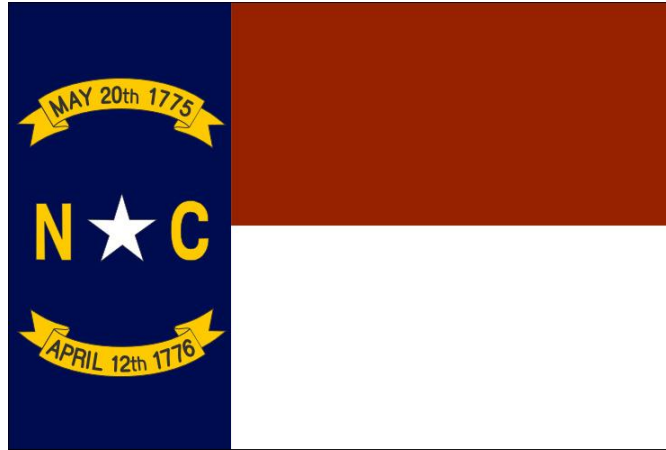# PREVENT DUPLICATION OF INFORMATION TECHNOLOGY CAPABILITIES

Report to the Joint Legislative Oversight Committee on Information Technology

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Legislative Request

This report is submitted pursuant to Section 7.9(b) of Session Law 2013-360, which directed the State Chief Information Officer (SCIO) to "provide quarterly reports on progress toward eliminating duplication to the Joint Legislative Oversight Committee on Information Technology and the Fiscal Research Division."

The full text of the legislation can be found in Appendix A.

Status of Initiatives

As per the Section 7.9(a) of Session Law 2013-360, the SCIO submitted an initial report to the General Assembly in the fourth calendar quarter of 2013. The SCIO's Office has continued to capitalize on opportunities within its authority to prevent duplication of information technology capabilities. This section summarizes the status of current and planned initiatives intended to reduce or prevent duplication. Details on these initiatives are provided later in this report.

Capability	Initiative/Opportunity	Status	Facilities	Infrastructure	Productivity	Applications	Process	Governance	Contractual
Application (ERP)	**CIS Modernization** - Consolidation of 58 Community College ERP systems	In progress	X	X		X	X	X	
Application (ERP)	**Grants Management -** Develop a shared grants management solution	Pending Statewide ERP report		X		X	X		
Application (ERP)	**ERP** - Implement a statewide ERP and consolidate existing agency solutions	Planning	X	X		X	X	X	X
Enterprise Standards (Web)	**Digital Commons -**Adoption of common web standards and shared content management tools	In progress		X	X	X	X	X	X
Governance	**EO30** - Implementation of Executive Order	Done FY 13/14						X	

Category	Description	Status						
Shared Service (Communications)	**Enterprise IP Telephony** - Replace old call center technology with enterprise IP Telephony solution	In progress	X		X	X		
Shared Service (Communications)	**Office 365 for email** - Migration to single, cloud-based, subscription email and messaging service	In progress	X	X				X
Shared Service (Communications)	**Office 365 for archive and e-discovery -** Migration to single email archive and e-discovery platform	In progress	X		X			X
Shared Service (Communications)	**Office 365 for collaboration** - Adoption of a common content management and collaboration toolset (SharePoint)	Planned	X	X	X	X		X
Shared Service (Directory Infrastructure)	**Enterprise Active Directory Service** - Consolidate existing Active Directory environments into enterprise service	In progress	X		X	X	X	
Shared Service (Application)	**Microsoft Project** - Implementation of a cloud-based, subscription project management tool	In progress			X	X		X
Shared Service (Data Infrastructure)	**Data Storage** - Leverage enterprise data storage service to replace isolated and inefficient storage technologies in the DHHS NCFAST environment	In progress	X					
Strategic Procurement	**Statewide IT Contracts** - Misc. statewide IT contract consolidations	In progress						X
Strategic Procurement	**Pharmacy** – DHHS pharmacy system contract consolidation	In progress						X
Shared Service (Analytics)	**Analytics** - Leverage GDAC Reporting and Analytics capabilities for the Department of Commerce, Labor and Economic Development (LEAD)	In progress	X		X			
Shared Service (Analytics)	**Analytics** - Leverage enterprise analytics capabilities for State Health Plan (GDAC) and OSC financial reporting	Done FY 13/14	X		X			

Methodology

The Office of Information Technology Services (OITS) Statewide IT Division utilizes several techniques for identifying, analyzing, and taking action on possible duplications of effort or investments in information technology. These include:

1) **Business and IT Planning**: OITS has established a new organizational structure focused on strategic IT planning. As a result, it is beginning to have earlier visibility into the Cabinet Agencies' major initiatives before they become an IT project and has ability to assist agencies in leveraging existing IT investments and reduce duplication.

2) **Solution Architecture and Requirements team** – same as above, with the new organization helping to identify and prevent duplication

3) **Continuous Monitoring:** OITS reviews all Information Technology (IT) projects to determine whether the capabilities required for each project already exist in a planned, ongoing, or completed IT project developed by another State agency. This is accomplished using project gated-review process established by the Enterprise Project Management Office (EPMO). For projects where the capability already exists in the State, the Office of the SCIO assists the agency with exploring, analyzing, and leveraging that capability across the enterprise.

4) **Standards & Exception Processes:** OITS requires agencies to seek the SCIO's approval for project activity and architecture exceptions, many of which may include duplicative approaches, efforts, or investments.
   a. Session law requires that any new or replaced IT equipment be located in an OITS data center. This helps reduce duplication by encouraging reuse of existing, shared solutions and capabilities. Agencies must make a technical or economic argument to pursue a local installation of new or replaced equipment.
   b. The Strategic Sourcing team regularly reviews procurement requests to increase the use of existing statewide contracts and decrease the use of duplicative vendor relationships. The team also provides visibility of contract options and alternatives for agencies to help reduce duplicative requests.
   c. The Architecture Review process that occurs as a part of the EPMO project oversight function routinely identifies security, identity management, and technical architecture exceptions. Many of these exceptions are caused by the use of proprietary technologies and can be remedied through the use of approved enterprise solutions.

Description of Current Initiatives

Applications

The following initiatives address duplicative implementations of business applications:

1) **CIS Modernization:** The North Carolina Community Colleges System (NCCCS) supports 58 community colleges. Each of the community colleges owns and locally operates an independent installation of the same Enterprise Resource Planning system (also known as a College Information System/CIS) for managing enrollment, financial management, and other general operations. Every installation is reaching end-of-life for the database component and is in need of an infrastructure upgrade. In order to reduce duplicative infrastructure, leverage economies of scale and reinvest in more value added services, the OITS and the NCCCS leadership team have agreed to build and leverage a shared hosting environment for at least half of the 58 colleges. This agreement will reduce unnecessary infrastructure investments for the overall CIS Modernization project.

   Work will continue on this project through December 2018.

2) **ERP:** As per Session Law 2013 Section 7.1(b), the SCIO is developing a strategic implementation plan for statewide ERP system. This plan will be submitted to the General Assembly by December 15, 2014. The ERP implementation plan is being developed in conjunction with the North Carolina Government Efficiency and Reform Initiative (NC GEAR) initiative. The ERP Implementation Plan proposes a phased functional implementation plan to achieve an integrated Enterprise Resource Planning system for the State of North Carolina. Three focus areas are recommended to address the needs of the State:

   a. Core Financials – this area includes Finance, Procurement (exclusive of eProcurement), Fixed Assets (current functionality excluding fleet), Budget Control, Inventory (current functionality), and Grant Accounting (often referred to as grantee).
   b. Enhanced Functionality – this area includes Selected Grantor Functionality, Assets (new functionality), Inventory (new functionality), Fleet & Plant Management, Budget Development, and Budget Execution and Preparation.
   c. Human Resources - this area includes Human Resources quick wins, NeoGov Integration, Work Schedule, Organization/Permissions, and an update of the SAP HR implementation to optimize the impact of the statewide ERP software.

   Additionally, a Technical Architecture was recommended to support all functional components, business needs, end user expectations, infrastructure, application and tools, performance and stability, security, and long term maintenance of the solution.

3) **Grants Management:** Section 7.14(a) of Session Law 2013-360 directed the SCIO to oversee development and implementation of the enterprise Grants Management system. The Grants Management Oversight Committee, chaired by the SCIO, has agreed to defer further investments in Grants Management systems until the State's approach to an integrated statewide financial system is formalized. (See **ERP** above).

   This approach has resulted in reduced proliferation of duplicative system by rejecting procurement or expansion requests for Grants Management systems.

Enterprise Standards

The following initiatives address duplicative and non-convergent technology standards:

1) **Digital Commons:** In an effort to provide a high-quality user experience, along with consistency in design and user navigation of agency websites, the Innovation Center (iCenter) in collaboration with the OITS Digital team and the Cabinet Agencies initiated the Digital Commons project in late 2013. Based on requirements gathered across the agencies and work teams, a contract was awarded in July 2014 for a vendor to assist in design, user experience, information architecture, and content management strategy for cabinet agency primary websites. In October 2014, a second contract was awarded to a second vendor to assist in developing and deploying the primary agency websites through an enterprise Content Management System (CMS) that enables non-technical users to manage site content in an efficient and user-friendly manner. The new websites will enable a similar user experience across desktops and mobile devices. This project will provide the Cabinet agencies with a complete redesign of their primary website, eliminating any costs associated with specific agencies individually pursuing these efforts. The project will also consolidate the majority of websites to the same enterprise CMS and underlying platform, providing for standardization and leveraging similar resources and skillsets.

Governance

The following initiatives address duplicative governance structures and approaches:

1) **Executive Order30:** Executive Order 30, signed by Governor Pat McCrory in November 2013, established a matrix-management structure that created a reporting relationship between the SCIO and Cabinet Agency CIOs. This structure has provided the SCIO greater influence over Information Technology (IT) decisions within Cabinet Agencies.

Shared Services

The following initiatives address duplicative implementations of IT capabilities that are best delivered as enterprise services:

1) **Office 365:** The Microsoft Office Suite licensing has been consolidated into single subscription model contract. This project resulted in reduction of duplicative IT capabilities in several areas:

   a) The project established Microsoft's cloud-based email as the enterprise standard platform for email. The Office of Information Technology Services (OITS) has successfully migrated to cloud-based email. This project has stopped proliferation of duplicative email infrastructure components such as Microsoft Exchange on-premises, Microsoft Active Directory and Novell directory for the Department of Public Safety (DPS), the Department of Environment and Natural Resources (DENR) and the Department of Health and Human Services (DHHS).

   b) Cloud-based email offers unlimited archiving capability. This eliminates the need to procure more storage capacity for email archival. Migration of agency email to the Microsoft cloud is in progress and is expected to save the state $1.4M a year on storage costs.

   c) Office 365 project also provides SharePoint Online. This offering has replaced stand-alone agency SharePoint tenancy for the Wildlife Resource Commission.

   d) A number of stand-alone agency enrollments with Microsoft have been consolidated into a single statewide agreement that facilities efficient distribution of client software licenses for the Office productivity suite.

   The Microsoft Office 365 program will continue to eliminate duplication in several areas:

   a) In 2015, the Department of Revenue is planning to migrate from Groupwise email to cloud-based email.

   b) Office 365 project also provides O365 Lync Online for Web Conferencing solutions. In next 6-12 months several agencies, are expected to migrate from various point solutions to Lync.

   c) In 2015, Center for Geographic Information and Analysis (CGIA) plans to replace a standalone SharePoint tenancy and adopt an enterprise standard. This adoption will eliminate duplicate licenses and enhances sharing of information. Other agencies will continue to evaluate opportunities to decommission local SharePoint solutions.

   d) In 2015, the SCIO office intends to replace Project and Portfolio Management (PPM) tool with Microsoft Project Online. This project will also provide Microsoft Project Professional, a project scheduling tool, to agency project managers. Currently, each agency procures Microsoft Project using individual license agreement. This project will consolidate Microsoft Project Professional license management and eliminate duplicative administrative overhead.

2) **EADS**: In 2012, OITS developed a shared service to deliver a standard directory service to executive agencies based on technologies from Microsoft. The service is presented as the Enterprise Active Directory Service (EADS). Amid many other purposes, a directory service

provides a common access and authorization mechanism for end users to identify themselves, logon to computers, print to network attached printers, access secure data storage, send/receive email, and run various business applications.

OITS has been migrating standalone agency directory services environments to the shared service, and expects to complete the consolidation of executive branch agencies by June, 2015.

3) **Enterprise IP Telephony (EIPT):** The Disability Determination Services (DDS), a part of DHHS, operates a large call center that makes medical determinations about disability claims for NC residents. The call center is staffed with 400 call center agents. In 2011, DDS was looking to upgrade call center infrastructure which was 13 years old, unsupported by the vendor and could no longer meet business needs. The Office of Information Technology Services (OITS) service owners worked with DDS team for last three years to develop business case and compare five-year total cost of ownership for leveraging OITS call center services vs. upgrading and maintaining existing call center infrastructure. After objective analysis, the DDS team reached a conclusion that using existing OITS call center infrastructure was a much more cost-effective solution than upgrading and maintaining its own duplicative infrastructure. The OITS call center infrastructure also provides superior functionality and monitoring tools. The project is currently in implementation phase and is expected to be complete by March 2015. The project team compared total cost of ownership over five year period and estimated that the DDS will save up to $131,000 annually.

4) **Data Storage:** The North Carolina Families Accessing Services through Technology (NC FAST) program within the Department of Health and Human Services (DHHS) is experiencing rapid growth in data and was looking for faster storage solution to maintain system performance. DHHS team engaged staff from the SCIO's Office to evaluate the best possible solution. After evaluating three alternate solutions, DHHS and the SCIO agreed to leverage an existing storage solution within OITS.

5) **Analytics (GDAC):** The Government Data Analytics Center (GDAC), within the SCIO's Office, is a Center of Expertise (COE) that supports data analytics and enterprise-wide reporting. The mission of the GDAC is to drive State business innovation, provide agencies with access that supports improved decision-making, and sharing of information that results in measurable positive outcomes in service and cost effectiveness. The GDAC supported the following initiatives to improve agencies' operations and avoid additional expenditures.

    a) **Financial Reporting**: The Office of the State Controller (OSC) had an immediate need to replace the delivery of State Accounting System static financial reporting for the new Fiscal Year. OSC estimated that to remain on the existing infrastructure, the State would have incurred an additional licensing cost of the IBM Solution (Business Advanced Author) estimated at $300,000, plus additional development costs between $20,000 and $30,000. A GDAC solution was implemented on the existing GDAC hosted environment at SAS, and

leveraged the existing software licenses to implement a secure portal linked to NCID authentication and distributed to 600 users at no additional cost to the State.

b) **Analytics**: The Department of State Treasurer, State Employees Health Plan (SHP) Analytics Repository was in need of an upgrade to support growing business operational and data analytics needs.   The State Health Plan Analytics Repository was migrated to the GDAC environment to provide SHP with a better-performing, scalable analytics environment that supports continued growth. An early estimate of the cost to build a new stand-alone, vendor-hosted SHPNC data analytics repository was $3 million. By leveraging the existing GDAC infrastructure, SHP was able to implement the analytics repository at no additional cost to the State. The project initiated with a phased approach in 2013, allowing business operations to continue while final migration was completed in 2014.

c) **GDAC Reporting and Analytics**: The Department of Commerce, Labor and Economic Development (LEAD) Division currently uses Common Follow-up System (CFS) to provide information about the educational and employment outcomes of participants in publicly supported educational, employment and training programs. These reports are used in planning, policymaking, program evaluation, resource allocation and career planning. The Department of Commerce has identified a need to upgrade the Common Follow-up System infrastructure and access to data. Senate Bill 744, Section 15.6(c), directed LEAD to develop a plan to transfer the information in and required capabilities of the CFS to the GDAC. A scope of work has been drafted which positions CFS with a phase-deliverable approach to support their immediate data access needs. More robust reporting capabilities are also developed using additional information provided by CFS contributors. This project is estimated to redirect grant funding towards the development of robust reporting environment.

Strategic Procurement

The following initiatives address duplicative and overlapping contractual relationships with vendors:

1) **Statewide IT Contracts:** OITS is in the process of transforming the State's IT Procurement practice into a Statewide Strategic Sourcing organization. The intent of this initiative is develop and utilize vehicles that leverage the State's buying power. Goals of the Strategic Sourcing office include reducing costs and bureaucracy while increasing efficiency and transparency. Managed Service Provider (MSP), IT Supplemental Staffing (ITSS) and Contract Consolidation projects are currently underway.

The purpose of the ITSS/MSP Program is to enable the State to recruit, staff, and manage IT supplemental staff at market competitive rates. These efficiencies will be enabled by reducing

staffing vendor agreements leading to a reduction in the administrative burden and costs associated with staff sourcing. The staffing vendors will be managed by a single Managed Service Provider (MSP). The objectives of the MSP program are to:

- Improve cycle time and other process measures for staffing requests,
- Improve quality of IT Supplemental Staff submitted by vendors and staffed by State of North Carolina, and
- Achieve hourly rate savings for the use of IT supplemental staff.

Contract Consolidation will help the State reduce its administrative burden. Contracts include but are not limited to hardware, software and maintenance renewals. Volume aggregation also empowers agencies to purchase IT related goods and services based on their schedule requirements while enjoying the benefits of leveraged buying.

2) **Pharmacy:** The Division of State Operated Healthcare Facilities within DHHS manages state-operated healthcare facilities. Each facility had a separate contract for Pharmacy application with the same vendor. During contract renewal, OITS collaborated with DHHS management and requested that all contracts for the Pharmacy application be consolidated and centrally managed as a single contract. This effort eliminated duplicate administrative overhead to manage 10 independent contracts with the same vendor.

Appendix A

Session Law 2013-360

PREVENT DUPLICATION OF INFORMATION TECHNOLOGY CAPABILITIES

Section 7.9. (a) The Office of the State Chief Information Officer (CIO) shall develop a plan and adopt measures to prevent the duplication of information technology capabilities and resources across State agencies. When multiple agencies require the same, or substantially similar, information technology capabilities, the State CIO shall designate one State agency as the lead to coordinate and manage the capability for all State agencies, with the State CIO maintaining oversight of the effort. By October 1, 2013, the State CIO shall provide this plan to the Joint Legislative Oversight Committee on Information Technology and the Fiscal Research Division.

Section 7.9. (b) The Office of the State Chief Information Officer shall do all of the following to carry out the purposes of this section:

(1) Review all current and future information technology projects to determine whether the capabilities required for each project already exist in a planned, ongoing, or completed information technology project developed by another State agency. For projects where the capability already exists, the Office of the State CIO shall assist the agency with implementing the existing capability.

(2) Identify existing projects that can best support a specific information technology capability for multiple agencies and work to transition all agencies requiring the specific capability to the identified projects.

(3) When State agencies request approval for new projects, determine if the information technology project can be implemented using an existing application, or if the new project has the potential to support multiple agencies' requirements.

(4) Provide quarterly reports on progress toward eliminating duplication to the Joint Legislative Oversight Committee on Information Technology and the Fiscal Research Division.

(5) Ensure that contracts for information technology allow the addition of other agencies' requirements within the terms of the existing contracts.