons and Paroles
Department of Public Health	State Board of Workers' Compensation
Department of Public Safety	State Road and Tollway Authority
Department of Revenue	State Soil and Water Conservation Commission
Department of Transportation	Subsequent Injury Trust Fund
Employees' Retirement System	Teachers' Retirement System

Where is the state focusing its security program?

OIS Focus Areas

GTA's OIS uses the statistics gathered from the agencies and the reviews of their security programs to develop areas of focus for OIS and new services for state agencies. Some of the issues that are evident are:

- Lack of threat intelligence for the state
- Weak governance of agency security programs with a lack of risk management processes
- Poor planning for the handling of security incidents, including the lack of or improper escalation

In addition, while infrastructure security has improved, there have been a number of issues with flaws in applications being exploited by attackers.

OIS has created a focus area for each of these and will work with the agencies to remove these issues.

How is Georgia handling threat identification?

Threat Identification

FISMA drove the creation of the FISMA risk management framework (RMF), but what does that mean? For years security was practiced as a set of absolutes. If it was possible for some bad incident to occur, it had to be protected against regardless of the cost. This is impractical for most organizations. The RMF focuses in many ways on the components of the risk equation: risk equals the probability of a threat exploiting a vulnerability and causing an adverse impact or $R = TVI$.

First, if any of these values doesn't exist, there is no risk associated with the other values. For example, if the impact is that the agency doesn't care, then there is no risk, and the agency shouldn't spend any money to detect the threat or remove the vulnerability. This is why security personnel must identify the worst case impact for each system (its impact categorization) for which they are responsible.

Traditionally, the next area of focus has been to remove all vulnerabilities from a system by "hardening" it. While this is a laudable goal, and it should be attempted, new vulnerabilities are discovered in systems with frightening regularity. Also, some vulnerabilities are difficult, expensive or impossible to remove from a system. This brings up the last component of the risk equation: the probability of a threat occurring to exploit a system's vulnerability.

Threat identification and analysis are required by the FISMA RMF, but is it practical for each state agency to hire and train its own threat identification staff? Cyber analysts are rare and usually expensive. They are also highly desired by the private sector and the federal government. Yet each agency must have a threat identification function in order for it to provide efficient and effective security for its information.

OIS already has a cyber threat identification and analysis function that it provides to the state's Fusion Center. This is a fairly new function for OIS,

and it has yielded advanced notice of pending attacks against state agencies and the state's critical infrastructure operated by the private sector. Along with identifying pending attacks, the cyber analysts create recommendations on how to block the threat or remove the corresponding vulnerability so that the risk is mitigated. These recommendations are distributed by the Fusion Center to the appropriate parties so they may use the intelligence to protect their information.

Having a central threat identification and analysis function removes this requirement from the agencies, and it better leverages the state's scarce resources. It also provides a focal point for communications with external parties who are conducting similar exercises. There are over 70 Fusion Centers across the U.S., and all are interconnected through the U.S. Department of Homeland Security (DHS). Thus our analysts are also able to leverage analysts spread across the country with coordination by DHS.

In the future, this function needs to grow and take in additional information sources, and it needs to develop automation in support of its processes. Many of the steps are currently manual, but automation allows for greater leveraging of scarce resources and processing much larger amounts of data.

Agency Security Program Improvements

Agencies continue to improve their security programs.

Often when people think of security, they think of antivirus software or firewalls, but strong security programs start with strong governance. Information security controls and the people who support them can be expensive resources, so it is important to plan for their efficient and effective use. Otherwise, money may be wasted, and information may be exposed.

At their heart, most security frameworks consists of the Deming Cycle: Plan, Do, Check, Act; and it requires iteration. The idea is to first plan what security controls are to be used. Secondly, do or execute the plan. The next step is to check to see if the plan yielded the desired results. Finally, act to determine the root causes of meaningful variances between the planned and actual results.

In the parlance of FISMA, the Planning Phase is embodied in the planning control family. It is where the owner of the system tells the implementers and operators what must be done for proper security. The Do Phase is where the controls are actually built or implemented and operated. The Check Phase is mostly the controls for the security assessments family, and the risk assessments family makes up a great part of the Act Phase.

Georgia's agencies are not used to this formalization of security governance and planning, but effective and efficient governance requires it. To that end, OIS's workshops (described above) have focused on security governance and the various steps required. The key artifact of the Planning Phase is the System Security Plan (SSP). The SSP describes the system and the controls necessary for its appropriate protection, and it is produced by the business owner of the system.

Agencies are asked to report on their systems each year. They categorize their systems based on their impact levels and report if they have a plan (an SSP) and if the implementation of the plan has been assessed by an independent third party (this is required for high-impact systems and optional for moderate- and low-impact systems).

The following chart shows the Major Systems totals for FY 2013:

Impact	Systems	Plans	Assessed
High Impact	52	24	2
Moderate Impact	233	107	34
Low Impact	147	26	9
Total	432	157	45

The terms above are defined in NIST Federal Information Processing Standard 199. The potential impact is high if the loss of confidentiality, integrity or availability could be expected to have a **severe or catastrophic** adverse effect on organizational operations, organizational assets or individuals. For moderate impact, substitute **serious** for **severe or catastrophic**. For low impact, the term is **limited**.

Within OIS, FY 2014 is the year of the plan. The target is to work with the agencies and have them develop plans for all of their major systems, starting with the high-impact systems followed by the moderate-impact systems. OIS would also like to have all of the high-impact systems evaluated by an independent third party to see if the goals of the SSPs are met.

For the systems within GETS, this is a fairly easy target. Those systems use the GETS-provided controls where applicable, and the owning agency only needs to document its portion of the controls. Also, GTA is in the process of having the GETS-provided controls evaluated by an independent third party.

Application Security

Another area of concern is the state of the state’s major applications. Many of these applications are old and custom-built, and the companies that developed them are no longer in business. Others are standard applications supported by existing vendors, but they have uncorrectable flaws that hackers attempt to exploit in order to penetrate the system. While GETS has focused on IT infrastructure operations, the applications that run on top of the infrastructure are still the sponsoring agency’s responsibility to secure. This division of responsibility is a major focus area for OIS.

OIS’s workshops also address the planning for an application’s security as a part of system security. Keep in mind that the official definition of a system is, “A discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information.” [44 U.S.C., SEC. 3502] This is interpreted to include both hardware and software, with applications being a classification of software. Thus when planning the security for an information system, the plan must include the applications that run on the system.

For new systems, OIS has integrated security steps, including the integration of the System Security Plan into the state’s Enterprise Performance Lifecycle, which is required to be used for all new systems. These steps require the agency’s security officer to work with the project team to integrate security considerations and controls into the system throughout its lifecycle. This is designed to avoid deployment of new systems until the security is properly planned and implemented.

Additional services offered to state agencies come in the form of security consulting, application scanning tools, and penetration testing services both from OIS staff and using commercial vendors under contract with GTA. Agencies using the GETS program also have access to a set of application

The security program addresses agencies’ applications.

What should agencies do in the event of a computer emergency?

scanning tools provided by the GETS vendors.

Computer Emergency Support

Unfortunately, security incidents do happen. NIST defines a security incident as, "A violation or imminent threat of violation of computer security policies, acceptable use policies, or standard security practices." This is a broad definition that includes such items as a malware infection, an attempt to guess someone's password and full blown hacking. Not all incidents are a breach, and different regulators have different definitions for a breach. In Georgia, we generally define a breach as a security incident where protected information was or is reasonably believed to have been accessed by an unauthorized person.

The point is that when a security incident occurs, a breach may not have occurred, but it may occur later as a result of the incident. It is important to plan how to handle security incidents so that breaches and other negative consequences may be avoided or minimized. To facilitate the proper handling of security incidents, each agency in Georgia is required to develop and maintain an Incident Response Plan (IRP). All IRPs are to meet criteria jointly developed by the Attorney General's Office, the Georgia Bureau of Investigation and GTA. OIS has a template for such IRPs, and all IRPs are to be on file with the State's Chief Information Security Officer, who manages OIS.

When an agency has an IT outsourcing arrangement, the IRP must also detail how the relationship is managed during an incident involving the outsourcer and who has the various responsibilities. Agencies must not let the outsourcer handle all aspects of the incident independently as the outsourcer may have different interests than the agency. For example, the agency should retain responsibility for approving all external communications regarding the incident. This is to ensure such communications meet all legal requirements and the agency's requirements.

To assist agencies, OIS has hosted workshops to work on IRPs. It also reviews all submitted IRPs and provides feedback to agencies requesting it. In the future, OIS will hold incident response drills to allow agencies to test the execution of their plans, much like a fire drill tests a building's evacuation procedures.

OIS also has services available to help with various types of incidents. One is its Computer Emergency Response Team or CERT (also referred to as a Computer Security Incident Response Team or CSIRT). OIS's staff can leverage emergency services available through the MS-ISAC and the U.S. CERT to assist agencies in handling significant incidents.

Another service to agencies is OIS's forensics capabilities. Once an incident has been managed, it is important to determine how the incident occurred and what steps need to be taken to protect from future similar incidents. OIS staff members have trained to determine how successful attacks succeed and how to remediate their root cause. Not all incidents are criminal, yet OIS follows procedures that assume the incident might be criminal in nature and that evidence must be preserved. This allows OIS to turn an investigation over to law enforcement should such escalation be appropriate.

Where is Georgia going with its security program?

The Future of Georgia's Security

Security responsibilities within our government are divided across agencies and sometimes service providers or outsourcers. GTA's OIS will continue to drive for stronger security governance with an emphasis on effective and efficient security for state information and the full implementation of the FISMA RMF within each agency.

In keeping with the areas of focus above, OIS plans to mature the threat identification processes and to work with agency IT staff on how to use the information provided. The more lead time provided to the agencies, the more time they have to deploy protective measures. OIS will include recommendations, but each agency has the best knowledge of its environment, and they retain the responsibility for protecting their systems.

OIS will also work with agencies to better understand how to develop secure applications and how to protect applications during operations. Most modern threats attack vulnerabilities at the application layer, and most attacks are against known vulnerabilities. Developing applications without those known vulnerabilities is a good start. However, each day new vulnerabilities are discovered. This requires each agency to monitor the discovery of new vulnerabilities and to test their applications for their existence. If its applications are vulnerable, the agency must decide what actions are appropriate.

To improve the state's preparedness in handling security incidents, OIS will conduct workshops to develop agency IRPs and test them using table top drills. Eventually, OIS would like to conduct a state cyber incident response drill, which is something similar to a fire drill. OIS will present scenarios to agencies in the form of cyber attacks and test how agencies respond in such situations. This type of test is considered the best practice for preparation for a security incident.

The final area is to improve the state's implementation of the FISMA RMF. OIS conducts Program Reviews for Information Management Assistance (PRISMA), which creates roadmaps of activities to implement FISMA improvements. These will continue with an emphasis on those agencies running high-impact systems. To understand why the security of these systems is important, Federal Information Processing Standard 199 adds the following statement to the definition of a high-impact system:

A severe or catastrophic adverse effect means that, for example, the loss of confidentiality, integrity, or availability might: (i) cause a severe degradation in or loss of mission capability to an extent and duration that the organization is not able to perform one or more of its primary functions; (ii) result in major damage to organizational assets; (iii) result in major financial loss; or (iv) result in severe or catastrophic harm to individuals involving loss of life or serious life threatening injuries (underline added).

Any business owner operating a high-impact system should document the risks presented by that system and either plan for the acceptance of those risks or for their mitigation. At its core, that is the fundamental risk management process in FISMA. Many state agencies are nearing this level of implementing the RMF.

This year OIS will provide a preliminary security report card (a progress report) to the leadership of each high-impact agency. Agency security report cards are an evaluation of an agency's security plans. Along with other documents detailing state security planning, they are protected from disclosure by OCGA § 50-18-72(a)(25)(A)(i) (2012) and should be kept confidential to avoid aiding persons attacking the state. OIS will explain the report card to agency leadership and assist with the future planning in any areas of need. Once all high-impact agencies have been addressed, OIS will work with the moderate- and low-impact agencies in a similar manner.

Some state agencies have unique situations that require them to have separate security programs that follow different standards and measures. This includes the Georgia Lottery Commission, who follows an industry standard for lottery security, and the Georgia Department of Defense, which follows the Federal Department of Defense's security standards.

GTA's statute also exempts from its powers the judicial and legislative branches of government as well as agencies headed by statewide elected officials other than the Governor. These organizations are asked to participate in GTA's Security Program at whatever level they wish, and GTA offers them the same services offered to participating agencies.

Business Continuity

Georgia has critical business functions that must continue to operate, even during an emergency.

So What is Business Continuity Management?

Business Continuity Management (BCM) is a framework for identifying an agency's risk of exposure to internal and external threats.

BCM's goal is to provide the agency with the ability to effectively respond to threats such as natural disasters, data breaches and cyber attacks, and to protect the business interests of the agency. BCM includes business recovery, disaster recovery, crisis management, incident management, emergency management and contingency/resiliency planning.

"Expect the best, plan for the worst, and prepare to be surprised."

Disruptions such as tornadoes, ice and snow storms and other natural disasters, violence in the workplace, pandemic, terrorist acts, cyber attacks and many other threats to "business as usual" are becoming more commonplace. If not anticipated prudently, these disruptions can and will be much more costly than necessary. Planning for the continuity and recovery of agency business operations is critically necessary and requires the involvement of all staff at all levels.

There is a general misunderstanding in state government today about the difference between Business Continuity and Disaster Recovery. We have a tendency to lump both of these disciplines into the same bucket. Doing so leads to the assumption that Disaster Recovery planning satisfies the need for Business Continuity planning; however, this not the case.

- Business Continuity focuses on the business side: people, processes, property, vital records, public perception, etc.
- Disaster Recovery focuses on the IT piece: networks, systems and business applications.

The key to successful adoption and execution in these two areas are executive sponsorship and buy-in. These two executive practices should permeate throughout the entire agency from the top down. Otherwise, employees fail to see the value in providing information and working in these two areas once called upon. If the top-down approach is not used, often the employee mindset becomes, "This is another initiative that management doesn't support; it will eventually go away and be forgotten."

The critical and essential functions of an agency are at the core of why it exists. It's great to be able to stand up systems and applications, but if those systems and applications aren't aligned with the critical and essential functions and processes they support, standing up those systems and applications accomplishes very little. A paradigm shift in state government needs to occur where the business drives IT and both business and IT are at the table together planning the agency's future.

It's human nature to believe that a natural or man-made disaster will never occur: "Oh that won't ever happen here or to us." This mindset often undermines the clear-headed work needed to create the necessary Business Continuity and Disaster Recovery plans. Here are a few challenges that keep agencies from completing the necessary planning:

1. Lack of executive sponsorship and buy-in
2. Lack of funding
3. Lack of full-time dedicated planning resources at the agency
4. Lack of understanding about the two disciplines

We have made considerable progress over the years, but we must continue to put forth the effort within the agencies to get better. As a state, we have a considerable way to go and must decrease our exposure to risk.

Waste, Fraud and Abuse

Georgia works to reduce IT spending waste, fraud and abuse

Georgia and other government entities suffer from waste, fraud and abuse. Many of the work processes that enable government to detect waste, fraud and abuse have been automated and require technical skills and knowledge. GTA is uniquely positioned to help state agencies get a handle on waste, fraud and abuse involving information technology systems. The Inspector General's Office of the federal Department of Defense has these definitions of waste, fraud and abuse on its website:

Fraud has been defined in various ways. Generally Accepted Government Auditing Standards describe fraud as: A type of illegal act involving the obtaining of something of value through willful misrepresentation. Whether an act is, in fact, fraud is a determination to be made through the judicial or other adjudicative system and is beyond the auditor's professional responsibility.

Paraphrasing Black's Law Dictionary, fraud is described as: A false

representation of a material fact, whether by words or by conduct, by false or misleading allegations, or by concealment of that which should have been disclosed, which deceives another so that he acts, or fails to act, to his detriment.

Waste involves the taxpayers not receiving reasonable value for money in connection with any government-funded activities due to an inappropriate act or omission by players with control over or access to government resources (e.g., executive, judicial or legislative branch employees, grantees or other recipients). Importantly, waste goes beyond fraud and abuse, and most waste does not involve a violation of law. Rather, waste relates primarily to mismanagement, inappropriate actions and inadequate oversight.

Abuse involves behavior that is deficient or improper when compared with behavior that a prudent person would consider reasonable and necessary business practice given the facts and circumstances. Abuse also includes misuse of authority or position for personal financial interests or those of an immediate or close family member or business associate. Abuse does not necessarily involve fraud, violation of laws, regulations, or provisions of a contract or grant agreement.

As example according to Gartner, U.S. healthcare fraud is a continuing and costly problem that affects every patient and taxpayer. Although the exact amounts of fraud are unknown, various reports indicate that the annual cost of U.S. healthcare fraud ranges from \$100 billion to \$234 billion.

GTA will continue to support enterprise initiatives to maximize the amount of funds available to eligible citizens by reducing incidents of waste, fraud and abuse in which state and federal program funds and services are disbursed to incorrect or ineligible recipients through information technology systems.

Georgia Privacy Program

GTA will establish an Enterprise Privacy Program.

As in every other state in the nation, there exists in Georgia's government the ongoing and continuing possibility of abuse of personal information that is collected to conduct government business. Most of the current efforts in Georgia and other states have to do with the protection of Personal Health Information, but there are also many other privacy concerns outside of healthcare.

As used in IT, privacy is a "concern for the proper handling of personal information and for respecting the dignity of the individual to whom the information refers. The core issue with privacy is not how to protect the secrecy of personal information; it is to ensure that those to whom the information is disclosed handle it properly." ("*Privacy*", Glazer and Blakely, The Burton Group, 2009)

Inadequate privacy protection is costly to organizations and individuals. Gartner reports that U.S. healthcare fraud, much of which is attributable to abuse of personal health information, is a continuing and costly problem that affects every patient and taxpayer. Although the exact amounts of fraud are unknown, various reports indicate that the annual cost of U.S. healthcare fraud ranges from \$100 billion to \$234 billion. (Gartner analysts Christina Lucero and Robert H. Booz)

GTA has initiated planning of an Enterprise Privacy Program to assist agency leadership in improving the processes involved in collecting, using and maintaining constituents' identifying information. The specific goals of our program are to:

- Highlight privacy management to prevent fraud and abuse in state programs based on client personal information
- Encourage state agencies to implement privacy programs consistent with industry best practices and the specific laws and regulations governing their services
- Provide a point of contact within GTA for Georgia's fraud and abuse investigative and prosecutorial vectors

IT Financial Management

Overview

The state is using consumption management tools to better track IT costs.

Traditionally it has been difficult to proactively track IT costs throughout the state. There was not enough visibility into those costs. The state did not have in place financial systems and processes that captured detailed IT costs on a timely basis. Costs were only measured at a high level and on an annual basis after the fact. Many costs went unidentified, rolled into summary-level General Ledger accounting codes.

Over the last five years, GTA, through the Georgia Enterprise Technology Services (GETS) program, has continued to lead and transform how the state receives IT services. GTA pioneered new reporting mechanisms to provide transparency into agency customer IT usage and associated cost information that was previously not available to state government entities. The GETS program introduced a more consolidated and transparent view of IT service consumption, asset inventory and agency spend detail. Agency customers have a usage-based (consumption) cost structure for IT services and pay only for the services they consume. This new model incorporates many of the state's IT policies and standards. For example, security and disaster recovery services are embedded in the resource unit cost. The costing mechanisms allow for economies of scale and leverage private-industry standards for chargeback of IT services. These new consumption-based capabilities allow the state to better track over one billion dollars in IT expenditures annually.

Transparency of IT Spend

GTA customers are better able to view IT spend based on consumption.

The state's ability to track IT costs continues to mature through the GETS program's consumption-based model. The state now has online invoice access with drill-down capabilities that provide customers with cost and usage detail that was previously not available. This capability enables customers to review and validate line item charges with ease, which assists state agencies with their fiduciary responsibility of being good stewards of taxpayer dollars. Agencies continue to request even greater levels of detail, and focus groups continue to work with the state's service providers in accessing even greater levels of consumption detail.

GTA has created a sustainable service delivery model for the future use of IT, and the enhanced reporting allows GTA to track actual consumption and costs for all services against original business case assumptions to measure the financial benefits of privatization. GTA can see usage and spend detail for each type of contracted service, such as End User Computing, Storage, Mainframe and Voice Services. As more state entities purchase IT services, GTA will be able to provide more enterprise and statewide IT financial data than ever before. This type of analysis was previously not possible.

Financial Benefits and Value

The state begins to see value in a consumption-based cost model.

Improving IT financial management resulted in a consolidated enterprise view of IT, allowing the identification of duplicative spending across agencies. The benefits of these improvements include more effective IT spending and, ultimately, more efficient government for Georgia. These aren't the only benefits of improved financial management.

- Agencies now have a clear view of their costs for IT infrastructure and network services and can make more informed decisions about how much IT service they actually consume. In addition, they have:
 - A better understanding of the factors driving IT consumption
 - A greater ability to map expenses to budgets
 - More informed and effective decision making
 - Less duplication in IT spending
 - The ability to view IT resource consumption in a standardized, enterprise approach
- GTA can provide market-based delivery of managed network and infrastructure services.

The Office of Planning and Budget (OPB) also has increased visibility into IT services, allowing for the validation of expenses, greater oversight and a clearer understanding of agency IT usage.

Financial and Agency Challenges

Agencies still see challenges in the area of asset management and great consumption of resources.

The challenge areas of such a large-scale move to transform the state's IT support model are maturing. The move to an operational model has made the need to develop, implement and maintain a solid asset management process of significant importance as compared to a model that was more capital expenditure focused. As the transformation and consolidation project progresses towards a completion in 3rd quarter 2014, the need for strong communication and maintaining agency partnership continues to be an ongoing process. Greater agency involvement in decision-making and a focus on communicating with key business leaders within agencies are important as GTA seeks ways to provide even greater transparency through information sharing.

A greater reliance on information technology is being driven by the need for agencies to find greater efficiencies. The increasing need for IT is resulting in greater consumption and increased spending, which is referred to as "organic growth". This organic growth is a focus area for GTA and an area where agencies are working to find reduced consumption opportunities.

- The asset management process continues to improve but it is a focus area.

- Changing the culture from a capital expenditure model to more of an operational expense model has been challenging.
- Increased agency needs are driving greater consumption of IT services and increased spending for these services.

Future - Consumption Management

The state is working to achieve greater understanding and reporting on the use of IT resources.

While the state has gained significant advantages from a service-oriented approach to financial management, opportunities exist for further improvement. GTA will pursue additional benefits as follows:

- With more uniform use of enterprise-wide, financial systems among all agencies, regardless of their use of the GETS program or other IT providers, state decision-makers would have a better understanding of IT spending across state government.
- GTA currently has a limited view of financial information about services that are not provided through the GETS program.
- Better reporting of all IT usage (in addition to the detailed information collected from agencies) will allow for better statewide decision-making.
- Expanding agency compliance with requirements of the IT Governance Report would increase the accuracy and dependability of this report.
- Better processes for associating planned budgets and actual expense are needed.
- Better understanding of application spending across agencies will enable better decision-making at the state level.

Procurement

State agencies need to acquire numerous technical assets and services. This section of the report addresses ways that agencies can procure technical products and services.

Information Technology Statewide Contracts

The State Purchasing Division of the Department of Administrative Services has numerous statewide contracts that are beneficial in meeting the technology needs of state and local agencies.

IT Statewide Contracts (SWCs) are established by the **State Purchasing Division (SPD)** of the **Department of Administrative Services** for the benefit of government entities throughout Georgia. By leveraging state purchasing power and marketplace competition, IT SWCs offer a variety of hardware, software and related services at excellent discounts and with improved warranties.

There are four major categories of SWCs: PC hardware and services, network equipment, software and audio visual products and services, and closed circuit TV. There are also other contracts that cover multifunction devices and printers, computer peripherals, servers and storage, and mail equipment.

The PC hardware and services contract is a **convenience** contract, meaning agencies can buy off the contract but may purchase these products from other sources. The four categories under the PC hardware and services contract are shown below:

Category A	Desktops, laptops, netbooks, tablet PCs
Category B	Ruggedized computing devices
Category C	Tablet devices
Category D	Thin clients

A competitive bidding process has established the following vendors for this category:

Ace Computers	Dell
Hewlett Packard	Howard
Lenovo	Panasonic
M&A Technologies	Transource

A separate contract covers Apple products.

The network equipment convenience contract, which covers network equipment and IT infrastructure products, has five categories:

Category 1	Wired LAN/WAN products
Category 2	Network management and optimization
Category 3	Wireless networking products
Category 4	Security products
Category 5	Unified communications products (Including VoIP)

The contract has been established with 18 vendors:

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Aruba Networks	Avaya
Brocade Communications	Cisco Systems
Dell Marketing	Enterasys
Extreme Networks	F5 Networks
Hewlett-Packard	IBM
Juniper	Meru Networks
Polycom	Radware
ShoreTel	Wildpackets

If an agency needs software, there is a software contract with four categories. The software contract is a **mandatory** contract, which means agencies must buy software off of this contract.

Category 1	End user software
Category 2	Enterprise software
Category 3	Microsoft reseller software
Category 4	Oracle (Including PeopleSoft) software and databases

These vendors provide for some, but not all, of the software contracts:

IBM Corporation	Category 2
Presidio Network Solutions	Categories 1, 2 and 4
SHI International	Categories 1, 2 and 3
CDWG Government	Categories 1, 2 and 3
PC Specialist, Inc. d/b/a Technology Integration Group (TIG)	Categories 1 and 2
Dell Marketing, LP	Categories 1, 2, 3 and 4

A mandatory contract for audio visual products and services includes closed circuit television (CCTV) systems. The services available include installation, programming, and maintenance. The core brands for the audio visual contract are:

AMX	Accordent
BiAmp	BSS Sound Web
Creston	Extron
LifeSize	Polycom
Polyvision	Promethian
Smart	Tanberg

There are 17 turnkey suppliers for CCTV from which to choose, including:

Covergint Technologies	GC&E Systems Group
Johnson Controls	Presidio Networked Solutions
Technology Integration Group	

Other statewide contracts available:

- A **convenience** contract for multifunction devices and printers includes equipment with copy/print/scan/fax capabilities. The printer SWC provides desktop printers and small workgroup printers.
- A **convenience** contract for computer peripherals covers accessories and auxiliary electronic devices such as hard drives, monitors and speakers.
- A **mandatory** server and storage contract provides server and

storage equipment and related software to support configurations. Services include installation/de-installation, warranty upgrades, support, maintenance and training.

- A **mandatory** mail equipment contract provides mailing machines, openers/inserters/bursters/sealers software, scales and postage meters.

IT Strategy

The IT Strategy section of the Annual State IT Report has three sections. The first section, Technology Road Map, details the direction that the state is pursuing until 2020. The second section, Service Provider for Infrastructure, is a status report for the infrastructure vendor for the GETS program. The third section, Service Provider for Network, is a status report for the network vendor for GETS.

Agencies, GTA and the state's IT service providers, IBM and AT&T, continued to be heavily engaged in IT transformation activities in FY 2013. The enterprise transformation presents significant benefits for the state, including reduced risk, reduced costs and greater financial transparency. A clearer understanding of IT consumption allows agencies to make informed decisions regarding their future needs.

Technology Road Map

Future IT directions are important to the state.

The Georgia IT Road Map continues to serve as the foundational document for the technology direction for the state. Though slightly changed in 2013, the road map has evolved into the Georgia 2020 Enterprise IT Strategy. This new document now defines in more detail the business challenges that the state is currently facing and the key technology focus areas that will address them.

The six focus areas are:

- Mobility – Empowering the Workforce
- Citizen – Access to Services
- Innovation
- Technology as a Service
- Managing Data as an Asset
- Evolved Funding/Business Model

To address these focus areas, the state is continuing to partner with our current IT infrastructure service provider (IBM) and managed network services provider (AT&T) to develop implementation strategies. Currently both providers are evaluating technology strategies to help improve technology service delivery and business operations for the state.

Overview

The Georgia 2020 Enterprise IT Strategy establishes a strategic IT vision and mission for the state. Georgia's IT vision is "To create a transparent, integrated enterprise where technology decisions are made with the citizen in mind". In support of this vision, the Georgia Technology Authority's mission is "To provide technology leadership to the state of Georgia for sound IT enterprise management".

To accomplish these outcomes, the 2020 Enterprise IT Strategy was established to set the course for IT going into the year 2020. This six-year outlook helps the state better position itself to meet its ever-changing business needs by looking at IT as a long-term strategic investment. In partnership with state executive agencies, the state CIO continues to work

collaboratively with agency business and technology leaders to develop this strategic document.

GTA is continuing to coordinate with agencies from across state government. This collaboration is directed towards identifying future technologies that are needed to support the business operations of all state agencies. The more efficient the state becomes in its delivery of services, the greater the benefit to our citizens. Moving forward, state agency CIOs will continue to work in tandem with GTA strategists to craft an effective plan for evolving Georgia's use of new technologies.

Georgia 2020 Enterprise IT Strategy

The graph below depicts how the State CIO will allocate time and effort to each of the focus areas over the next budget year. Based on the state's strategic needs and priorities, the focus areas will be reviewed each year and re-proportioned as needed. Agency CIOs have validated these focus areas and agreed that directed efforts in these areas will help improve the state's overall business performance. Over time, new areas will be identified and added. The maturity of the IT industry and the state is also indicated in the graph below to provide an idea of the level of effort and change it will take for the state to adopt and implement technology solutions related to the focus areas.



Workforce Mobility

Mobility technologies are continuing to evolve in the industry. This evolution is challenging us to incorporate new capabilities and functionality into our current workforce business processes. Smart devices are becoming

more prevalent and merit consideration as part of the state's long-term strategy. Our goal in this area is to provide the state government workforce with infrastructure, devices and applications to perform duties where they are as opposed to where their office is located.

Concentrating on:

- Enabling a more mobile state workforce where appropriate
- Leveraging new mobility technologies to increase business efficiency
- Modifying business processes to enable implementation of new technology

Ongoing work:

As one of its strategic initiatives, the state is establishing a Bring Your Own Device (BYOD) policy to help set guidelines, standards and controls on the use of employee-owned devices in the workplace. The policy effort is being coupled with work in network security, mobile device management (MDM) and, where it supports business, the provisioning of smart devices and tablets to specific segments of the state workforce. Throughout 2015, GTA will continue to work with the state's IT service providers and state procurement office to ensure that the best possible business solutions are implemented.

Citizen Access to Services

More than at any other time in our state's history, citizens today are demanding more effective and efficient ways to interact with their state government. Social media, smart phones, tablets and other devices are opening up additional communication channels for engaging citizens. Our charge as state business and technology leaders is to make citizen access to government easier. Our goal in this area is to allow citizens to access state services across multiple platforms (cell, Wi-Fi, tablets, smartphones, laptops, e-readers).

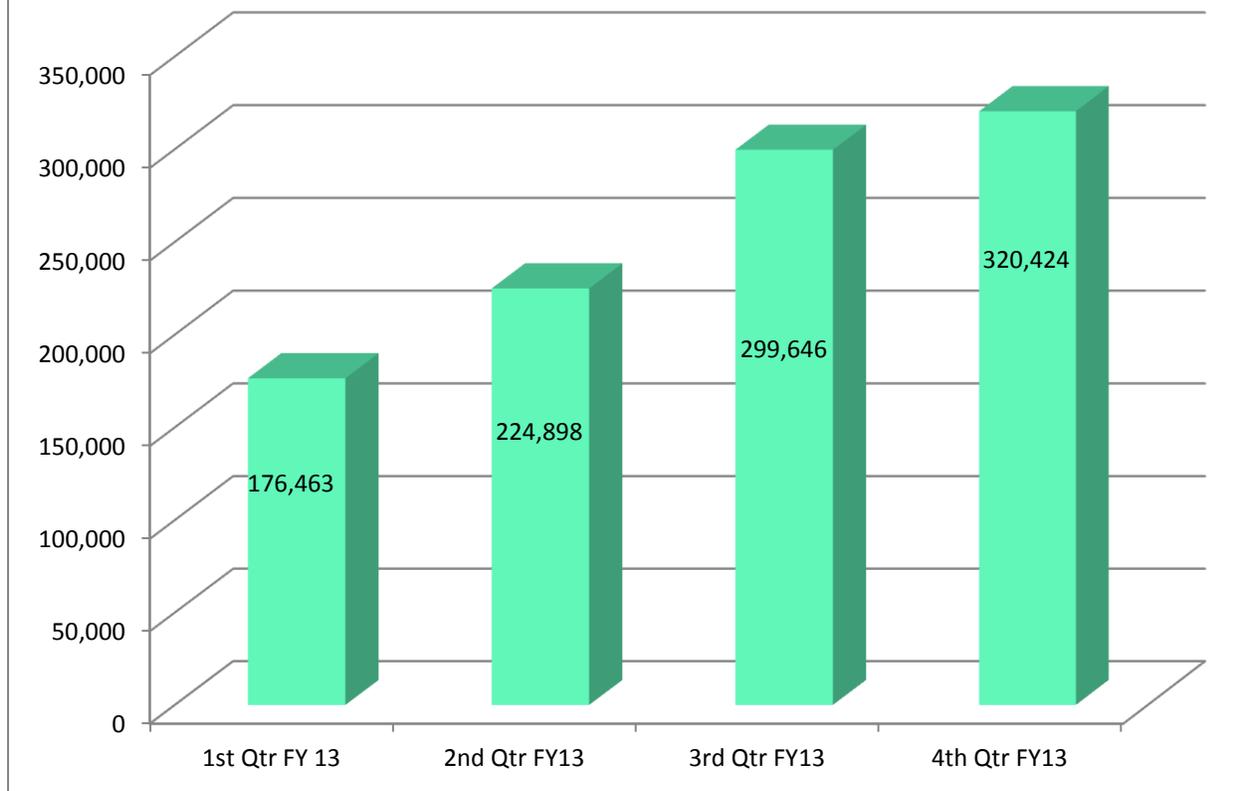
Concentrating on:

- Grow online self-service
- Mobile first: Improve the accessibility and usability of information
- Enable new and creative ways to support social enterprise

Ongoing work:

To address these demands, the state is continuing to explore different services across state government that could be candidates for delivery through mobile applications. From an application development standpoint, the state portal, Georgia.gov, has adopted a "mobile first" strategy to ensure the next generation of applications can scale and run on tablets and hand-held smart devices. Access will continue to be a strategic topic through 2015. As you can see from the graph below, the "mobile" visits to the state portal are increasing.

Georgia Mobile Device Users



Mobile Traffic on Georgia.gov FY 2013

Innovation

Innovation can drive improvement and change in how government services are provided. The business challenges facing the state today will require meaningful innovation — not change for the sake of change but to address such issues as strained budgets, an aging workforce, end-of-life assets and more. To ensure the right technology is ready to meet these ever-changing business demands, innovation will be a top priority. Our goal in this area is to innovate emerging capabilities with long-term state business needs.

Concentrating on:

- Identifying and prioritizing business areas of opportunities
- Leveraging and sharing agencies' wins and successes
- Funding

Ongoing work:

GTA is continuing to increase the state's ability to align the right technology to its business needs. Efforts are under way to re-establish a technology innovation capability for the enterprise. This new process will engage a collaborative council made up of agency business and IT leaders. Working with the state CIO, this council will help drive innovation through

investment management. There is still much work remaining to mature the state's innovation capability, but development of the framework and associated processes continues. To provide a foundation, L.E.A.N. has been adopted as a working philosophy and methodology.

The acronym **LEAN** sets forth the four basic tenants of the guiding principles being positioned as foundational to establishing an effective enterprise innovation capability.

The tenants are listed below:

- **Leverage** existing technology and solutions toward shared services to enable the greatest value for our investments in technology
- **Enable** technology resources, skills and staffing in support of business needs
- **Align** business needs with technology solutions
- **iNnovate** emerging capabilities with current and long-term business needs

With agencies continuing to experience declines in operating budgets, the state's investment in innovative technology is a prudent course of action. GTA will continue to provide technology leadership.

Technology as a Service

State agency business leaders are making decisions regarding the best way to provide services to citizens. As they focus on their core business, technology is rapidly changing around them and enabling better solutions. To leverage these opportunities, the state is exploring the ability to deploy these types of business services to meet agency needs and better serve citizens. Our goal in this area is to expand our current IT service delivery model to include the rapid provisioning of timely and cost-effective cloud solutions to meet agency business needs.

Concentrating on:

- Reliability and sustainability
- Fast provisioning: Providing just-in-time service delivery (cloud hosting)
- Use of industry best practices

Ongoing work:

The state is in the early stages of assessing and adopting cloud-based sourcing of additional IT products and services. As transformation continues across the state's IT enterprise, opportunities are being identified to use current state IT assets to provide additional business value. GTA is in discussions with our current IT service providers to better understand their capacity to provide cloud services to the state. In 2012, Gartner listed cloud computing as one of the disruptive technologies facing IT leaders. Gartner's findings suggest cloud services will become a significant provisioning model in the marketplace in the near future. The state is preparing to move forward with cloud computing. Though many questions are still on the table, the state is looking at private, public and hybrid cloud models to determine which will work best for the state. Early candidates for

cloud services are email, application development and testing environments, and data storage.

Managing Data as an Asset

Business data is one of the state's most critical assets. The state must find ways to maximize the use of data to enhance citizen access and operational efficiency. Our goal in this area is to improve the efficiency of how state data is used, managed, protected and positioned as a strategic asset.

Concentrating on:

- Securing data
- Sharing data
- Ensuring privacy of data

Ongoing work:

The state is continuing to develop a shared vision and direction to facilitate a common data management approach across the enterprise. There are state policies on data management, but additional work is needed to refresh existing standards and guidelines and create new ones to ensure policy compliance and outcomes are achieved.

Data governance is a new component being established in support of the statewide data management initiative. Formalizing a data governance structure will greatly enhance the state's ability to leverage its data. Industry experts Gartner and Forrester identify "Big Data" as one of the next disruptive technologies that will require a strategy from business and technology leaders. Declining technology budgets and increasing demand for data storage suggest that possible modifications in business processes and data management approaches are now needed.

Moving forward, GTA, in partnership with agency stakeholders, will continue to introduce, promote and advocate sound data management principles. The state CIO is planning now for the additional investments that will be necessary to mature the state enterprise in this important business area.

Evolved Funding/Business Model

Continuing budget constraints heighten the need for agencies to have a clear understanding of their technology expenditures. GTA is working with the Office of Planning and Budget (OPB) and agencies to look at new ways for agencies to consume and pay for services. Our goal in this area is to mature the state's (agencies') abilities to better understand their true consumption, cost, budget and actual spend for technology services.

Concentrating on:

- Unbundling of services
- Revised costing methods
- New customers

Ongoing work:

The state is currently working on initiatives to identify additional

opportunities for cost reductions and control levers that trigger billing, improve processes that affect agencies' ability to manage their consumption, and educate agencies on how to manage their costs. Efforts are also being directed to expand the pool of sourcing partners through contracting relationships. This will include procurement of new cloud services, evaluating sourcing options for the Managed Network Services contract and pursuing a Multisourcing Service Integrator (MSI) model. GTA is also working with the Department of Administrative Services and OPB to identify ways that agencies can minimize capital outlays and still acquire new and innovative services.

Service Provider for Infrastructure

Transformation and evolution of IT services continue to be our focus.

Transformation

The transformation plan for IT infrastructure services was revamped and rebaselined in 2013. It includes 124 individual projects involving large-scale infrastructure upgrades ranging from e-mail transformation to file server and application server consolidation. Other transformation efforts, such as the rollout of consistent malware and laptop encryption tools, directly benefit end users and help to secure the environment from viruses and hacking.

At the time of this writing, 78 agency transformation projects had been completed, 43 were in progress, and three had yet to begin.

The following transformation programs were completed in 2013:

- All agency-based to Enterprise-based Exchange e-mail migrations: DCH, SAO, DOAS, and GTA
- E-mail transformation and consolidation for all original Exchange-based agencies
- Exchange e-mail and BlackBerry Enterprise Server transformation and consolidation for DNR, the first Novell-based agency
- All agency security services rollouts, including malware and anti-virus implementation
 - Server malware rollout: DBHDD, DPH, DHS, GBI and DCH
 - End user computing anti-virus rollout: DBHDD, DPH, DHS, GBI and DCH
- Public Key Infrastructure (PKI): DCH, DNR, DOAS, GBI and GTA
- File server upgrade and migrations: DJJ, OPB, DNR and GTA
- Server consolidation for DDS
- Laptop encryption for DOAS and GTA
- Print services for DCH, DHS, DJJ, Revenue, GBI and SAO

Agencies Acronym List

Here is a list of the full names of GETS agencies that are listed above:

Department of Behavioral Health and Developmental Disabilities (DBHDD)
Department of Administrative Services (DOAS)
Department of Community Health (DCH)
Department of Corrections (GDC)
Department of Drivers Services (DDS)
Department of Humna Services (DHS)
Department of Juevenile Justice (DJJ)

Server consolidation continues to move forward.

Department of Natural Resources (DNR)
Department of Public Health (DPH)
Department of Revenue (DOR)
Georgia Bureau of Investigation (GBI)
Office of Planning and Budget (OPB)
Georgia Technology Authority (GTA)
State Accounting Office (SAO)

Server Consolidation (SCON)

A key success factor in completing the IT transformation program is agency application consolidation, also known as SCON. In addition to saving money and reducing risk, server consolidation acts as a catalyst for other technology optimization initiatives across the enterprise. When Georgia's enterprise server consolidation project is complete, 1,300 servers will have been replaced by about 700 servers, most of which will operate in the North Atlanta Data Center (NADC), the state's primary data center. This data center is designed to comply with the requirements of the Uptime Institute's Tier 4 Standard, the gold standard of uptime resiliency. These requirements are designed to meet the needs of an enterprise the size of the state of Georgia and with the criticality of its life-impacting services.

The SCON project involves a robust implementation methodology, including defining the specific requirements for each agency to ensure agency business applications will be able to properly function in the consolidated Hosting Environment (HE). Agency teams are directly involved to provide remediation of affected applications by implementing a full-test methodology, including user acceptance testing.

Infrastructure Currency

In parallel with infrastructure transformation, we are implementing two extensive infrastructure currency programs: end user computing (EUC) refresh and server currency.

End User Computing Refresh

The EUC refresh program requires our service provider to refresh (replace with new) laptop computers every three years and desktop computers every five years. These refresh cycles match IT industry best practices. The total number of state EUC devices in the program is approximately 36,900.

The processes for the EUC refresh program have been formalized to effectively engage all full-service GETS agencies. More than 35,700 EUC devices have been refreshed as of this writing. The program is on target to refresh all desktops within the first five years of the privatization agreement. Feedback from end users has continued to be very positive.

Server Currency

In parallel with server consolidation, the refresh of aged and chronically failing agency application and other infrastructure servers is continuing. This effort encompasses servers in the field that cannot wait until the time designated in the transformation schedule to be upgraded. The program has replaced 407 servers in total, including 47 year-to-date in FY 2013. This activity is helping to achieve committed service levels and is bringing stability in advance of the server consolidation efforts.

Disaster Recovery

Offsite disaster recovery is key to ensuring the state can continue to operate in the event of a wide-reaching and catastrophic event. In August 2013, nine agencies participated in the fourth annual offsite disaster recovery test. This test was the largest and most comprehensive to date and included all targeted applications, plus additional secondary testing. The test met 100% of the success criteria with the participating agencies acknowledging the test was successful.

Mainframe Expansion

Many critical agency applications reside on the mainframe computer at the NADC. In 2013, the mainframe was upgraded by over 600 MIPS to expand computing capability and ensure month-end processing can be executed without delay.

IT Infrastructure Service Provider Long-range IT Planning

The state's IT infrastructure service provider is assessing a number of technology strategies to help GTA advance support and services for state agencies. Technology moves quickly, and to assure we are able to support agencies with current technologies, we remain flexible and adaptive. New-generation handheld computing devices – such as iPhones, Android-based phones, iPads and tablets – are rapidly replacing or augmenting more established PC, laptop and BlackBerry devices. These new personal devices are capturing the market by providing portability and application capabilities that have not been available with the more established infrastructures. To ensure state agencies are able to benefit from these newer technologies, we are implementing a new Mobile Device Management solution that will allow participating users to track and secure their devices. This technology is key to securing the state's data assets on mobile devices.

Cloud Computing and Virtualization

Cloud computing seeks to provide services and technologies to customers in secure and predictable ways without additional capital expenses and infrastructure support costs for customers. In this way, services can be ramped up or down quickly to meet changing requirements. The state's IT infrastructure service provider is positioned to help GTA and state agencies benefit from cloud computing by providing a broad range of secure and reliable capabilities, such as software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) across a broad range of technologies.

The primary obstacle to enabling full benefits from cloud computing is regulatory in nature. Public clouds may not provide the necessary controls, in many cases, to enable full regulatory compliance. At the NADC, a computing infrastructure that is highly virtualized is in place and supporting some of the state's most critical applications. This strategy will make it much easier for the state to establish a private cloud that can be leveraged by all state agencies to facilitate the delivery of servers, storage and services within a fully compliant and secure environment.

By providing infrastructure and services from a private cloud, GTA would be able to support state agencies much more quickly and cost effectively as new requirements surface. By sharing infrastructure and support costs to the maximum extent possible within a private cloud, GTA would offer more

predictable pricing and faster service deployment. State agencies will be able to "fine tune" their use of required resources and services, making their overall costs lower and more predictable.

Public cloud offerings are also being added to the services portfolio to give the agencies flexibility in defining their own workloads and driving a higher level of flexible consumption capabilities.

Service Provider for Network

Many enhancements have been undertaken on the state of Georgia's network this year.

Security

AT&T's transformation team continued to implement additional layers of security defense in FY 2013 with better tools to block attacks from the public Internet. One of those tools was the Distributed Denial of Service Defense service. This solution allows AT&T to identify, re-route and scrub traffic that appears to be coming from attack vectors over the public Internet before the traffic can impact state information technology assets. Additionally, new intrusion prevention tools were put in place to further identify and proactively block additional security threats from the public Internet.

Local and Wide Network Upgrades and Refresh Program

A majority of the agency sites within scope of the GETS program were provided with new technologies that were deployed with a standard, best-practice architecture throughout the state. These technologies include new network equipment, targeted circuit and wiring upgrades, increased security and better tools to monitor the health of the network at each site. The next step in the program is to complete upgrades at the headquarters of the full-service GETS agencies, an effort which is targeted to be completed in 2014. About 1,000 network devices were replaced in FY 2013.

Managed Network Services Consolidation Program

The AT&T team implemented two new encryption solutions for remote access to Georgia Crime Information Center (GCIC) applications, which are used statewide by law enforcement personnel. One solution provides site-to-site connectivity to law enforcement offices, and the other is a web browser-based remote user solution that allows individual workstations to connect to GCIC. The team also implemented a new domain name service (DNS) solution to support state web site accessibility. The new Infoblox® platforms are built into the NADC and disaster recovery facilities. Another project was completed to move all IP address management, DNS and DHCP services to consolidated servers in the NADC and a backup facility located in another state. All of these solutions, which replace disparate systems nearing end-of-life, were deployed to provide for additional resiliency, security and enhanced management capabilities. These changes are continuous improvements that will drive the state towards more reliable, "utility" like IT infrastructure that is always there when needed by state agencies, much like electricity or water utility services.

Voice Equipment and Network Upgrade

The refresh of telephone equipment for PBX and Key systems was 90% complete as of FY 2013 with the remainder targeted to be completed in June of 2014. This program provides new telephony devices and network equipment for agencies that were on old, end-of-life equipment and software revisions that were in desperate need of replacement.

Remote Access SSL VPN Project

Agencies use Virtual Private Networks (VPNs) to access their applications securely. This project, which is moving agencies' VPNs to the new SSL VPN

solution, made great strides in 2013 and is still in progress. The agencies are being migrated from disparate and aging remote user VPN solutions to a new service that has enhanced security, throughput and redundancy. The solution is web-based and allows multiple, agency-approved devices to access the state of Georgia network.

Capitol Hill Campus Equipment and Network Upgrade

The Capitol Hill Redesign project is under way and will increase the redundancy and speed of access from the Capitol Hill campus network to the Internet. The project includes equipment and circuit replacement, cabling and backup power to enhance the campus network environment.

Non-Enterprise Agency Router and Network Upgrade

The agencies that just procure wide area network services and routers are also being refreshed with new equipment and targeted circuit upgrades. These agencies will also be moved to AT&T's new MPLS service that offers more bandwidth options for greater speed and other capabilities.

Department of Natural Resources Managed Broadband Internet Project

At the close of 2013, AT&T was completing a Managed Broadband Internet project for Department of Natural Resources locations in very remote areas of the state. These sites rely on the most economical Internet service available to them but had no proactive management of their sites. This project is replacing old network equipment and adding proactive monitoring of the equipment to provide faster repair times when the sites lose Internet access.

NetBrain Network Management Tool Implementation

AT&T has deployed NetBrain, which provides network mapping and troubleshooting capabilities that allow AT&T personnel to create instantaneous maps of the state's network using visual management tools. With these tools, AT&T teams can quickly create end-to-end diagrams that speed the isolation of issues on the state's network.

Department of Revenue inContact® Contact Center Network Integration

AT&T provided network integration for a new software-as-a-service (SaaS) solution from an AT&T partner, inContact, for the Department of Revenue. The agency was able to move its existing contact centers to the new platform prior to peak tax season and with limited downtime. This project will move to IP-based telephony over the next year. Expanded self-service capabilities are also being implemented.

Firewall Transition and Upgrade Project

AT&T has transitioned and upgraded a number of agency firewalls to AT&T management. Firewalls are critical to protecting state data by helping prevent security breaches through hacking and other forms of intrusion. Many of these transitioned devices were upgraded prior to being brought under AT&T management to address increased throughput requirements for faster speeds, add redundancy to prevent service interruptions and provide better management control.

Appendix

Appendix A – Participation by Agencies

Exhibit 1 – Agencies Reporting IT Expenditures

Appendix A - Exhibit 1 – Agencies Reporting IT Expenditures

	Agency Name	Reported 2011	Reported 2012	Reported 2013
1	Administrative Office of Georgia Courts			N/A
2	Brain & Spinal Injury Trust Fund Authority		X	X
3	Composite State Board of Medical Examiners			N/A
4	Criminal Justice Coordinating Council	X	X	X
5	Department of Administrative Services	X	X	X
6	Department of Banking and Finance	X	X	X
7	Department of Behavioral Health and Developmental Disabilities	X	X	X
8	Department of Community Affairs	X	X	X
9	Department of Community Health	X	X	X
10	Department of Corrections	X	X	X
11	Department of Defense	X	X	X
12	Department of Driver Services	X	X	X
13	Department of Early Care and Learning	X	X	X
14	Department of Economic Development	X	X	X
15	Department of Human Services	X	X	X
16	Department of Juvenile Justice	X	X	X
17	Department of Natural Resources	X	X	X
18	Department of Public Health	X	X	X
19	Department of Public Safety	X	X	X
20	Department of Revenue	X	X	X
21	Department of Transportation	X	X	X
22	Department of Veterans Services			N/A
23	Employees' Retirement System	X	X	X
24	Georgia Agricultural Exposition Authority			N/A
25	Georgia Agrirama Development Authority			N/A
26	Georgia Board for Physician Workforce			N/A
27	Georgia Building Authority	X	X	X
28	Georgia Bureau of Investigation	X	X	X
29	Georgia Commission on Equal Opportunity			N/A
30	Georgia Commission on the Holocaust			N/A
31	Georgia Council for the Arts	X	X	
32	Georgia Development Authority			N/A
33	Georgia Drugs and Narcotics Agency	X	X	N/A
34	Georgia Emergency Management Agency		X	X
35	Georgia Environmental Facilities Authority			N/A

36	Georgia Firefighter Standards and Training Council		X	X
37	Georgia Forestry Commission	X	X	X
38	Georgia Housing and Finance Authority	X		N/A
39	Georgia Ports Authority	X	X	
40	Georgia Professional Standards Commission			N/A
41	Georgia Public Safety Training Center	X	X	X
42	Georgia Public Broadcasting			N/A
43	Georgia Public Telecommunications Commission	X	X	X
44	Georgia Real Estate Commission & Appraisers Board			N/A
45	Georgia Regional Transportation Authority	X	X	X
46	Georgia Seed Development Commission			N/A
47	Georgia State Financing and Investment Commission	X	X	X
48	Georgia Student Finance Commission	X	X	X
49	Georgia Technology Authority	X	X	X
50	Georgia Vocational Rehabilitation Agency			N/A
51	Georgia World Congress Center Authority	X	X	X
52	Governor's Office of the Child Advocate			N/A
53	Governor's Office for Children and Families	X	X	X
54	Governor's Office of Consumer Protection	X	X	
55	Governor's Office of Student Achievement			N/A
56	Lake Lanier Islands Development Authority		X	
57	Nonpublic Postsecondary Education Commission	X		N/A
58	Office of Highway Safety	X	X	N/A
59	Office of Inspector General		X	
60	Office of Planning and Budget	X	X	X
61	Office of State Administrative Hearings	X	X	X
62	Office of State Treasurer	X	X	X
63	OneGeorgia Authority	X		N/A
64	State Accounting Office	X	X	X
65	State Board of Pardons and Paroles	X	X	X
66	State Board of Workers' Compensation	X	X	X
67	State Housing Trust Fund for the Homeless Commission	X		N/A
68	State Personnel Administration	X	X	N/A
69	State Properties Commission	X	X	X
70	State Road and Tollway Authority	X	X	X
71	State Soil and Water Conservation Commission	X	X	X
72	Subsequent Injury Trust Fund	X	X	X

73	Teachers' Retirement System	X	X	X
74	Technical College System of Georgia	X	X	X

Agencies NOT required to report

	Agency Name	Reported 2011	Reported 2012	Reported 2013
1	Board of Regents of the University System of Georgia			
2	Council of Juvenile Court Judges			
3	Court of Appeals			
4	Department of Agriculture			X
5	Department of Audits and Accounts			
6	Department of Education	X	X	X
7	Department of Insurance	X	X	X
8	Department of Labor	X	X	X
9	Department of Law	X	X	
10	Georgia Military College		X	
11	Public Service Commission			
12	Secretary of State			
13	State Ethics Commission			
14	Superior Court			

Appendix B – Spending by Agencies

Exhibit 1 – Agency IT Expenditures

Appendix B - Exhibit 1 - Agency IT Expenditures

	Agency Name	IT Total Spend FY 2013
	* Agencies Required to report by Law	
1	Brain & Spinal Injury Trust Fund Authority	\$90,285
2	Criminal Justice Coordinating Council	\$33,893
3	Department of Administrative Services	\$8,303,291
4	Department of Banking and Finance	\$807,603
5	Department of Behavioral Health and Developmental Disabilities	\$40,604,621
6	Department of Community Affairs	\$2,816,368
7	Department of Community Health	\$135,974,762
8	Department of Corrections	\$25,585,976
9	Department of Defense	\$1,094,074
10	Department of Driver Services	\$23,798,418
11	Department of Early Care and Learning	\$1,813,089
12	Department of Economic Development	\$189,976
13	Department of Human Services	\$81,076,150
14	Department of Juvenile Justice	\$16,473,276
15	Department of Natural Resources	\$11,732,677
16	Department of Public Health	\$14,767,051
17	Department of Public Safety	\$5,553,277
18	Department of Revenue	\$45,929,061
19	Department of Transportation	\$20,786,069
20	Employees' Retirement System	\$3,541,273
21	Georgia Building Authority	\$1,428,727
22	Georgia Bureau of Investigation	\$13,409,510
23	Georgia Emergency Management Agency	\$1,769,445
24	Georgia Firefighter Standards and Training Council	\$2,500
25	Georgia Forestry Commission	\$1,203,222
26	Georgia Public Safety Training Center	\$882,410
27	Georgia Public Telecommunications Commission	\$1,325,446
28	Georgia Regional Transportation Authority	\$298,662
29	Georgia State Financing and Investment Commission	\$1,349,556
30	Georgia Student Finance Commission	\$3,603,000
31	Georgia Technology Authority	\$17,262,054
32	Georgia World Congress Center Authority	\$1,594,890
33	Governor's Office for Children and Families	\$82,443
34	Office of Planning and Budget	\$1,964,384
35	Office of State Administrative Hearings	\$320,574
36	Office of State Treasurer	\$475,760
37	State Accounting Office	\$15,981,552
38	State Board of Pardons and Paroles	\$3,652,974

39	State Board of Workers' Compensation	\$1,983,071
40	State Properties Commission	\$27,705
41	State Road and Tollway Authority	\$982,275
42	State Soil and Water Conservation Commission	\$152,169
43	Subsequent Injury Trust Fund	\$93,274
44	Teachers' Retirement System	\$5,199,057
45	Technical College System of Georgia	\$10,317,752

Agency Name		
* Agencies Voluntarily Reporting		
46	Department of Agriculture	\$2,738,250
47	Department of Education	\$8,916,787
48	Department of Insurance	\$615,701
49	Department of Labor	\$19,789,717
50	Department of Law	\$196,454
Total Spend		\$558,590,513

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