

Message from the Chief Information Officer



Calvin Rhodes

*State Chief Information Officer
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Technology-driven change continues to transform how we get things done in business, in society, and in government. In setting the vision for technology in Georgia state government, we look ahead, but we also reflect on the path that led us to today.

Georgia's state agencies have made great progress in recent years in their use of technology to streamline state operations and to provide enhanced services to our constituents.

Georgia scored among the top states in the nation by earning a grade of A- in the 2016 Digital States Survey, which assesses each state's effectiveness in using technology and is conducted by the independent Center for Digital Government. In the Digital States Survey, Georgia ranked first in the nation in the category of Enterprise Information Communications Technology, thanks to the Department of Transportation's innovative technology for monitoring and managing traffic statewide.

Making state services and information equally accessible to people with a range of disabilities is a top priority for the state's IT enterprise, and a GTA-led initiative to enhance the accessibility of state websites received a first-place award from the National Association of State CIOs in 2016.

Adapting to the growing use of mobile devices is another top priority, and state agencies are responding quickly. For example, the Department of Driver Services launched a mobile-friendly version of its website in early 2017, and over half of the first 400,000 page views came from mobile devices.

Looking ahead is always difficult, and it's made more so because technology is a rapidly changing environment. In developing our view of the future, we worked with technology leaders in Georgia state agencies, in other states, and in the private sector. The challenges we see in Georgia align with challenges in other states, and we will continue to work with partners in Georgia and across the nation to address our current long-term concerns:

- Ensuring cybersecurity for Georgia's agencies, citizens, and businesses
- Managing a growing pool of data to support state decision makers
- Taking advantage of proven technologies to improve interactions between government agencies and our constituents
- Evolving our portfolio of shared technology services to ensure agency access to the best services at competitive prices
- Partnering with the private sector to bring the latest innovative technologies to bear on the state's business problems

While the Enterprise IT Strategic Plan 2025 sets the direction, it's up to agency CIOs and other technology leaders to steer the course as we move forward. The plan is our roadmap for the next 18 months and our compass for the more distant planning horizon.

I encourage you to consider it carefully.

Calvin Rhodes

Your feedback would be greatly appreciated and may be submitted by contacting:

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Security

The role of security in the foreseeable future

Cybersecurity will continue to be crucial for Georgia agencies for the foreseeable future. Governor Nathan Deal has committed to the Georgia Cyber Innovation and Training Center, scheduled to open in 2018. It will be a place to advance the field of information security with research on vulnerability that will help ensure reliable and effective practices.

According to Gartner, a leading IT research and advisory firm, cybersecurity demands focus and vigilance: “Relentless and ever-increasing security attacks require adaptive security architectures that emphasize security-aware solution design; AI-enabled user and entity behavior analytics; and new architecture, methods and tools to address the Internet of Things (IoT) and intelligent digital mesh security.”¹

The new center will be equipped to keep up with the changing face of cybersecurity and will provide needed focus in key areas: education and training for agencies, military and the private sector; incubation of new security ideas; research and development with a focus on cyber defense; IT security information sharing among Georgia agencies, homeland security and the private sector; and public-private partnerships for cybersecurity innovations.



Data

Combining statewide data standards with market-proven analytics

Agencies throughout state government recognize the need to make better use of data for decision-making and service delivery. Following the lead of the private sector, where machine learning and artificial intelligence techniques are being applied to make sense of large bodies of data, Georgia will take advantage of advances in data practices to expand digital services for citizens. Enterprise data standards must form the framework for digital services, allowing for the “plug and play” of market-proven analytics tools to better understand trends and identify needs.

¹Gartner: Top 10 Strategic Technology Trends for 2017



Services to Citizens

Georgia citizens today enjoy a wide variety of services offered electronically through the private sector, and they are demanding better and faster government interactions through an increasing variety of devices. By 2025 Georgia will have a consistent framework for digital services across state agencies. Today we see an increasing demand for mobile access to services. In the future, citizens will see a seamless state interface for services regardless of where or how they approach an agency. As we improve our understanding of citizen need through large-scale data analytics, we will be able to develop services tailored to individual community needs.

The state is prepared for a rapid, long-term evolution of the user experience as conversational systems, augmented reality, and virtual reality radically change the way people interact with systems. Georgia is committed to being the best state for doing business, which calls for maintaining state services that keep pace with the private sector.

Today, interfaces like Amazon's Alexa, Apple's Siri, and Google's Assistant are just beginning to offer new ways to access services and information. By 2025, Georgia will have a framework in place that allows it to shift to the latest interfaces independently of the data structures that support it.

Creating a framework for statewide digital services



IT Services for Agencies

The state of Georgia's IT enterprise has already begun to shed buying IT equipment and infrastructure. Increasingly Georgia agencies buy IT services instead, and that shift will only become more pronounced by 2025. It's the sensible approach in a fast-changing IT landscape, especially when Georgia citizens expect the same technology-enabled paths to government services as commercial services.

To meet those expectations, agencies need more flexibility than ever with technology services. The state meets their needs with an IT services program drawing services from a range of providers. The program delivers services best-suited to an agency's specific business; it allows for quick changes to services *and* providers to capitalize on technology innovations. The service delivery model envisions a "try before buying" capability. As new services are vetted and deployed, more agencies can take advantage of solutions found beneficial. This could even extend beyond state boundaries. Georgia might consult with other states about IT services they've implemented successfully and then leverage similar solutions. Services that work well for state agencies may also extend to city and county government entities, reducing cost and risk in the process.

The need for flexible technology services

Public-Private Partnership

Adopting private sector methods to provide quality services

The private sector is rapidly introducing new business models and new ways for customers to find and buy products. If the state is going to continue to provide quality services in a timely manner, it will need to adopt appropriate methods from the private sector. GTA will seek private sector providers capable of meeting citizens' expectations for new services, and establish collaborative associations with partners who are willing and able to bring value to the state. We will incorporate innovative business processes that work in the private sector to speed the transition to better state services.



Current State of IT in Georgia

Strengthening and expanding Georgia's technology services

See Annual State IT Report FY16 for more detail (<http://gta.georgia.gov/annualreport/>)

The state of Georgia has continued to make significant progress in strengthening and expanding the technology services state agencies rely on to provide information and services to their constituents.

Among recent accomplishments is the completion of the state's years-long technology transformation. Old, unreliable IT equipment, tools, and processes were replaced – including personal computers, email systems, data networks, servers, and telephones. At the beginning of 2017, Georgia now has the technology foundation necessary to move forward with implementing innovative new technology services to benefit its residents. The transformation affected over 100,000 users of managed network services in 1,400 state and local government offices. In addition, it brought more reliable and secure IT infrastructure services to over 35,000 end-users and encompassed over 41,000 email accounts.



Current State of IT in Georgia (cont.)

The state also expanded its shared services delivery model to make it easier for state agencies to access new technology services more quickly. The state contracted with a service integrator charged with seamlessly integrating services from multiple technology providers and standardizing processes and systems. The ultimate beneficiaries are Georgians, who expect dependable and secure access to information and services.

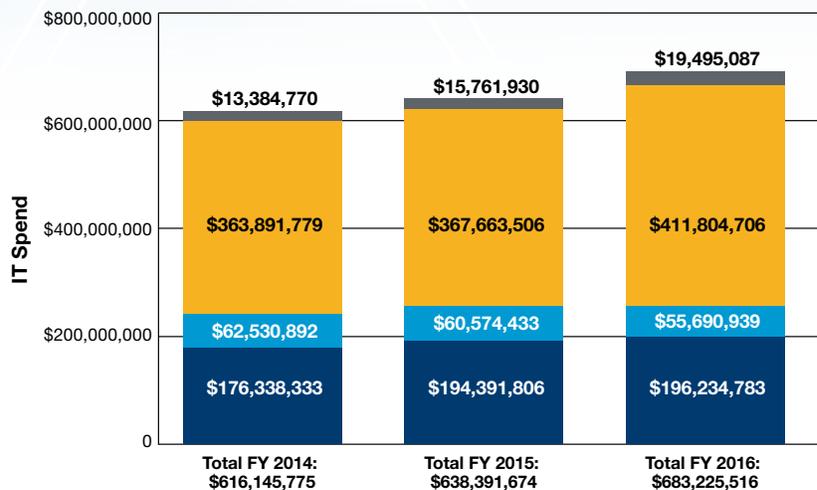
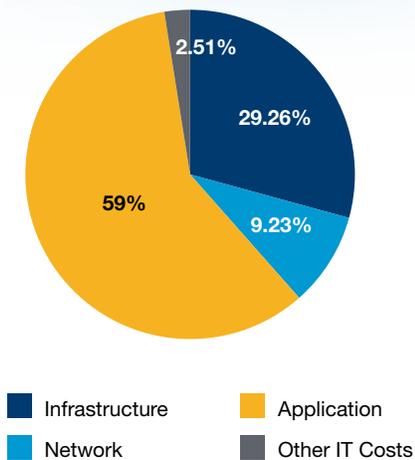
The state spends large sums of money each year on technology, and tracking IT expenditures is one of the Georgia Technology Authority's (GTA) statutory responsibilities. In FY 2016, 50 executive branch agencies, or 93 percent, reported spending \$683 million on IT infrastructure services, network services, application development and support, and related activities. That's up about nine percent from FY 2015.

IT expenditures increased nine percent from 2015 to 2016



Enterprise IT Spend by Cost Category - (from Annual State IT Report FY 2016)

Enterprise IT Spend for FY 2016



Planning Assumptions

Goals and objectives based on agency need, market capability, political and economic forces and enterprise propensity for change

In planning for the year 2025, we have to make a number of assumptions about the environment of Georgia state government. We monitor and modify these assumptions as the environment changes.

- Citizen Demand:** Citizens have come to expect a certain level of technology-supported services from the private sector. Citizens now expect this same level of service from government.
- Political:** State government is affected by election cycles. Between now and 2025, there will be a number of elections at the federal, state and local levels that may affect planning and could lead to changes in state funding priorities.
- Financial:** State government will continue to operate under financial constraints, challenging the state to develop innovative approaches to fund technology.
- Policy Areas:** Policy areas for the state will remain stable over the planning horizon.



- Market Solutions:** The technology market in the United States will remain dynamic and continue to produce new and improved business solutions.
- Workforce:** There will be constant churn in the workforce, and the skills that state workers need will be affected by the increased use of technology in the workplace. Technology will advance more quickly than the state's ability to adapt to those changes. A large number of state employees will retire over the next decade.
- Security:** Security will be a constant concern to the state as attacks on its information systems increase in number and sophistication. As the need to provide citizens with greater access grows, so will the challenges of keeping their private information safe and secure.



GOAL 2

Coordinating and sharing data to enable fact-based decisions

GOAL 2: Improve the use of state data for decision-making and information sharing (Data as an Asset)

The new digital economy is data and the ability to make sense of it. Keeping pace with citizens' expectations for faster, more convenient interactions with state government requires greater coordination and sharing of data to enable more personalized transactions.

GTA will help agencies understand the value of their data and establish the means to share it as needed. In addition, as the Internet of Things (IoT) presents the potential to add significant value through the use of inexpensive sensor data, GTA will provide an enterprise view of IoT standardization and security.

NEAR-TERM

- Create a data inventory and capture key data elements supporting three well-defined problems.
- Establish a data-driven approach to fraud and abuse detection and mitigation (GTA is guiding a Georgia Department of Early Care and Learning [DECAL] effort to significantly reduce fraud, waste and abuse).
- Establish data standards that span agencies; GeorgiaGov Interactive will seek to increase agency awareness of the need for content strategy.
- Identify IoT opportunities that span agencies.

MID-TERM

- Create data analytics capabilities and reporting dashboards using cross-agency data.
- GeorgiaGov Interactive will provide guidance on agency content strategy through an enterprise view.
- Coordinate IoT standardization for data elements that span agencies.

LONG-TERM

- Create a unified, data-driven decision support capability to allow state leaders a 'real-time' view of pre-defined analytics needed for fact-based decisions.



GOAL 4

GOAL 4: Continue to improve delivery of technology services

Expanding GETS assures value from the state's IT investment

For fiscal year 2016, Georgia's executive branch agencies (93 percent of them reporting) spent \$683 million on IT infrastructure services, network services, applications and related activities. That sizeable sum does not include spending by some state entities (e.g., University System of Georgia) with large IT budgets. Safe to say then, Georgia invests significantly in technology services, and it aims to maximize return.

To help assure value from the state's investment, GTA seeks to expand the Georgia Enterprise Technology Services (GETS) shared IT services program that it manages. Improving service quality and economies of scale for agencies served will mean continuing to evolve the flexible IT service delivery model. Through GETS, GTA aims to bring agencies the best-suited services the IT market has to offer, and to capitalize readily on IT innovation. As service offerings grow, the number of agencies served can grow. In coordination with this, GTA will also promote consistent and rigorous IT governance practices across the enterprise, especially where the state's largest IT projects are concerned.

NEAR-TERM

- Add new levels of service that offer greater flexibility for customers.
- Align GETS security strategy to quantitative security maturity model.
- Improve timeliness of IT project delivery.
- Ensure appropriate handling of all four phases of IT project governance for at least six of the state's very large IT projects.
- Sustain current levels of reliability, and recoverability even as GETS services evolve to increase business value, better meet business demands, and incorporate digitalized processes (e.g., order entry, service catalog).

MID-TERM

- Continue to improve Georgia's ability to offer emerging technology-enabled services while leveraging statewide economies of scale and convenience contracts.



Georgia Strategic Planning Principles and Process

Lean planning principles and the IT strategy cycle ensure an up-to-date and aligned strategic plan for 2025

The development of the Georgia Enterprise IT Strategic Plan 2025 was guided by the lean planning principles and the IT strategy cycle. Taken together, they ensure the plan is up-to-date and in constant alignment with the state's business goals and the technology used to support those goals.



GTA's Lean Planning for IT Strategies



Leverage existing technology and solutions to enable the greatest value for the technology investments:

1. Use common state portal for citizen access.
2. Use enterprise data bus for data sharing.

Enable business processes with technology solutions, resources, skills and staffing to support business needs:

1. Match needs and skills to job and pay.
2. Identify and mitigate risks to the business.
3. Enable business through technology.

Align technology solutions with business needs:

1. Coordinate business strategies and integrated technology solutions and services.
2. Create sourcing strategies for timely acquisition and provisioning of solutions.

Apply innovative technologies to long-term business needs:

1. Create collaborative approaches to working with agencies and citizens to facilitate new technology-enabled business solutions.
2. Use industry best practices.



Strategic Planning

The goal of IT strategic planning in Georgia is to understand agencies' business objectives and help them use appropriate technology to meet those objectives. Agencies are guided in their business objectives by Governor Nathan Deal's policy priorities, which set specific goals in the areas of jobs and the economy, education, transportation and infrastructure, criminal justice reform, health care, and natural resources. **(More information about Governor Deal's policy priorities is available online at <http://gov.georgia.gov/priorities>.)**

Ensuring the use of available technology effectively and efficiently through the IT strategy cycle



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Georgia's IT Strategy Cycle

The IT strategy cycle is a framework for ensuring that Georgia agencies use available technology effectively and efficiently to achieve the Governor's vision for Georgia. A key to success is a collaborative environment where agencies recognize shared objectives and work together to achieve greater benefits for the enterprise. GTA serves as a facilitator in identifying common needs, as a technology guide in identifying strategies that have proven successful in other organizations, and as an advocate for agency solutions that show promise for the enterprise.

The Strategy Cycle is comprised of the following five components:



1. Technology Scanning

Identifying what is new and relevant and sharing what we find

Technology scanning is a continuous process of gathering information about how technology is helping organizations like Georgia state government achieve their objectives. It identifies what is relevant for state agencies and shares appropriate findings through periodic reports and presentations. When targeted to business needs, this information helps agencies make more effective use of proven technology.

GTA relies on numerous sources for information about new business uses of technology. A sampling of those sources includes Gartner, a leading technology research and advisory firm; the National Association of State Chief Information Officers (NASCIO); the Center for Digital Government; and its biennial Digital States Survey.

In addition, we monitor a broad range of publications, such as Government Technology, CIO, and Public CIO magazines.



2. Agency Business Needs

GTA continues to place high value on understanding agency business needs and will continue to review agency strategic plans, conduct agency surveys, and hold regular meetings with agencies to ensure that we have a clear picture of the business objectives that drive agency technology needs.

Working closely with agencies to create a clear picture of business objectives



3. Georgia Enterprise Information Technology Strategy

The Georgia enterprise IT strategy establishes focus areas and goals for the state's IT enterprise in a multi-year look ahead. In doing so, it guides executive branch agencies in aligning their technology solutions with the direction established for the state's IT enterprise. The Georgia Enterprise IT Strategic Plan 2020, first published in 2014, is available online at <http://gta.georgia.gov/it-strategic-plan-2020>.

Sharing vision to guide agencies in IT investment

4. Innovative Technology Review

Collaborating to address IT needs across agencies

The Georgia Innovation Program works closely with agency planners and the Governor's Office of Planning and Budget to identify priority agency and statewide business needs. We look for technology-based solutions and solicit ideas from state agencies for innovative uses of technology to address challenges faced by multiple agencies. Interested agencies staff projects selected for the program, and decisions are guided by a cross-agency committee. Funding for implementing cross-agency projects is overseen by OPB and GTA.



5. Technology/Strategy Summit

Industry leaders present proven approaches

The Technology/Strategy Summit, which GTA sponsors each spring, explores ways that agencies can better collaborate to improve operations and meet new business needs. Industry experts from specific areas of technology present detailed information to Georgia agency business and technology leaders.



Executing the strategic plan delivers results

The components of the Georgia Enterprise IT Strategic Plan (2025) are multi-faceted by design, enabling it to support the diverse business needs of the state. It is not designed to be a one-size-fits-all document, but instead, a comprehensive plan that technology leaders and planners can use to align their business objectives to a defined technology direction.

Planning is just the first step; execution is where results happen. Execution of the plan occurs primarily through the execution of project activities. It is important this plan not only outlines future technology direction, but also identifies some of the risk factors that many times cause projects not to achieve their optimal outcomes. Industry standards and best practices consider several tenets critical to obtaining the desired outcomes of mature strategic planning processes:



Project Management

Project management is where the war is won

Project management is where the war is lost or won. As GTA continues to mature this competency across the enterprise, it is important for an agency to ensure sound project management capability for internal and external projects. If this is an area in which an agency is still building a competency, GTA can assist with development of a project plan, charters, and program management skills, as well as creation of internal program management offices. GTA can also assist agencies in managing their project/program portfolios through the use of proven tools, methodologies and processes. As many agencies have discovered, it is much more cost effective to do project management right the first time.



