MOVING FORWARD TOGETHER

SOUTH CAROLINA STATEWIDE STRATEGIC INFORMATION TECHNOLOGY PLAN

NOVEMBER 2015

admin

THE SOUTH CAROLINA
DEPARTMENT *of* ADMINISTRATION

When we signed once-in-a-generation restructuring legislation into law last year, after a three-year fight, we changed the face of our state—making our state government more accountable to the people it serves, not the other way around.

As part of the restructuring effort, we have the opportunity to not only enhance the services we provide to the citizens of South Carolina, but to better utilize our IT investments while strengthening the security of our systems to ensure the safety of our data. And that's what we're going to do.

Because we know our future success depends on agency coordination and collaboration, this will be a top priority for agencies as we work to move forward as a state while modernizing and improving state government operations.

The South Carolina Department of Administration is pleased to present the 2015-2018 Statewide Strategic Information Technology Plan. When I was appointed by the Governor, I was charged with ensuring the efficient use of government resources across the State and this strategic plan is a key step towards meeting that directive. The resulting strategy and plan, which was developed with input from many of the State's agency and information technology leaders, identifies the major goals, priorities, and actions for statewide information technology (IT) for the next three years.

The face of South Carolina was forever changed with the enactment of sweeping restructuring legislation that became effective July 1, 2015. For years, as a state, we have discussed potential cost savings, efficiencies, and service delivery methods that can radically improve government services to our citizens. Now, through the Department of Administration, we have a vehicle to bring government and stakeholders together to collaborate and partner to make these ideas a reality.

This new structure allows us to look at our costs, processes, and delivery methods using a statewide perspective and find the most efficient way to deliver our services. The strategies outlined in this plan do not call for the Department of Administration to be the only technology service provider, instead it calls for us to work together to identify and understand agency needs and then work together to find the best possible solutions. This approach does not diminish the critical importance of each agency and its own unique needs; instead it fosters the trust and relationships needed to make far-reaching changes to this government's ability to serve the public.

The strategies identified in this plan, when implemented together, will improve the State's ability to ensure reliable, secure, cost efficient, and innovative IT services and infrastructure. As a result, agencies will be empowered to deliver more responsive and cost-effective services to the citizens of South Carolina.

I look forward to continuing to work with all of our agencies as we move forward together in the implementation of the Statewide Strategic Information Technology Plan.

Sincerely,

Marcia A. Adams

Marcia Adams
Executive Director, South Carolina Department of Administration

TABLE OF CONTENTS

The development of the South Carolina Statewide Strategic Information Technology Plan was the result of a true collaborative effort on the part of the Department of Administration's Division of Technology and agency and information technology (IT) leaders from across the State. As part of the development, an Executive Advisory Group, consisting of seven State departmental executives and two private sector IT executives, was formed to oversee the process and to provide input in the creation of the plan. Also instrumental in its development was the IT spending and planned investment information provided by 74 State agencies, as well as the direct input of dozens of agency and technology leaders obtained through a structured interview process.

The Department of Administration is pleased to share the results of this effort, which is intended for use by legislators, State executives, IT leaders, and agency staff. It is important to note that this plan is not a static document. While the strategic plan addresses a three-year timeline, annual reviews and updates will be made. In addition, the Division of Technology, in partnership with State agencies, will continue to evolve its data-driven decision capabilities, and will make adjustments to the plan as necessary over time.

With the creation of the Department of Administration, the State of South Carolina has a unique opportunity to examine its information technology functions using a statewide perspective. Government is ultimately accountable to its citizens, and as such, must examine its costs, processes, and service delivery methods to ensure the most reliable, efficient, and secure services are delivered to citizens. This examination cannot be done in a vacuum, but instead must be accomplished by bringing all agencies together. The Department of Administration provides the vehicle for government and stakeholders to come together to collaborate and partner to improve the services we provide the people of South Carolina.

To understand how we can improve our statewide information technology functions, we must first understand our current state. Today, the State of South Carolina's information technology is highly decentralized. In most cases, agencies operate in their own individual silos. This approach makes it very difficult to understand the State's true technology costs, and, more importantly, such decentralization increases the State's information technology security risks and makes economies of scale virtually impossible to achieve. The data we have collected, when compared against key metrics and peer benchmarks, indicates that South Carolina has more IT employees than peer government organizations and that we overspend in many IT areas. The State has seen evidence of these inefficiencies from various statewide reviews and from benchmarking comparisons as noted below:

> The State of South Carolina will transform the State's IT infrastructure to ensure reliable, secure and cost efficient services through the adoption of a shared services operating model across all State agencies.

- In December 2014, the *State of South Carolina Information Security and Privacy Final Report* identified the numerous data centers and server rooms managed by agencies as a major risk and challenge to be addressed by the State.

- In February 2015, the *State of South Carolina Disaster Recovery Strategy Assessment* identified 619 critical State applications as being essential to citizen health and well-being. Of these applications, 92 percent lack a full disaster recovery plan and 70 percent have no disaster recovery capability at all. This includes applications that ensure basic citizen needs are met and the threat of loss of life is mitigated during times of disaster.

- The State of South Carolina Disaster Recovery Strategy Assessment also identified numerous data centers and server rooms, as well as the lack of technology standardization, as key issues to be addressed.

- In the FY14-15 South Carolina Appropriations Act, proviso 117.132, required agencies to report IT information and costs to the Division of Technology. When compared against peer benchmarks and key metrics, the reported costs show the State spends approximately $46.4 million more in the area of data center costs and $8.9 million more in the area of network services when compared to peer organizations. One of the primary drivers for this variance indicates that when compared to peers, the State has significantly more staffing.

This Statewide Strategic Information Technology Plan envisions a very different future for the State when it comes to IT. The cornerstone of this plan rests on the premise that it is in the entire State's best interest, including those of agencies and citizens alike, to find better ways to leverage and share what is common across the State in terms of IT. It reflects the improvements the State can make in security, reliability, citizens' access to services, decision making, and innovation when we share our limited resources, including our human resources.

The statewide IT goals identified below represent the strategic direction for the State of South Carolina. These goals are an important unifying view of the State's longer-term IT direction for agency and IT leaders.

🔒	**Advance Information SECURITY and Accessibility**	The State will protect citizen data and all State information assets, and ensure the availability of systems and data in the event of a disaster.
	Improve RELIABILITY of State Systems	The State will improve the reliability and cost efficiency of IT systems through a shared services model.
	Evolve CITIZEN ACCESS to Government Services	The State will establish a common IT infrastructure to better support access to government services and build a foundation for improved cross-agency collaboration.
📊	**Institute DATA-DRIVEN Decision Making**	The State will establish a culture focused on delivering value for citizens, businesses, and State agencies, enabled by data-driven IT decision making.
💡	**Lead in TECHNOLOGY INNOVATION**	The State will identify innovative technologies to support the mission of agencies and serve citizens.

Under this plan, the Division of Technology will serve as the shared services organization to ensure reliable IT infrastructure services – such as data center, end-user computing, IT service desk and network services – are provided on behalf of the State. The Division of Technology will also function as a service coordinator to match agencies' needs to the best services available, whether such services are delivered through State resources or via an external provider. It is important to note that State agencies will continue to be responsible for their own applications under this new model.

In the future, shared infrastructure services will be the foundation upon which new and improved IT systems are built to support cross-agency collaboration, resulting in improved government services for citizens without the need for expensive and duplicative systems. Achieving this statewide transformation, and the benefits associated with it, will require new investments in a number of areas including the modernization of aging assets, improving service reliability and workforce skills, and the protection of sensitive information.

It will take years, even beyond the timeframe of this plan, to fully execute this strategy. During this time, the Division of Technology will work with agencies to better understand the required degree of agency alignment with the shared services model, and together will determine a practical, achievable, and risk-based approach for the transition. This data driven decision-making approach will result in agencies moving to the new model over time when it is mutually beneficial for all stakeholders.

The development and implementation of the Statewide Strategic Information Technology Plan rests upon the three supporting pillars of IT Principles, IT Governance, and Performance Management. While these pillars are critical to the plan's successful implementation, more work must be done in conjunction with State agencies to further the development of governance and performance management methods. To assist in this effort, a roadmap is currently being developed which identifies, prioritizes, and defines the projects required to implement the Strategic Plan.

The State of South Carolina will transform its information technology infrastructure to ensure reliable, secure, and cost efficient services through the adoption of a shared services model across all State agencies. In order to realize the greatest benefits possible, we must all work together to make this model successful for the State, its agencies, and its citizens. We must move South Carolina IT forward, together.

Information Technology Contributions

There is no better example of a function that is poised to reap the benefits of this new collaborative approach than the State's information technology function. Consider some of the State's services that technology enhances today:
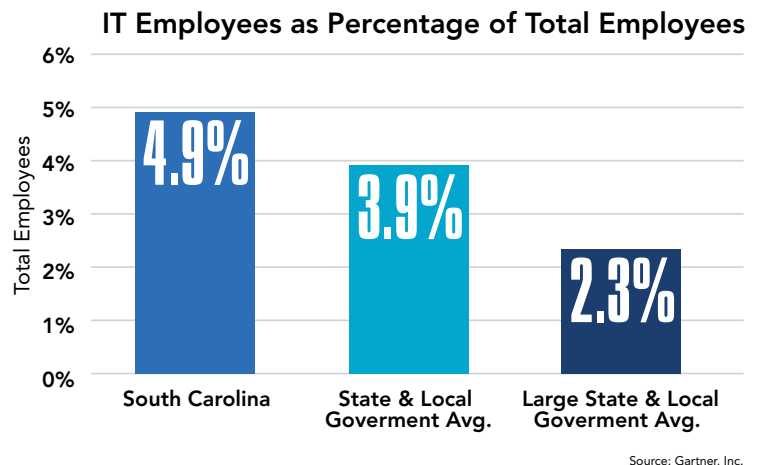
- Processing more than 11 million motor vehicle related transactions per year, including 1.7 million requests from law enforcement and 3.8 million requests from citizens.

- Managing more than $29 billion in retirement funds for our current and retired state employees.

- Providing Medicaid assistance to more than 1 million of our citizens, including over 700,000 children in need.

- Supporting and maintaining personal and scholastic information for more than 750,000 students, enrolled in more than 1,200 schools across the State.

- Processing more than 8,000 law enforcement inquiries a week to share critical, time-sensitive information across State jurisdictions.

As noted above, information technology's contributions are essential to the quality, efficiency, and scale of government services offered to the citizens of South Carolina. It is through our IT human resources, work methods, and technology tools that the State is able to deliver the capabilities necessary to provide services to our citizens and protect our sensitive information.

> When comparing the number of IT employees as a percentage of total State employees, 4.9 percent, South Carolina compares unfavorably to Gartner's key metric of 3.9 percent for state and local government organizations on average and 2.3 percent for large governments.
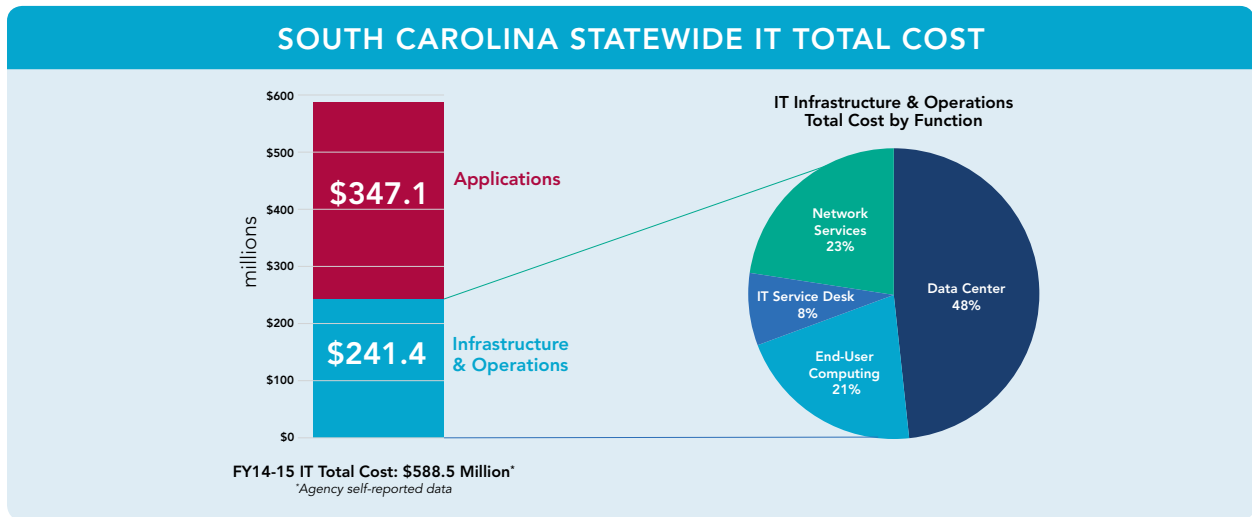
Efficiency Comparisons

Yet despite the importance of information technology and the fact that the resources required to plan, build, and run IT infrastructure are similar across all agencies, the State provides infrastructure in a largely decentralized manner. In doing so, the reliability, cost, and efficiency benefits realized from collaboration and partnership are often lost. For example, when comparing the number of IT employees as a percentage of total State employees, 4.9 percent, South Carolina compares unfavorably to Gartner's key metric of 3.9 percent for state and local government organizations on average and 2.3 percent for large state and local governments with operating budgets over $10 billion.

IT Employees as Percentage of Total Employees

Total Employees

- 6%
- 5%
- 4%
- 3%
- 2%
- 1%
- 0%

South Carolina: **4.9%**
State & Local Goverment Avg.: **3.9%**
Large State & Local Goverment Avg.: **2.3%**

Source: Gartner, Inc.

Current State of Information Technology

The FY2014-15 South Carolina Appropriations Act, proviso 117.132, required agencies to report IT information and costs to the Division of Technology. The data gathered as a result of this requirement allowed the State to determine the total cost of IT, the results of which are illustrated below.

SOUTH CAROLINA STATEWIDE IT TOTAL COST

IT Infrastructure & Operations Total Cost by Function

Applications $347.1

Infrastructure & Operations $241.4

Network Services 23%

IT Service Desk 8%

End-User Computing 21%

Data Center 48%

FY14-15 IT Total Cost: $588.5 Million*
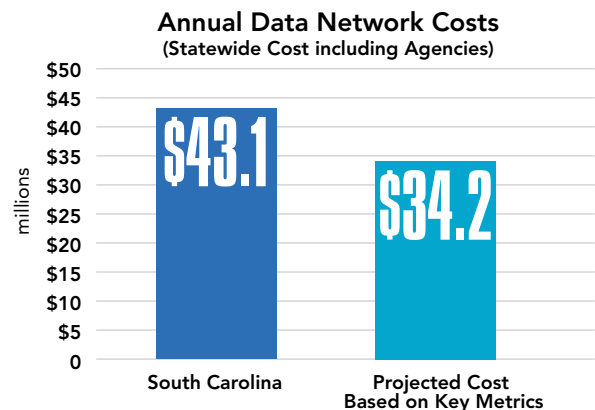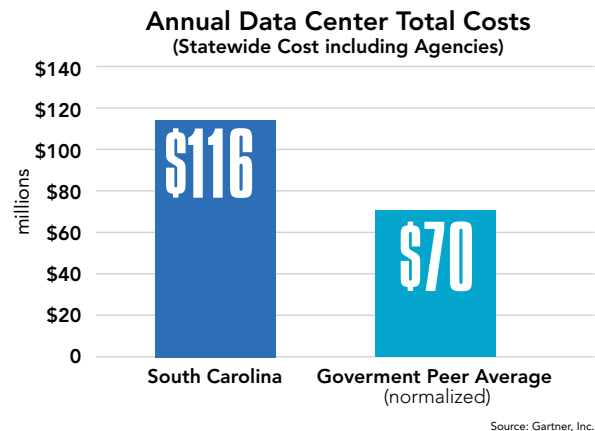*Agency self-reported data*

The data reported by agencies, when compared against peer benchmarks and key metrics, indicates the State has overspent in many IT areas. Data center operations and network services total costs are two examples of such overspending. Nearly half of the State's IT infrastructure spending is in the area of data center services. According to Gartner government benchmarks, the State in total overspends approximately $46.4 million annually, in this single area.

The data collected also illustrates the State's cost inefficiencies in the area of network services, where approximately $43.1 million was spent in FY2014-2015. Key metrics provided by Gartner indicate an expected annual cost per employee of $846 for this area, translating into a projected annual cost of approximately $34.2 million. This projection represents approximately $8.9 million in annual overspending by the State in network services.

Findings from Recent Statewide Assessments

In December 2014, the *State of South Carolina Information Security and Privacy Final Report* identified the numerous data centers and server rooms managed by agencies as a major risk and challenge to be addressed by the State. The absence of a unifying architecture, common standards, and shared infrastructure services drives increased information security costs and strains the State's human resources required to serve the various architectures. The State cannot achieve efficiencies when job functions that could be shared across agencies are duplicated within each agency, driving up total IT cost.

Annual Data Center Total Costs
(Statewide Cost including Agencies)

$116 — South Carolina
$70 — Goverment Peer Average (normalized)

Source: Gartner, Inc.

Annual Data Network Costs
(Statewide Cost including Agencies)

$43.1 — South Carolina
$34.2 — Projected Cost Based on Key Metrics

Also, consider the impact decentralization has upon the State's disaster recovery and business continuity capabilities as identified in the February 2015 *State of South Carolina Disaster Recovery Strategy Assessment,* which includes the following findings:

- 619 critical State applications are considered essential to citizen health and wellbeing. Of these applications, 92 percent lack a full disaster recovery plan and 70 percent have no disaster recovery capability at all. This includes applications that ensure basic citizen needs are met and the threat of loss of life is mitigated during times of disaster.

- The *State of South Carolina Disaster Recovery Strategy Assessment* also identified numerous data centers and server rooms, as well as the lack of technology standardization, as key issues to be addressed.

As noted above, multiple industry-leading organizations have recently evaluated the current state of information technology in South Carolina and consistently have confirmed the need to take significant action to advance our capabilities and protect our citizens' sensitive information. The time to take action is now. The State cannot wait for a disaster or security incident to be a catalyst for change. The stakes are simply too high and failure to put the State in a better position to manage information technology is inexcusable.

Simply put, the State can no longer afford to continue operating with duplicative information technology resources and higher risks related to information security. Without significant changes to our highly decentralized model, the State cannot have systems that are more secure, reliable, and cost efficient; it cannot be innovative in providing citizen access to government services; and it cannot make the data-driven decisions necessary to ensure information technology serves the State's citizens in the most effective manner.

> South Carolina's telecommunications services costs are 50% lower than government peers. These services are a great example of the improvements and cost efficiencies to be gained through IT shared services.

Telecommunications – A Bright Spot

Contrasting the challenges presented with a decentralized approach, consider one example where a centralized approach to IT has provided significant benefits to the State of South Carolina. In the 1980's South Carolina, through the Budget and Control Board, created a telecommunications network to serve the needs of State agencies. At the time, the most cost effective way to provide these services was for the State to own and manage the majority of the infrastructure related to the service. This centralized, State managed approach to managing telecommunications services kept the costs below commercial rates. As the technology for voice services evolved and the advent of Voice over Internet Protocol (VoIP) enabled private carriers to provide services more efficiently, the State decided to transition its voice services to a single hosted service provider. This transition allowed South Carolina to leverage the VoIP technology without the cost of upgrading its entire existing infrastructure. Most recently, the contract for hosted voice service was awarded to multiple vendors to allow for more competitive pricing and flexible services.

While most of the data collected in regards to the State's IT spending shows we can make significant improvements, telecommunications is the one service where the State has done an exemplary job of managing its costs through centralized management and partnering with private sector companies as technology evolves. Based on the data provided, the State of South Carolina's total spending for telecommunication services is 50 percent lower than our government peers. This represents a compelling case for seeking further improvements through a shared approach for statewide IT infrastructure.
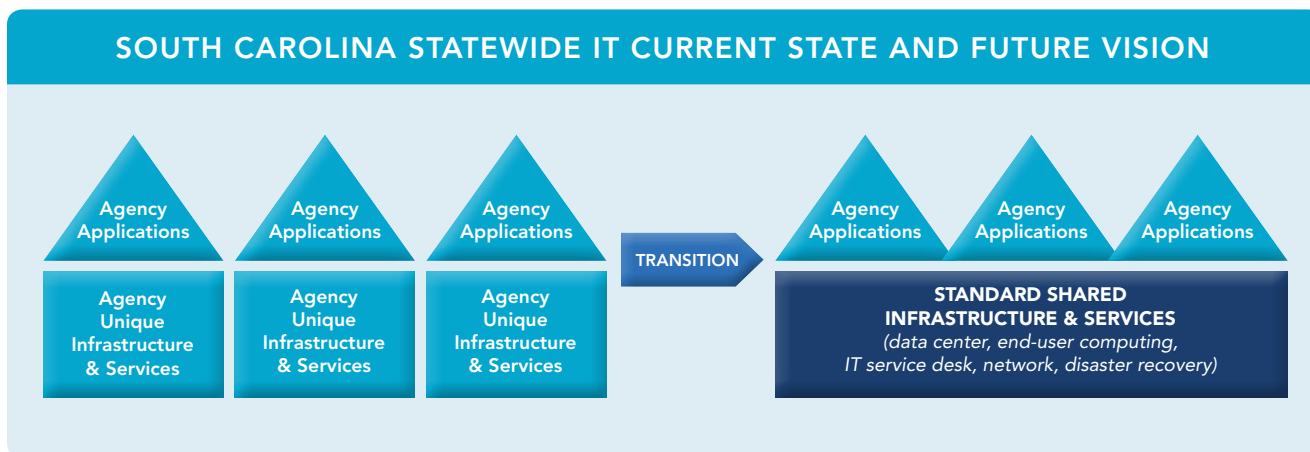
Built on the State's need to manage its information technology (IT) costs more effectively, the State is adopting an IT shared services operating model, led by the Division of Technology. The Division of Technology will serve on behalf of the State as the shared services organization to ensure reliable IT infrastructure services such as data center, end-user computing, IT service desk, and network services.

The State stands to make amazing strides by adopting a shared infrastructure services model. This model reflects a statewide perspective on reliability, security, and efficiency while recognizing each agency's unique applications needs. It builds a trusted relationship for collaboration and partnership. It is not necessary for the Division of Technology to always serve in the role of service provider, but at times rather to serve as a facilitator to bring agencies, stakeholders, and the private sector together to provide exceptional services to the people of South Carolina. Sharing infrastructure services such as data center, server computing, storage platforms, networks, end-user computing, service desk, and disaster recovery allows the State to provide technology that is more reliable, secure, and cost efficient.

The Division of Technology is accountable for the successful delivery of such shared services, and is responsible for determining the optimal approach for delivering such services, whether through State resources or via an external service provider. The outsourcing of some services may continue to occur when it is determined the marketplace is the most effective method of service delivery.

It is important to note that State agencies will continue to be responsible for their applications under this new operating model, which is currently used in such neighboring states as Georgia, Florida, Virginia and Kentucky. Agencies are encouraged to continually improve their unique applications and seek opportunities to work together on new applications when appropriate.

This new model represents a fundamental change and milestone in the evolution and transformation of statewide information technology, and serves as an important cornerstone for this Statewide Strategic Information Technology Plan.

SOUTH CAROLINA STATEWIDE IT CURRENT STATE AND FUTURE VISION

Agency Applications

Agency Applications

Agency Applications

TRANSITION

Agency Applications

Agency Applications

Agency Applications

Agency Unique Infrastructure & Services

Agency Unique Infrastructure & Services

Agency Unique Infrastructure & Services

STANDARD SHARED INFRASTRUCTURE & SERVICES
(data center, end-user computing, IT service desk, network, disaster recovery)

Not only will a shared services model provide the platform for improving efficiency and reliability, it will also allow South Carolina to better manage information security risks through reduced complexity, modernized assets, and improved compliance with security standards and policies. In addition, it will allow much needed improvements in infrastructure services, such as disaster recovery, to be delivered in a faster and more cost effective manner.

One current example found in State government represents an outstanding opportunity to exercise the effectiveness of this model in the near-term. At present, one State agency is required to move from its current facility, which includes data center floor space used to house the agency's IT assets. Adding the requirement of an additional data center to support secure and reliable infrastructure services increases the new facility cost to the agency. By leveraging the Division of Technology's existing data center, the State could avoid a costly annual expenditure while improving its IT efficiency.

The shared services model will allow us to make better use of critical, scarce skills and resources within the State while taking into account programs currently in place, like the Professional Development Program.[1] This program identifies the current and planned skills of existing IT personnel, and also helps identify where there is a shortage of skills. This key program will continue to assist in driving the development of the necessary skills within our IT workforce.

In the future, shared infrastructure services will be the base upon which new and improved IT systems are built to support cross-agency collaboration, resulting in improved government services for citizens without expensive duplicative systems. The shared model will focus on infrastructure because it defines the common building blocks across agencies, and is the foundation upon which all components of information technology are built. Achieving this transformation and its related benefits will require new investments in such areas as modernizing aging assets, improving service reliability and workforce skills, and protecting sensitive information.

It will take years, even beyond the timeframe of this plan, to fully execute this strategy of first establishing a steady foundation and then driving methodically towards greater efficiency. The State will take a collaborative and practical approach to transitioning agencies to this new model. Agency requirements will drive the development of shared services to ensure its individual needs are met, while the Division of Technology will work with agencies to understand the degree of agency alignment with the shared services model, and together will determine a practical, achievable and risk-based approach for transition. This data driven decision-making approach will result in agencies moving to the new model over time when it is mutually beneficial for all stakeholders.

> At present, one State agency is required to move from its current facility, which includes data center floor space used to house the agency's IT assets. Adding the requirement of an additional data center to support secure and reliable infrastructure services increases the new facility cost to the agency. By leveraging the Division of Technology's existing data center, the State could avoid a costly annual expenditure while improving its IT efficiency.

The statewide information technology goals identified below represent the strategic direction for the State of South Carolina. The goals are an important unifying view of the State's longer-term IT direction for agency and IT leaders.

Advance Information Security and Accessibility
Protecting citizen data and all of the State's information assets has been a top priority for the past few years, and will continue to be a top priority for this strategic plan. The vision for the State is to identify new potential security threats and take the necessary steps statewide to ensure such threats are mitigated and our information assets remain secure. To achieve this, the State will continue to focus on evolving statewide standards for information protection, identifying and deploying security solutions that can be leveraged across the State, and assisting agencies in maturing their information security capabilities.

In addition to protecting our information assets, the State will also focus on ensuring that information will be available to agencies during times of disaster. Our vision for the future ensures critical systems remain operational or are quickly restored in the unfortunate event of a disaster. This includes the development of a statewide disaster recovery strategy and assisting agencies in preparing to ensure the continuity of essential government functions when required.

Improve Reliability of State Systems
Citizens expect reliable IT systems. Unfortunately, our State's current IT infrastructure is not as reliable as it should be due to a variety of contributing factors. Such factors include outdated and unsupported technologies, limited availability of the right technical skills, and a lack of funding to update or replace systems.

The vision for the State is to simplify information technology that is common across agencies and deliver such capabilities through a shared services model. Services will be developed with agency requirements at the forefront and orchestrated by a single shared services organization. The shared services organization will be responsible for ensuring the optimal methods for delivering such services and will be held accountable for service performance and value. Service management and support processes will be matured and leveraged across the entire State, leading to improved quality and reliability.

Simplifying the common IT footprint under the new shared services organization will allow the State to address the same factors that are contributing to system reliability problems today. It represents an important first step toward managing common IT components in a statewide manner, which in turn improves the State's ability to improve the reliability of its systems, as well as increase the cost efficiency of IT through economies of scale while ensuring greater protection of information assets.

Evolve Citizen Access to Government Services
Citizens and businesses have growing expectations when it comes to the accessibility of government services. More and more, people expect access on a 24x7 basis and through a variety of channels, whether it be through a customer portal, automated voice systems, or mobile applications accessed via a smart phone. Under our existing model, each agency has to find its own solutions for not only how to best serve citizen access, but also to ensure such solutions are robust and scalable to meet the needs of the citizen population.

The vision for the future is a common IT infrastructure that can be quickly deployed and supports multiple-channel access to agency provided government services. This common infrastructure will also provide an important foundation upon which the State and its agencies can begin to build the capabilities necessary to provide cross-agency, collaborative services for citizens.

To achieve this vision, the shared services organization must work with agencies to understand their citizen access needs and requirements, and evolve and manage the shared services capabilities to best support agency, and in turn, citizen needs.

Institute Data-Driven Decision Making
Given the State's highly decentralized IT footprint, the historical need for statewide IT decision making has been minimal. This will change with the creation of this Statewide Strategic Information Technology Plan. The State's vision is to establish an IT culture focused on delivering value for citizens, businesses, and State agencies, enabled by clearly defined decision responsibilities and fact-based, data-driven decision making.

The State will achieve this vision and improve the performance of IT statewide through greater transparency, decision accountability, and continuous improvement.

Lead in Technology Innovation
Today, agencies are looking for information technology to bring innovative ideas to the forefront to help transform government services. Too often, the progress IT is capable of providing is held back by the difficulties associated with maintaining legacy technologies and simply trying to keep the lights on for our IT operations. Unfortunately, this leaves little in regards to time or resources to dedicate toward exploring new innovative technologies.

The State's vision is to establish a technology innovation capability, focused on identifying such technologies to support the mission of agencies and to serve the citizens of South Carolina. Agencies with similar needs will be able to take advantage of such new technologies to deploy new government services faster with less effort and risk.

The State will achieve improvements in government services by facilitating the identification and exploration of innovative technologies, by supporting IT procurements that can be leveraged across multiple agencies, and by establishing and managing statewide architecture and standards.

Supporting Pillars

The development and implementation of the Statewide Strategic Information Technology Plan rests upon the three supporting pillars of IT Principles, IT Governance, and Performance Management.

IT Principles provide statewide guidance and direction for IT. They were instrumental in the development of this plan and will help guide IT decision-making going forward in the State. IT Principles are broad statements that serve to guide the State's key information technology related decisions. The principles serve as a guidepost for the agency and IT leaders, who are charged with key decisions and the implementation of this strategic plan. It is within this human element that positive change is truly enabled and the importance of this contribution cannot be emphasized enough. Leaders must carry out the principles embodied within this plan on a regular basis for the strategic plan to achieve its desired intents.

The State of South Carolina will embrace the following IT Principles on a statewide basis:

- We will work together to ensure IT services are of best value for the State.

- IT infrastructure and related services will be managed statewide, to improve information security, facilitate a platform for greater cross-agency collaboration and improve citizen services.

- We will work together to identify and appropriately leverage emerging technologies, effective solutions and best practices.

- We will ensure service level targets are agreed, and providers are able to meet or exceed them.

- The State will leverage capable, valuable IT vendors through strategic procurements.

- We will work together to establish and manage technology architecture and standards, allowing for exceptions where appropriate.

- The State will diligently seek to improve IT cost efficiency, though not at the sacrifice of reliability, as defined and agreed.

- The State will embrace a culture that attracts, develops and retains a skilled, customer-focused workforce, in order to best serve agencies.

IT Governance is an essential component for the on-going adoption, refinement, and implementation of the IT strategic plan. IT governance will formalize and enable continued participation and collaboration among agencies and the Division of Technology to strengthen statewide decision-making, achieve greater value from IT investments, and improve overall IT security, reliability, and effectiveness.

IT governance ensures a management process to appropriately and effectively manage critical strategic and operational priorities and decisions. IT governance is broadly defined by three key elements: What decisions need to be made? Who has decision and input rights? How are the decisions formed and enacted?

The State will collaborate with agencies to further define and formalize statewide governance to address strategic and operational decisions in key areas such as:

- **Investment Management** - Are we investing and focused on the highest value initiatives?
- **IT Infrastructure Strategies** - How will we evolve shared services?
- **Relationship Management** - How will we partner with others within and outside the State to increase effectiveness, security, reliability, and provide greater value?

Performance Management will solidify the commitment to create measurable value for the State through IT, which requires a consistent commitment to measurement, transparency, accountability, and continuous improvement.

The State will adopt a performance management approach to measure and track key indicators to achieve the key strategic goals and ensure the State is focused on the most important priorities. Key operational metrics, as well as more detailed IT benchmarks, will serve as a linkage between strategic business outcomes. Business outcomes resulting from IT investments in terms of tangible hard and soft benefits will be evaluated and reported to ensure business value is realized. Over time, increased transparency and accountability will serve as a cornerstone for agency and IT management, collaboration, and communication.

Strategic Plan

The South Carolina Statewide Strategic Information Technology Plan focuses on five major goals and supporting priorities, as identified below. These goals and priorities represent what the State must do over the next few years to ensure that information technology is reliable, secure, and cost efficient for agencies and the citizens of South Carolina. An Executive Advisory Group, consisting of seven State departmental executives and two private sector information technology executives, was formed to oversee and provide input to this plan. Information collected from 74 State agencies regarding IT spending and planned investments, as well as direct input from dozens of agency and IT leaders through a structured interview process, was used in developing this plan.

The prioritized actions the State must carry out are described in the following sections. These actions provide a description of the work to be performed over the life of the strategic plan, including the near term (1 year), mid-term (2 years) and longer term (3 years and beyond) activities.

STATEWIDE IT MISSION: The Division of Technology facilitates the delivery of government services in South Carolina by coordinating enterprise technology investment and providing information technology solutions.

GOALS	PRIORITIES		
	NEAR TERM (1 YEAR)	MID TERM (2 YEARS)	LONGER TERM (3+ YEARS)

Advance Information SECURITY and Accessibility
- Continuously assess and proactively manage information security
- Leverage and enable information security solutions and privacy practices
- Improve continuity of operations

Improve RELIABILITY of State Systems
- Transition initial, well-aligned agencies to shared infrastructure services
- Implement optimized governance structure
- Develop sourcing strategy

Evolve CITIZEN ACCESS to Government Services
- Understand agency demand and manage agency partner relationships
- Clarify service offerings
- Simplify and evolve services catalog
- Standardize service management processes and tools

Institute DATA-DRIVEN Decision Making
- Implement IT cost transparency
- Improve service level performance accountability
- Implement performance measurement and continuous improvement program

Lead in TECHNOLOGY INNOVATION
- Support leveraged IT procurements
- Establish an architectural framework to address the lifecycle of technology
- Modernize and digitize IT assets

SUPPORTING PILLARS

IT PRINCIPLES	IT GOVERNANCE	PERFORMANCE MANAGEMENT

GOAL	PRIORITIES		
	NEAR TERM (1 YEAR)	MID TERM (2 YEARS)	LONGER TERM (3+ YEARS)

Advance Information SECURITY and Accessibility

- Continuously assess and proactively manage information security
- Leverage and enable information security solutions and privacy practices
- Improve continuity of operations

5.1 Advance Information Security and Accessibility

The State will advance information security and accessibility through a focus on the following priorities and careful execution of the related actions with agencies to protect information assets and help ensure data is available in the event of a disaster.

PRIORITY: Continue to improve the statewide information security posture by supporting the completion of agency-level planning; assisting ongoing agency security assessments; and striving to mature security practices so they are proactive rather than reactive.

ACTIONS

- Ensure sufficient plans exist for the remediation of agency security control gaps by July 1, 2016.
- Continuously enhance the support of agency resources through professional development efforts and increase the maturity of the State's security practices in all assessed areas to include continued security awareness and training for end users.

PRIORITY: Leverage and enable information security solutions and privacy practices to mitigate risk and facilitate the sharing of lessons learned across agencies.

ACTIONS

- Continuously review and improve deployed enterprise security technology solutions.
- Establish and provide guidance on a robust statewide risk management process.
- Provide a forum to routinely discuss and share experiences, best practices, and opportunities for advancement.

PRIORITY: Improve the State's capability to restore and continue citizen services in the event of a disaster.

ACTIONS

- Establish a statewide disaster recovery strategy.
- Procure a disaster recovery solution that maximizes the collective buying power of all agencies.
- Establish a statewide business continuity plan template and assist agencies in applying it to their specific requirements.

GOAL	PRIORITIES		
	NEAR TERM (1 YEAR)	MID TERM (2 YEARS)	LONGER TERM (3+ YEARS)

Improve RELIABILITY of State Systems

Transition initial, well-aligned agencies to shared infrastructure services

Implement optimized governance structure

Develop sourcing strategy

5.2 Improve Reliability of State Systems

The State is committed to identifying efficiencies through the use of shared infrastructure services. A governance structure will be implemented to ensure agencies have a voice and insight in the development and delivery of these services. The State will examine strategies to provide services in the most efficient manner possible.

PRIORITY: Transition the initial set of well-aligned agencies to the State's shared infrastructure services.

ACTIONS
- Identify and prioritize an initial set of agencies to transition to the State's shared infrastructure services based on a practical, risk-based approach.
- Plan for each agency transition, establishing a baseline of service requirements and a transition project identifying timelines, funding sources, and risks.
- Migrate each agency's workload into the common, shared infrastructure services environment, scaling out the State's service capacities as required.

PRIORITY: Implement a governance structure and process to enable agencies to provide guidance into the State's shared infrastructure services program.

ACTIONS
- Define the key decisions to be addressed through governance, including but not limited to which agencies will participate in shared infrastructure services; which services to include in the service portfolio; and the service level targets.
- Establish roles and responsibilities for agencies and the Division of Technology that clearly identify decision-making roles.
- Establish and implement mechanisms required to carry out governance decisions.

PRIORITY: Develop a service delivery sourcing strategy that provides services through the most efficient and effective means.

ACTIONS
- Assess both current service delivery constraints and opportunities. Analyze gaps between existing service delivery capabilities and agency requirements in order to meet current and future agency needs.
- Evaluate external IT services market dynamics, vendor landscape and assess alternative sourcing options.
- Recommend and document the optimal sourcing strategy for the State and develop an action plan to enact the sourcing strategy.

GOAL	PRIORITIES		
	NEAR TERM (1 YEAR)	MID TERM (2 YEARS)	LONGER TERM (3+ YEARS)
Evolve CITIZEN ACCESS to Government Services	Understand agency demand and manage agency partner relationships		
	Clarify service offerings	Simplify and evolve services catalog	
	Standardize service management processes and tools		

5.3 Evolve Citizen Access to Government Services

The State, through the Division of Technology, will evolve its operational processes, tools, and reporting practices to better serve agency demands and citizen needs. Service excellence will be achieved by delivering the right service offerings at the most efficient cost to the State.

PRIORITY: Understand agency demand for IT services to ensure the right solutions and services are developed through trusted interactions with agency partners.

ACTIONS
- Develop operational processes to identify new service needs and review the performance of existing services delivered on a regular basis.
- Understand patterns of agency technology usage to include the demand for new and existing citizen-focused IT services and make the required capacity available to provide these services.
- Establish an innovation forum that allows for the exploration of new technologies, and document the resulting architectural direction and recommendations.

PRIORITY: Clarify position and evaluate the value of service offerings by aligning statewide IT priorities to agency missions and objectives.

ACTIONS
- Understand current IT contracts to recognize the breadth of citizen-centered IT services being provided and provide the necessary sourcing options.
- Refine the IT services portfolio based on future citizen needs through alignment with core agency missions and projected requirements.
- Increase statewide IT cost transparency to demonstrate efficient IT operations to citizens.

PRIORITY: Simplify the service catalog to support ease of use in ordering IT services.

ACTIONS
- Develop an IT service catalog that clearly communicates value to agencies and supports the needs of citizens.
- Develop service level agreements to ensure performance expectations are understood.
- Develop a self-service mechanism for automating requests and improving efficiency.

PRIORITY: Standardize service management processes and tools to drive efficiencies in operations and improve service experience.

ACTIONS
- Implement an IT service and support management tool (ITSSM) that provides a platform for an efficient, automated, and integrated workflow to resolve issues as soon as feasible.
- Invest in additional data analytics, metrics reporting, and dashboard tools to highlight service performance and drive service improvement, resulting in better support for citizen needs.
- Redesign IT delivery and develop core processes which improve service consistency and quality.

GOAL	PRIORITIES		
	NEAR TERM (1 YEAR)	MID TERM (2 YEARS)	LONGER TERM (3+ YEARS)
Institute DATA-DRIVEN Decision Making	Implement IT cost transparency		
	Improve service level performance accountability		
			Implement performance measurement and continuous improvement program

5.4 Institute Data-Driven Decision Making

The State, through the Division of Technology (DT), will embrace and institute a customer service culture based on delivering value for citizens, businesses, and government organizations through reliable, secure, and cost efficient technology and services. The Division will embrace this value-based culture through transparency, accountability, and continuous improvement.

PRIORITY: Implement a repeatable mechanism for achieving IT total cost transparency across the State based on timely, accurate financial information.

ACTIONS
- Establish a repeatable mechanism for collecting and analyzing statewide IT total costs based on financial and resource information from the South Carolina Enterprise Information System (SCEIS).
- Define a costing model to which all IT costs and resources will be mapped to improve the detail of statewide IT cost transparency.
- Conduct statewide IT and security planning on an annual basis.

PRIORITY: Improve Division of Technology accountability by defining service level targets and managing service level performance for all services provided by DT.

ACTIONS
- Define or update service level targets for all Division of Technology service offerings, taking partner agency input into account.
- Establish mechanisms to measure and communicate service performance and key performance indicators.
- Review and update service level targets and improve service level performance on a continuous basis.

PRIORITY: Implement a performance measurement and continuous improvement program to enhance reliability, cost effectiveness, and value of services delivered by the Division of Technology.

ACTIONS
- Implement and execute processes to review, analyze, and improve services that do not meet monthly service level targets.
- Compare IT costs to peer organizations in order to measure efficiency.
- Measure customer satisfaction on a regular basis.
- Review results of cost comparisons and improve value of services by improving service delivery approaches where warranted.

GOAL	PRIORITIES		

		NEAR TERM (1 YEAR)	MID TERM (2 YEARS)	LONGER TERM (3+ YEARS)

Lead in **TECHNOLOGY INNOVATION**

Support leveraged IT procurements

Establish an architectural framework to address the lifecycle of technology

Modernize and digitize IT assets

5.5 Lead in Technology Innovation

The State, through the Division of Technology, will establish a technology lifecycle framework as part of its cultural transformation that includes a focus on innovative technology services in support of agency missions.

PRIORITY: Support leveraged IT procurements.

ACTIONS
- Continue guidance for the Information Technology Management Office (ITMO) to leverage new IT procurements with potential statewide impact.
- Continue developing a strategic sourcing model for statewide IT procurements.
- Leverage the scale of the State's shared infrastructure services to procure highly available and disaster ready services.

PRIORITY: Facilitate the establishment of an architectural framework, which addresses the lifecycle of technology.

ACTIONS
- Define enterprise IT architecture and service standards and manage each through procurement oversight and governance.
- Evolve standards to address changing technologies.
- Establish an innovation forum that allows for exploration of new technologies.

PRIORITY: Provide leadership in the modernization of infrastructure in support of enhanced citizen services.

ACTIONS
- Facilitate the identification and exploration of emerging digital ecosystems of interconnected people, businesses, and technology-enabled devices.
- Expand common infrastructure services and platforms which unify and enable cost efficiencies.
- Move services to a Software as a Service (SaaS) model, where appropriate.
- Improve IT planning processes through increased structure and formality.

At its core, statewide information technology is about serving South Carolina's citizens effectively and efficiently with valuable and necessary services that lend to safety, security, and an improved quality of life. The Statewide Strategic Information Technology Plan includes a set of goals, priorities, and actions designed to set the direction for the State's information technology community. This plan is intended not only for the Division of Technology, it is created for the entire State and includes input from a variety of stakeholders solicited through a collaborative process. With this plan, a bold new technology direction is established for the State of South Carolina.

The next step is to develop a plan to implement the State's strategic information technology goals. The Division of Technology will collaborate with agencies to develop a roadmap for implementation and for governance so that each of us understands our important roles in making this strategic direction a reality.

A website has been created for readers to stay informed on new developments and provide feedback regarding this plan. More information can be found at http://www.admin.sc.gov/SCStrategicITPlan.

The Division of Technology looks forward to working closely together with agencies and other partners in achieving our respective missions and strategic goals through the priorities and associated actions defined in this plan. Together, we will help move South Carolina's information technology forward in a positive direction and endeavor to realize the reliable, secure, cost efficient, and innovative technology support our citizens require and deserve.

DEVELOPMENT OF THE STATEWIDE STRATEGIC IT PLAN

An Executive Advisory Group, consisting of seven State departmental executives and two private sector information technology (IT) executives, was formed to oversee and provide input to this plan. Information collected from 74 State agencies regarding IT spending and planned investments, as well as direct input from dozens of agency and IT leaders through a structured interview process, was used in developing this plan.

Executive Advisory Group
The Executive Advisory Group membership consisted of the following individuals:

- Marcia Adams, Executive Director, Department of Administration
- Paul Koch, Chief of Staff, Department of Administration
- Kyle Herron, Chief Operating Officer, Department of Administration, Division of Technology
- Mark Keel, Chief, State Law Enforcement Division
- Catherine Heigel, Director, Department of Health and Environmental Control
- Christian Soura, Director, Department of Health and Human Services
- Cheryl Stanton, Executive Director, Department of Employment and Workforce
- Randal Senn, Chief Information Officer, SCANA Energy
- Steve Wiggins, Executive Vice President/Chief Information Officer, BlueCross BlueShield of South Carolina

Working Group
The Working Group below also helped oversee and provide input to the Statewide Strategic IT Plan and consisted of the following individuals:

- Lindsey Kremlick, Project Management Director, Department of Administration
- Keith Osman, Chief Information Officer, Division of Technology, Technology Operations
- Philip Cockrell, Chief Technology Officer, Division of Technology, IT Planning and Administration
- Marcos Vieyra, Chief Information Security Officer, Division of Technology, Information Security
- Theodora Wills, Chief Privacy Officer, Division of Technology, Enterprise Privacy

Participating Agencies
Direct input from dozens of agency and IT leaders through a structured interview process, was used in developing this plan. The participating agencies included:

- Board for Technical and Comprehensive Education
- Department of Administration
- Department of Consumer Affairs
- Department of Corrections
- Department of Education
- Department of Employment and Workforce
- Department of Health and Environmental Control
- Department of Health and Human Services
- Department of Juvenile Justice
- Department of Labor, Licensing and Regulation
- Department of Motor Vehicles
- Department of Natural Resources
- Department of Parks, Recreation and Tourism
- Department of Probation, Parole and Pardon Services
- Department of Public Safety
- Department of Revenue
- Department of Social Services
- Department of Transportation
- Forestry Commission
- Public Employee Benefit Authority
- State Law Enforcement Division
- State Library

STATEWIDE IT STRATEGIC DIRECTION

The statewide IT direction as it relates to the Division of Technology services offered under the shared infrastructure services model, how such shared services will be supported and managed, and the broader technology direction for statewide information technology is provided below.

Organization
The Division of Technology will ensure the delivery of infrastructure operations and capabilities in a secure environment across the State. The Division of Technology consists of the following functions:

- **Information Security** is responsible for statewide policy standards, programs, and services relating to cybersecurity and information systems.

- **Technology Operations** is responsible for setting the direction of the entire State's use of technology, and supporting the application and administration of information technology in government. In contrast, agencies are responsible for services related to agency-specific application development, implementation, support, and maintenance.

- **Enterprise Privacy** is responsible for advising South Carolina's state agencies on the management of personal information, as well as establishing, assessing, and enhancing privacy protection policy, training, and compliance measures.

The Division of Technology assigns key individuals to significant roles in an effort to ensure accountability for the performance of IT services. Roles central to the statewide IT strategy include services lead, process owner, training lead, reporting lead, service manager, and business relationship manager. The business relationship manager is a critical role in the agency-partner relationship with the Division of Technology. The purpose of this role is to serve as the liaison to agency-partners, to best understand and represent agency objectives, imperatives, needs, and priorities; plan, forecast, and translate IT service requirements; while also supporting innovative strategic thinking through the clear articulation of the Division of Technology's capabilities and services.

The Division of Technology will anticipate IT resource requirements to support shared infrastructure services, and will obtain personnel with the appropriate skills, as necessary. Should additional Division resources be required to support an expanding workload, the Division of Technology will plan for these requirements in advance and will bring on such resources to support the growing workload.

Data Center
The primary data center, located at the Division of Technology's Broad River Road facility in Columbia, S.C., supports 99.74 percent uptime reliability, which equates to a Tier II classification by multiple industry standards. The data center provides sufficient network, security, and facility infrastructure, including space, power, and cooling, to support the initial migration of agency workloads. This includes the ability to operate during an extended power outage, using a backup power system.

Endpoint management tools provide highly scalable asset management and software patching functions, reducing complexity and improving efficiency. Significant reliability and availability improvements to the data center provide a robust and elastic shared infrastructure services, with integrated storage replication and disaster recovery capabilities.

The Division of Technology will strengthen its Infrastructure as a Service (IaaS) offerings to serve the State, by seamlessly combining on premise infrastructure with external cloud-based environments that are service-oriented, scalable, shared, and developed on Web-based technology.

While working together with agencies in migrating infrastructure and related services to the shared services model, the State will emphasize the preferred approach of transitioning agency workloads into a common infrastructure platform, and will transition existing, uncommon physical assets on a case-by-case basis.

In order to provide continuity of government operations during and after a disaster, the Division of Technology envisions a statewide disaster recovery approach to support the continuous delivery of citizen services. This approach will require collaboration with agencies, to integrate their business continuity plans with technology restoration procedures, and the use of a service restoration facility.

Services
The IT shared infrastructure services operating model will focus on IT infrastructure services. The Division of Technology's role related to information security and privacy will continue to ensure an effective framework is in place, policies and controls are understood and followed, and common security solutions can be leveraged across the State. While agencies will continue to be responsible for their individual applications, there may be an impact to application requirements based on evolving technology standards. Such instances will have to be evaluated and decided on a case-by-case basis.

An overview of the services provided by the Division of Technology is provided below:

- **Network and Telecommunications Services** provide all inside cable moves, adds, changes, and disconnects for legacy telephone service and data drops, as well as related services to include facility project consulting, planning, design, and implementation of the telecommunication infrastructure. Support includes the management and maintenance of agency routers and/or switches, including monitoring for operating system upgrades and response to outages on a 24/7 basis.

- **Workplace and Collaboration Services** include the provision, management, and support of desktop and mobile computing devices, as well as software to enable e-mail, collaboration, shared calendars, and a task management environment.

- **Data Center and Hosting Services** provide for the use of fully managed, dedicated servers for customer processing. Server support consists of monitoring system performance and data storage utilization, system software installation, problem solving and performance tuning, system backups, and in-house/off-site backup tape storage.

- **Information Security and Privacy Capabilities** increase the State's capacity to identify risk and consistently assess compliance and measure the State's security posture across all agencies.

The State's preferred approach is to transition agency workloads, not physical assets, into a common infrastructure platform.

Today, one South Carolina agency is experiencing unreliable network services. Network outages, which are occurring on a more frequent basis due to aging equipment, are having an impact on the ability of the agency to provide reliable services. The Division of Technology is working closely with the agency to replace the aging equipment and enhance the support the State receives in managing this equipment. The expected benefits include improved cost efficiency and improved agency productivity through increased reliability.

Service Management

The Division of Technology will work together with agencies to ensure the services offered are truly reflective of agency needs, establish achievable service level targets, and proactively manage service performance to meet or exceed targets. The Division of Technology is committed to delivering required services in an efficient manner, whether through State resources or service providers, acting as the coordinator of services and sourcing on behalf of agencies.

The Division of Technology will focus on improving critical processes to manage the support and delivery of services, as well as the implementation of tools to improve automation and the efficient resolution of issues while increasing the reliability of critical IT infrastructure. The Division's service management strategy relies on improving processes and tools, while enhancing resource skills and capabilities.

Security and Privacy

The statewide security posture has improved through the deployment of new security infrastructure services. Security solutions and privacy practices, along with standards and policies, will continue to be implemented for use across agencies. Ongoing security assessments performed by agencies, with the Division of Technology support, will help ensure that compliance requirements, defined in the security and privacy policies, are met.

Architecture and Standards

The State will establish technical architecture standards and a process for keeping South Carolina relevant going forward. This technical architecture and set of standards are critical for moving over time to the shared infrastructure services model in the most efficient manner possible. The technical architecture and set of standards will be established in a collaborative manner between the Division of Technology and agencies and will identify the statewide technologies to be explored, deployed, contained, and retired.

Technical architecture and standards are critical for moving to the infrastructure shared services model in the most efficient manner.

Innovation

The vision for the Division of Technology is to evolve into a technology enablement partner, focusing on modernization and the creation of innovative technology services to support the mission of agencies and the citizens of South Carolina. The Division of Technology will facilitate forums where innovative technologies can be explored by IT personnel across the State.

State agencies recognize that emerging technology trends and digital services play an ever-increasing role in enabling services provided to citizens and in supporting economic development within the State. For agencies and programs to accomplish their designated missions, they must make strategic investments in information technology or risk perpetuating service models that are financially unsustainable in the long term or fail to meet the evolving needs of our citizens.

Examples of such emerging technology trends include:

- **Digital Workplace** enables new and more effective ways of working, improves employee engagement and agility, and maximizes consumer-oriented styles and technologies.

- **Hybrid Cloud** seamlessly combines on premise infrastructure with external cloud-based environments, allowing traditional, on premise IT to grow far beyond physical facility constraints.

- **Scalable Interoperability** enables systems to seamlessly exchange and use information across varying architectures.

- **Digital Government Platforms** support event capture, processing, data exchange, and analysis of information from multiple sources, user interfaces, and interoperability between applications and across different domains, tiers, and constituencies.

- **Citizen Electronic Identification** (e-ID) provides an orchestrated set of processes and technologies used to enable the accessibility of public services by citizens on any device or through any online channel or kiosk.

While the Statewide Strategic Information Technology Plan is heavily focused on moving South Carolina towards the more efficient use of existing IT infrastructure through the increased use of a shared infrastructure services model, the emerging trends identified above cannot be ignored. As the Technology Plan is implemented, it must be reviewed biennially and revised, as necessary, to account for the impact of any emerging trends as well as other statewide IT considerations.

In summary, the State's approach to this shared services model focuses on infrastructure services while agencies will continue to be responsible for their own applications. The Division of Technology will work together with agencies to ensure the services offered are reflective of agency needs and are delivered in an efficient manner, whether through State resources or service providers. In addition, the State will continue to have a heightened focus on information security and privacy related concerns.

> The Division of Technology will be a technology enablement partner to support the mission of agencies and the citizens of South Carolina.

admin

THE SOUTH CAROLINA
DEPARTMENT *of* ADMINISTRATION