Effectiveness of the Information Technology Transformation

Office of Information Technology Services

Executive Summary

Purpose

To determine how effective the Information Technology Transformation process has been in ensuring that the resulting Office of Information Technology Services clusters operate efficiently and whether the Transformation has been successful in standardizing the processes followed by each agency. The audit covers the period January 22, 2015 to March 30, 2016.

Background

The Office of Information Technology Services (ITS) was established in November 2012 as part of a New York State Information Technology (IT) Transformation to consolidate and merge State agencies' operations and streamline services. ITS was created pursuant to a recommendation of the Governor's Spending and Government Efficiency Commission (Commission). The Commission's Final Report was issued in February 2013 and contained three main sections: Reorganizing Government, Reducing Costs and Improving Services, and Building a Culture of Performance and Accountability. The creation of ITS was part of the second section, Reducing Costs and Improving Services, which outlined a framework by which ITS was created and projected annual savings of approximately $290 million as a result of three major initiatives: Organizational Restructuring, IT Infrastructure Modernization (Data Center Modernization, Digital Network Consolidation, Email Consolidation and Integration, Enterprise Identification and Access Management), and Accelerating the Development of IT Projects with a High Return on Investment and a High Impact on Performance.

Since the Commission's report was issued in 2013, we completed separate audits of the security and effectiveness of core systems at three major agencies, each organized within a different part of ITS. In each case, we reported on areas where ITS had not established adequate controls over its processes and procedures during the Transformation. For example, our audits questioned: the adequacy of access controls and change management at all three agencies; the implementation of Payment Card Industry standards at the Department of Motor Vehicles; data classification efforts at both the Department of Labor and Division of Criminal Justice Services; and the ease and efficiency of core programming languages at the Department of Labor and the Department of Motor Vehicles. As a result, in January 2015, we began this audit of the effectiveness of the overall Transformation effort.

Key Findings

- There were significant deficiencies in planning the execution of the Transformation, with little or no evidence that many basic planning steps were performed. For example, a risk assessment was not conducted timely to help identify priorities and avoid unintended consequences, nor were there any benchmarks for customer service levels and costs established at the onset of the Transformation. As a result, ITS had little data to quantify or measure what benefits, if any, the Transformation has brought about thus far. Moreover, these deficiencies significantly limited ITS' ability to maintain continuity and meet the goals established in the Commission report, especially in an era of recurring turnover among top-level ITS executives.
- ITS is still working toward completion of several of the goals outlined by the Commission. In fact, the Commission's report labeled the four major technology initiatives as "well underway" at the

time. However, we found that ITS is currently in its fourth year, and only one of these initiatives (Email Consolidation and Integration) has shown significant progress and is ostensibly complete. The status of the other three (Data Center Modernization, Digital Network Consolidation, and Enterprise Identification and Access Management) can best be considered "underway." As of the conclusion of our audit fieldwork, ITS was moving forward with efforts to consolidate technology services, reduce redundancy, and increase process and system standardization.

- ITS often did not provide timely or independent access to certain data and staff, thus limiting the reliability of some of the data that auditors received and the interviews the auditors conducted. As such, there is considerable risk that material information pertaining to the IT Transformation was withheld. Further, throughout the audit, we were presented with contradictory information when trying to obtain documentation and answers to our inquiries.

Key Recommendations

- Formally assess the adequacy of the internal control environment at ITS and take necessary steps to ensure the control environment is adequate, including cooperation with authorized State oversight inquiries.
- Complete an overall risk assessment of ITS and incorporate it into the new FY 2016-17 project plan.
- Work with State agencies to facilitate their sharing of successful and innovative practices to more efficiently and effectively manage ITS resources and assets.

Agency Response and Auditor's Comments

In their formal response to our draft report, ITS officials disagreed with several of our findings and conclusions. Further, officials asserted that current ITS practices are consistent with our audit recommendations. Based on ITS' response, we anticipate that ITS will continue to work toward full implementation of our recommendations.   Nonetheless, with respect to the conduct of the audit, ITS officials misunderstood their obligations regarding cooperation with statutorily authorized State oversight entities such as OSC. Also, our rejoinders to certain ITS statements are embedded within its response as State Comptroller's Comments.

Regarding audit recommendations, ITS officials indicated that a formal risk assessment is currently underway. Such assessment should be completed in a most timely manner. Further, we encourage ITS to establish formal timelines for the completion of major Transformation projects, since this has not been an ongoing practice for several of its projects we reviewed. As detailed in the report, the Transformation is now in its fourth year, and it is still unclear when certain major components of the initiative will be completed.

Other Related Audits/Reports of Interest

Office of Information Technology Services: Security and Effectiveness of Division of Criminal Justice Services' Core Systems (2014-S-24)
Office of Information Technology Services: Security and Effectiveness of the Department of Labor's Unemployment Insurance System (2014-S-9)
Office of Information Technology Services: Security and Effectiveness of Department of Motor Vehicles' Licensing and Registration Systems (2013-S-58)

**State of New York
Office of the State Comptroller**

Division of State Government Accountability

August 24, 2016

Ms. Margaret Miller
Chief Information Officer
Office of Information Technology Services
Empire State Plaza
P.O. Box 2062
Albany, NY 12220

Dear Ms. Miller:

The Office of the State Comptroller is committed to helping State agencies, public authorities, and local government agencies manage government resources efficiently and effectively and, by so doing, providing accountability for tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities, and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit of the *Effectiveness of the Information Technology Transformation*. The audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

*Office of the State Comptroller
Division of State Government Accountability*

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Background

The Office of Information Technology Services (ITS) was established in November 2012 as part of a New York State Information Technology (IT) Transformation to consolidate and merge State agencies' operations and streamline services. ITS is responsible for providing centralized IT services to the State and its governmental entities, with the awareness that citizens are reliant on those services. ITS sets statewide technology policy for all State government agencies, and monitors all large technology expenditures in the State, seeking efficiencies, lower costs, and innovative solutions.

ITS is headed by a Chief Information Officer (CIO), and contains several Enterprise groups, including an Enterprise Operations group and an Enterprise Information Security Office, as well as nine clusters consisting of more than 50 State agencies and more than 3,500 employees. The nine clusters are arranged by type of service and include: Administrative and General Services, Disabilities and Aging, Environment and Energy, Revenue and Transportation, Citizen Services, Health, Human Services, Public Safety, and Enterprise Business Solutions.

ITS was created pursuant to a recommendation of the Governor's Spending and Government Efficiency Commission (Commission). The Commission initiated its efforts and conducted its work based in part on preliminary work performed by the management consultant group McKinsey & Co. (McKinsey), which identified key elements in successful government performance transformations. The Commission's Final Report was issued in February 2013 and contained three main sections: Reorganizing Government, Reducing Costs and Improving Services, and Building a Culture of Performance and Accountability. The creation of ITS was part of the second section, Reducing Costs and Improving Services, which outlined a framework under which ITS was to be created and projected annual savings of about $290 million as a result of three major initiatives:

- Organizational Restructuring;
- IT Infrastructure Modernization (including Data Center Modernization, Digital Network Consolidation, Email Consolidation and Integration, Enterprise Identification and Access Management); and
- Accelerating the Development of IT Projects with a High Return on Investment and a High Impact on Performance.

At the time the Commission issued their report in February 2013, 78 discrete Transformation initiatives had been completed, were in process, or had been proposed for the FY 2013-14 budget. The IT Transformation initiatives were among those noted by the Commission as "in process." The Commission report stated that "It will take sustained effort and focus for the next two to three years for all of the ongoing and proposed initiatives to be successfully implemented." In fact, as Table 1 shows, ITS executives themselves have progressively identified increasingly longer periods of time for the Transformation to be complete, as cited in various documents provided for our audit.

Table 1 – Transformation Timeline Statements

Date	Document	Timeline Statement
March 4, 2015	"ITS - Review" presentation by CIO	"Transformations like this usually take 3-5 years."
August 6, 2015	"ITS Budget Planning - FY 16/17" presentation by CIO	"Transformations like this usually take 5-7 years."
February 24, 2016	ITS response to most recent OSC preliminary audit finding	"A transformation of the size, scope and magnitude is unprecedented, and it is estimated it will take up to a decade to complete."

As noted in Table 1, when we began the audit, ITS executives indicated such a transformation could reasonably be expected to be a three- to five-year undertaking. As our work progressed, this period lengthened to five to seven years. Most recently, in their February 2016 response to our preliminary findings, ITS officials noted, "A transformation of the size, scope and magnitude is unprecedented, and it is estimated it will take up to a decade to complete. ITS is currently in Year Three of this effort, and has already made tremendous progress."

In fact, ITS is actually in the fourth year of the Transformation. In the interim, we have completed separate audits of the security and effectiveness of core systems at three major agencies, each organized within a different ITS cluster. They include the Department of Motor Vehicles (Report 2013-S-58), which is part of the Citizen Services cluster (formerly the Government Services cluster); the Department of Labor (Report 2014-S-9) in the Human Services cluster; and the Division of Criminal Justice Services (Report 2014-S-24) in the Public Safety cluster. In each case, we reported on areas where ITS had not always established adequate controls over its processes and procedures during the Transformation. For example, we reported that:

- ITS did not conduct an initial underlying risk assessment to identify potential policy conflicts or other procedural issues among any agencies prior to the Transformation.
- At the Division of Criminal Justice Services and the Department of Labor, the clusters and agencies were working without service level agreements with ITS, causing employees to rely on some of their former agency policies and procedures, jeopardizing operational effectiveness and increasing the risk that critical functions and procedures are not consistently handled among the cluster agencies.
- There were several other critical areas in need of improvement throughout the clusters, including:
  - Implementation of Payment Card Industry standards at the Department of Motor Vehicles;
  - Data classification at the Department of Labor and Division of Criminal Justice Services;
  - Ease and efficiency of core programming languages at the Department of Labor and the Department of Motor Vehicles; and
  - Access controls and change management at all three agencies.

Currently, ITS is in the midst of implementing a new "Get Well Plan," which was initiated in April 2015 – after the start of our audit – as part of its "Operational Management Services" initiative to address immediate issues within the ITS environment, along with other high-priority items as directed by ITS. In addition, this initiative addresses organization resource planning, operational processes and workflows, and operational tooling and technology changes, including implementation of the IT infrastructure library framework.

Audit Findings and Recommendations

There were significant deficiencies in planning the execution of the Transformation, with little or no evidence that many basic planning steps were performed. For example, a risk assessment was not conducted timely to help identify priorities and avoid unintended consequences, nor was any benchmarking of customer service levels and costs performed at the onset of the Transformation. As a result, ITS had little data to quantify, measure, or assess the benefits derived from the Transformation. Moreover, these deficiencies significantly limited ITS' ability to maintain continuity and meet the goals established in the Commission report.

In addition, we were unable to identify specific criteria, such as timeline estimates or cost savings and service level analyses, against which to gauge ITS' progress and performance. Over the course of more than a year, we repeatedly requested that ITS provide us with any project plans and schedules, both current and historical, that had been developed to guide and monitor the Transformation as a whole. In most cases, ITS provided no formal plans. In others, ITS provided copies of short PowerPoint slideshows that executives had previously used for presentations or speaking engagements. Thus, we concluded that ITS failed to engage sufficiently in a formal planning process for most of its initiatives.

We did, however, determine that ITS made significant progress in certain areas, like consolidating staff and modernizing the State's telephone and email systems. Otherwise, ITS is still working toward completion of several of the goals outlined by the Commission. In fact, the Commission's report labeled the four IT Infrastructure Modernization initiatives as "well underway" at the time, and stated that "It will take sustained effort and focus for the next two to three years for all of the ongoing and proposed initiatives to be successfully implemented."

Nonetheless, we found that ITS is currently in its fourth year, and only one of these initiatives (Email Consolidation and Integration) has shown significant progress and is near completion. The status of the other three initiatives (Data Center Modernization, Digital Network Consolidation, and Enterprise Identification and Access Management) can still best be considered "underway."

At the time of our fieldwork completion, ITS was moving forward with efforts to consolidate technology services, reduce redundancy, and increase process and system standardization. In particular, ITS is in the midst of implementing a new "Get Well Plan," which was initiated in April 2015 – after the start of our audit – as part of its "Operational Management Services" initiative to address immediate issues within the ITS environment, along with other high-priority items as directed by ITS.

Also, we concluded that ITS management delayed, restricted, and denied auditors access to certain people, records, and other information necessary to perform our audit in accordance with professional audit standards. These obstructions may have compromised the validity and reliability of certain evidence provided to the auditors, and there is considerable risk that important information pertaining to the IT Transformation was purposefully withheld from auditors. Furthermore, because ITS was unwilling to allow its staff to provide any information

directly to us without prior management approval and clearance, we have little assurance that the data presented to us was not altered or modified since we first requested it. In those instances, we consider information to be less reliable in forming our audit conclusions. Thus, according to professional audit standards, we are required to report management's impairment of our audit scope.

Information Technology Infrastructure Modernization

The Commission's 2013 Final Report stated that the "modernization of the State's IT infrastructure is built around four major, enterprise-wide projects, all of which are well underway." The four projects outlined by the Commission included:

- Standardizing and integrating email;
- Upgrading the State's data centers;
- Replacing analog phone networks with consolidated digital networks that include Voiceover Internet Protocol (VoIP); and
- Implementing enterprise-wide identification and access management (EIAM) for the State's major software applications.

These four projects were estimated to save the State approximately $100 million upon full implementation.

Cost Savings Estimates

We determined that ITS failed to track total costs and savings realized during the first two years of the Transformation. ITS officials stated that savings amounts could not be provided for the first 2.5 years of the Transformation because, according to the Chief Administrative Officer (CAO), "At the onset, ITS was required to make significant investments at a time while a majority of the NPS funding still remained in the agencies. Therefore any initial IT transformation savings were either non-existent, minimal and/or were realized by the agencies." In addition, in a slideshow document titled "ITS Transformation Plans as of June 2015," ITS cited several challenges to what it termed "Value Delivery," among them "Past underinvestment leaves significant unfunded technology debt."[1] Further, in a document entitled "ITS Budget Planning - FY 16/17," ITS identified another issue being "Financial planning omitted full lifetime Total Cost of Ownership (TCO) and Return on Investment (ROI) analyses."

In contrast, when asked about cost savings, ITS provided the audit team with a spreadsheet titled "2-Year Savings Estimates for OSC" in December 2015 outlining purported savings estimates of $8.6 million during the then current fiscal year (FY 2015-16) and anticipated cost savings of $19.9 million in the following fiscal year (FY 2016-17). The savings for the two years was estimated to total $28.5 million. However, according to ITS officials, these savings were based solely on invoices of consolidated contracts and Program Managers' estimates of anticipated enterprise system implementations and consolidations.

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[1] Office for Information Technology Services: "ITS Transformation Plan as of June 2015" [slideshow], p. 6.

Even though more than two-thirds of this $28.5 million in estimated savings was still to be realized over the next year, just two months later – in February 2016 – ITS once again gave us conflicting information in response to our final preliminary report. In that response, ITS officials stated, "To reiterate information previously provided, transformation efforts have already yielded $28.5 million in hard, demonstrated cost savings to date, and these savings are expected to be as much as $160 million in the next year." Based upon these inconsistencies, the seemingly ever increasing claims of savings, and the lack of any documented support provided, we question the validity of these "savings" figures and the competency with which they may have been constructed.

Risk Management During Change

When change occurs in an organization, such as the reorganization from the former Office for Technology (OFT) to ITS, control activities that were designed to prevent or reduce risk are inevitably affected. To properly manage risk, management should monitor risks to ensure they continue to be managed as change occurs, and monitor factors that can affect not only previously identified risks but also other factors that could create new risks. Our audit determined that risks were not formally addressed until November 2015 – three years after the start of the Transformation. At that time – and almost a full year after the start of our audit – ITS initiated a formal risk assessment, at a cost of $1.1 million, to be conducted by a consultant (Deloitte) following a one-month planning and scope period.

Industry standards suggest risks should be assessed and managed through an organization-wide effort to identify, evaluate, and monitor those events that threaten the accomplishment of the organization's mission. For each risk that is identified, management should decide whether to accept the risk, reduce the risk to an acceptable level, or avoid the risk. The audit team recommended completion of an overall risk assessment of the ITS organization in our preliminary report dated February 2016. In response, ITS contended that it "had no authority over disparate IT departments with which to conduct a risk assessment of the type the Report identified until consolidation had occurred," and that "ITS is currently conducting that very complex assessment, and will operationalize best practices and policies upon its completion."

ITS further stated in its response that "the underlying conflicts and the astounding multiplicity of policies and practices were in fact the basis upon which the Commission recommended consolidation of IT services and projected the benefits that could be achieved therefrom." While we agree with ITS that a risk assessment could not be initiated until the start of the Transformation in November 2012, waiting to address these issues until Year Four of the Transformation does not support the original intent of the Commission, which was to address inefficiencies in New York State's IT organization and infrastructure. Further, although requested by auditors, ITS failed to provide documentation and/or deliverables to support the results of the risk assessment conducted by Deloitte, which was originally estimated to be completed in March 2016.

Project Progress

Our review found that, since the Commission's report was issued in 2013, the status of one project it envisioned has substantially progressed, nearing completion; one has made good progress; and

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the other two projects have not made significant progress. At the time of our audit, these three projects could most appropriately be categorized as "underway." Table 2 presents a summary of the completion status for each.

Table 2 – Project Completion Status

Project	Initial Projected Date of Completion	Current Project Completion Date
Email Consolidation and Integration	12/31/2013 according to Email Consolidation Business Case	7/2/2015 spreadsheet provided shows 96 percent complete.
Data Center Modernization	December 2015 according to ITS' Data Center Charter document	10/29/2015 – Steering Committee Status Report shows 33 percent of data centers (17 of 51) have yet to start the consolidation process. No estimated completion date was provided.
Digital Network Consolidation	12/31/2015 according to a presentation on 6/23/2015	10/26/2015 – Project update document states estimated completion of 3/31/2017.
Enterprise Identification and Access Management	1/30/2013 according to contract documents	Ongoing – ITS now plans only to ensure all new applications utilize the established EIAM portal that existed prior to the Transformation.

Email Consolidation and Integration

We determined the initiative to standardize and integrate Executive Agency email systems to Microsoft Exchange, which was designated as the State's standard for email, has made significant progress. Specifically, ITS adopted Microsoft Office 365, which enables access to Office applications as well as email.

The Commission's report instructed that, on a transitional basis, "the State will consolidate all agencies on to two email platforms – Microsoft Office and Lotus Notes." Furthermore, it states that "although it is not cost-efficient to consolidate onto a single platform at this time, further efficiencies will be achieved by consolidating to a single platform in the future." However, after review of documentation provided by ITS, we determined that planning for the consolidation of email systems began in 2011, a full year prior to the start of the Transformation and two years prior to the issuance of the Commission's report. Furthermore, a review completed in 2011 with the assistance of the consultant Deloitte found that 46 percent of email boxes were already using the existing Microsoft-based system (NYSeMail) for their email and did not need to be switched over, while another 21 percent were already using Microsoft Exchange.

Our audit found that ITS did follow accepted project management practices for the Email Consolidation and Integration initiative. Documentation received from ITS in July 2015 shows that, four years after project initiation, ITS had converted another 29 percent of email boxes for a total of 96 percent, thereby leaving only 4 percent of email boxes remaining to be upgraded.

Data Center Modernization

According to the Commission's report, in 2013 the State had more than 50 data centers – an arrangement deemed not only inefficient, but also one that assumed serious security risks, such as obsolete and unsupported server operating systems. We found that while some progress has been made to combat those risks, considerable work is still needed in order to mitigate existing security concerns. The Data Center Modernization effort directed ITS to consolidate its data centers to the new data center located on the campus of the College of Nanoscale Science and Engineering (CNSE), as well as to consolidate redundant applications within agency clusters.

Our audit determined that project management practices were also followed for the data center consolidation. The total scope of the data center consolidation included more than 11,000 servers and over 50 data centers. As of October 2015, ITS had yet to start consolidating 17 (33 percent) of these data centers, while another ten (20 percent) were still in progress. However, it should be noted that ITS contends the larger agency systems were the first to move over and many have transitioned to the data center. In a preliminary response, ITS stated that "many high-risk data centers have been safely and appropriately consolidated within the State's Tier-3 data center. Indeed, had the data center at 40 North Pearl Street in Albany not been consolidated, it would have been wiped out in a recent flood of the space it formerly occupied."

We found that, despite the prolonged timeline to complete the data center consolidation, ITS has yet to demonstrate how it is properly addressing the security risks raised in the Commission's report. Particularly, despite repeated requests, ITS declined to provide a copy of its disaster recovery plans, including those for the new data center. Further troubling is the seemingly differing responses we received from executive-level officials, including the CAO, who stated the Chief Operating Officer (COO) had a disaster recovery plan, and appeared shocked that we had not been given the plan. However, when the audit team questioned the COO about the disaster recovery plan, the COO responded first by asking the audit team what their definition of a disaster recovery plan was, and then stating that the "architecture used at CNSE precludes needing a traditional disaster recovery plan." This contradicts a statement OSC had received earlier from ITS – dated August 19, 2015 and signed by the CAO – in response to our preliminary findings, which stated: "ITS has already developed a disaster recovery plan that addresses data recovery and infrastructure needs."

We also found the consolidation of redundant applications has made even less progress than that of the data centers. The Commission's report stated that "the State will significantly reduce its server needs by directing the consolidation of redundant applications within agency clusters." However, we found ITS is still only in the early stages of what it terms "application rationalization." A draft Application Rationalization and Modernization document from October 2015 states that ITS spent two years assembling an inventory of nearly 5,000 applications, including its underlying

software products. A critical analysis of those applications was completed for just a single agency, as well as a proposal to co-develop a holistic modernization plan using ITS strategic products and shared services as recommended by the Commission. ITS' response to preliminary findings from February 2016 simply states, "The more than 5,000 applications in use across ITS-supported agencies statewide are being examined to achieve standardization, which will ensure support and maintenance can be sustained."

In addition, we reviewed an ITS presentation titled "Operational Management Services Initiative dated April 28, 2015," which details the steps ITS needs to take to ensure its centralized infrastructure processes are completed uniformly throughout the clusters, such as change and incident management. For example, officials have taken actions to implement an organization-wide change management procedure that, according to ITS officials, is in a "draft process period." Further, as noted in another response to our preliminary findings, "one of ITS' transformation projects is to implement the IT Infrastructure Library (ITIL) framework for IT Service Management, starting with the incident management practice." ITIL is known as an industry best practice framework consisting of 26 IT-related processes, including change management. ITS officials stated that, prior to the IT Transformation, the ITIL framework was utilized marginally by agency IT offices, if at all, which is resulting in a longer learning curve for ITS employees. In addition, ITS officials noted that it will take longer and end up costing more to address deficiencies and begin using the ITIL processes for those servers and applications that are not in the new data center.

Digital Network Consolidation

At the start of the Transformation in 2012, ITS expanded upon the Commission's VoIP initiative, renaming the project "UniteNY," which includes seven work efforts: VoIP Migration Execution; Organizational Change Management; Network Consolidation; Wide Area Network Design; Migration Readiness; Operational Readiness; and Unified Communications (UC) Core Build.

Documentation to support efforts toward all work components, with the exception of migration readiness and operational readiness, was provided by ITS. A report dated November 2015 listed accomplishments, including the migration of VoIP to approximately 57,300 users and 37 percent completion of network consolidation covering 29 locations. Another 50 locations (63 percent) were in progress or not yet started. In addition, ITS contends it has completed building the unified communications core that will serve as the foundation for future service offerings and has built out two of the four wide-area networks.

During a presentation in June 2015, the ITS official leading the UniteNY Network Consolidation Initiative noted significant project management turnover and indicated that "leadership pushing speed limits" may be a risk to the project.

Enterprise Identification and Access Management

An enterprise identification and access management (EIAM) system uses common access protocols across different computer applications so users can navigate through different agency software applications seamlessly. The Commission's report stated that the State had a partially functioning

EIAM system, but that it lacked a common user identity that worked across all applications and had limited functionality overall. The report also stated that the project would start with the largest agencies, creating a common identification system across their applications, followed by a redesign of the State's entire EIAM system. However, we found that ITS has done little to advance the EIAM initiative across existing systems and now intends for the EIAM initiative to only address certain new applications.

In September 2015, ITS officials told us, "ITS currently supports an identity and access management portal, components of which existed prior to the transformation." They further stated: "Where appropriate, all new citizen-facing applications that are approved pursuant to the IT governance process will utilize this identity and access management portal." In contrast, in February 2016, ITS stated: "Enterprise Identity and Access Management (EIAM) is being rigorously applied to the highest-risk applications and platforms to decrease opportunities for security risks."

According to a November 2013 ITS Internal Audit review, the EIAM project was initiated in March 2012. However, there was considerable turnover in project personnel and the project lacked key project planning documents, such as a project charter, timeline, and schedule. At the time of the review, ITS Internal Audit recommended suspending or resetting the project. During the time the Internal Audit review was conducted, ITS had a contract with New York State Technology Enterprise Corporation (NYSTEC), valued at $890,000 for the period June 2012 to September 2014, to stabilize the existing environment and to identify and execute key EIAM strategic improvements, perform EIAM outreach, and conduct New York State EIAM Transformation assistance.

Nevertheless, despite assertions that attempts were made to address EIAM, ITS was unable to provide documentation to support that any substantive progress was made. In fact, according to one Enterprise ITS official in June 2015, "EIAM was never done" because of a lack of funding, and despite the $890,000 contract with NYSTEC. Further complicating the issue, in July 2015, officials from three ITS clusters told us that EIAM was an ongoing initiative within their clusters and had been started under the former OFT. In contrast, however, officials from the other clusters stated the effort had not yet been started.

Accelerating the Development of Information Technology Projects

The third major initiative in the Commission's report was the acceleration of the development of IT projects that have a high return on investment and/or a high impact on customer service or other types of performance.

The Commission identified nine projects as able to be completed within one to two years, yielding a 30 percent return on investment and materially improving customer/agency performance. However, we determined that as of July 2015 – three years after the start of the Transformation – only one project was reported as complete (see Table 3). Four projects were still in progress, two projects had yet to be initiated, one project had been abandoned due to a lack of funding, and yet another project's status was unknown because the agency involved is no longer part of a cluster.

Table 3 – Status of Initiative Projects as of July 2015

Projects	Description	Agency	Status as of July 2015
Strategic Initiative 1	Transition from paper forms to a web-based submission that populates the underlying agency database	Department of Motor Vehicles	Not yet initiated
Strategic Initiative 2	Use enhanced technology to support mass customization of form correspondence and encourage e-communication in client correspondence	Office of Temporary and Disability Assistance	Not yet initiated
Strategic Initiative 3	Increase government customer self-service through the Internet and other remote technology	Department of Motor Vehicles	In progress
Strategic Initiative 4	Use predictive analytics to improve fraud detection and optimize debt collection	Office of Children and Family Services	In progress
Strategic Initiative 5	Adopt handheld devices and other wireless mobile technology to increase productivity	Office of Parks, Recreation and Historic Preservation	Not implemented
Strategic Initiative 6	Redesign complaint and inquiry handling process to separate "high touch" and "low touch" inquiries	Department of Financial Services	Unknown
Strategic Initiative 7	Use "intelligent" case management to streamline permitting and manage regulatory and enforcement processes	Department of Transportation	In progress
Strategic Initiative 8	Streamline the adjudicatory hearing process by leveraging technology	Workers' Compensation Board	In progress
Strategic Initiative 9	Generate efficiency by internally managing needlessly expensive services currently provided by third parties	Office of Temporary and Disability Assistance	Completed

In response to a preliminary report, ITS contends that "while these nine projects have IT components, they are not managed by ITS, so ITS does not have planning documents for them." In fact, ITS officials stated that these were agency projects and not their responsibility. Nevertheless, this conflicts with the Commission's report, which states these were IT projects to be completed by ITS.

At the time we completed our fieldwork, ITS was taking measures to ensure that projects going forward are aligned strategically with ITS. Budget planning for fiscal year (2016-17) included a process whereby clusters' IT portfolios must address remediation needs, adoption of architectural standards, inclusion of a business case, and strategic fit.

Project Planning and Organizational Restructuring

It is evident that at the onset of the Transformation ITS made some efforts to engage in formal project planning. ITS initially contracted with the same consulting firm (McKinsey) that assisted

the Commission with project planning and implementation services at a cost of about $16 million. McKinsey provided extensive guidance, including a series of hard copy deliverables, which are now kept in binders. At a meeting on June 10, 2015, an ITS executive told the audit team that ITS had not necessarily followed McKinsey's guidance because circumstances changed since its delivery. Hence, certain guidance was no longer applicable.

There is little evidence to support the current use of the McKinsey deliverables by ITS. In fact, under the current CIO, ITS has created a new contractual partnership with IBM by which they began to create a "Get Well Plan" as part of an "Operational Management Services Initiative" to guide ITS going forward – at an estimated cost of more than $6.3 million for the one-year agreement. In addition to the "Get Well Plan" to address immediate issues within the environment and other high-priority items directed by ITS, this agreement covered Organization Resource Planning, Operational Processes and Workflows, and Operational Tooling and Technology. As of September 2015, ITS provided documentation indicating expenditures on this contract from April to September 2015 had totaled $1,968,000.

One of the reasons why ITS' historical lack of project planning is so critical is that, over the past three years, ITS has had repeated turnover of several top-level positions. This perpetual state of change in ITS' top-level executives – and the resultant organization structure and accountability relationships – has also negatively affected the "tone at the top" and employee morale. In fact, only 24 percent of employees who responded to ITS' 2015 Employee Viewpoint Survey indicated they believe that ITS executive leadership maintains high standards of honesty and integrity.

The Office of the State Comptroller's Standards for Internal Control in New York State Government note that an entity's control environment is a key element in achieving organizational objectives. It encompasses the attitude toward internal control and control consciousness established and maintained by the management and employees of an organization. It is a product of management's governance – that is, its philosophy, style, and supportive attitude, as well as the competence, ethical values, integrity, and morale of the people of the organization. The control environment is further affected by the organization's structure and its accountability relationships, which in turn affect the way information is communicated throughout the organization. The control environment has a pervasive influence on the decisions and activities of an organization, and provides the foundation for the overall system of internal control.

According to the Standards, an organization's structure is the framework in which its plans are carried out. It should define the functional sub-units of the organization and the relationships among them. An organization chart can provide a clear picture of the authority and accountability relationships among functions, and should be readily available to all employees to help them understand the organization as a whole, the relationships among its various components, and where they fit into the organization. All of the organizational changes that occurred during the course of our audit review made it difficult to obtain an accurate and up-to-date organization chart and depiction of the accountability relationships that exist within ITS. In fact, during our audit, we received three different executive organization charts, and each time we found that more changes were made.

The organizational restructuring began in November 2012 when the former OFT, which had provided IT infrastructure services to certain agencies (but had no authority over IT development), was converted into ITS. The Commission called for ITS to manage all of the State's IT functions in an integrated way under a shared services model with State agencies. The Commission also noted that 3,300 former agency IT staff had already transferred to ITS. This transfer was completed in November 2012 and marked the onset of the Transformation.

Initially, IT staff were organized within one of eight clusters, each led by a cluster CIO. However, the clusters have since been reorganized several times, including once in 2013 when a ninth cluster was created. Most recently, an organization chart dated January 2016 shows yet more changes, including the renaming of some clusters, the consolidation of others, and the creation of another new cluster. There are currently nine clusters.

The Commission outlined the overall management structure for ITS, which was to be led by a Chief Information Officer (CIO) supported by a Deputy CIO and a group of senior executives for Technology, Data, Operations, Portfolio, and Security. This organizational structure remained largely intact until more recent changes under the current CIO, whereby additional high-level Enterprise executives were added. These include a Director of Workforce, Strategy and Planning, a Director of Communications, and a Director of Integrated Eligibility Systems.

Since the onset of the Transformation, all but one of the original senior executives have been replaced, some several times – including the Chief Information Security Officer (CISO), a position that has been held by five different individuals. The most recent changes in some of the senior executives was documented in the "ITS Transformation Plan as of June 2015" slideshow document cited previously. The document, which the current CIO reviewed with the audit team in one of several meetings during the course of the audit, recognized seven Focus Areas, and identified Challenges and Completed and In Progress actions for each. One Focus Area addressed "Organization Optimization" and shows actions completed to address this challenge, which included:

- "Replaced COO, CTO, CISO, PIO, Program Office Lead,
- Hired CFO & strategic HR lead,
- Hired deputy CCIOs."[2]

Most importantly, ITS has been led by three different CIOs since its origination. Yet, a detailed project plan, establishing specific deliverables in accordance with project management standards, was never created by any of them. As a result, each CIO has followed their own unique approach to achieving the goals set forth by the Commission.

In response to our preliminary findings report, ITS disagreed with our conclusions about the negative impact of recurring changes in senior executives on the organization. In fact, the response stated, "Management changes within ITS have not impeded Transformation" and "The unprecedented IT transformation in progress in New York must be conducted in stages devoted to achieving specific goals. Each goal has and will require specific skills to be achieved." Furthermore,

[2] Office for Information Technology Services: "ITS Transformation Plan as of June 2015" [slideshow], p. 5.

ITS also stated, "Each stage of this multi-year, multi-phase effort has required different skills and strengths; changes reflect only that, and neither diminish the impact or effectiveness of prior staff nor reflect an inability to 'retain' talent."

ITS' reference to "phases and stages" of the Transformation aimed at reaching goals implies that a formal plan was actually followed and the turnover of senior executives was conducted deliberately to align with this plan. However, our audit found this simply was not the case. Although we repeatedly requested it since the beginning of our audit over a year ago, ITS never provided us with an overall project plan or charter for the Transformation as a whole.

In addition to the executive-level changes, many of the cluster CIO positions have seen resultant turnover, leaving areas within those clusters without clear and consistent leadership. Changes in cluster leadership have involved instances where individuals moved between a cluster CIO position and a senior-level executive position. Some of these changes involve State employees being replaced via the hiring of non-State employees, only to be reassigned to another role within the organization. Four former cluster CIOs were recently reassigned to a new position of Deputy Cluster CIO. Creation of these additional executive positions seems to conflict with the Commission's original intentions for the cluster structure, which was to "reduce the total cost of doing business while improving performance for agencies within the cluster."

Turnover has also been prevalent in the leadership of one of the main Transformation projects. UniteNY started in November 2014 and has had four different project managers. Moreover, as previously mentioned, the failure to either attract, develop, and/or retain competent individuals can negatively impact employee morale. This was exhibited in the aforementioned employee work survey. The survey reported that employees expressed a need for better communication within ITS. Furthermore, only 20 percent of employees who completed the survey expressed satisfaction with the policies and practices of ITS executive leadership and felt that this team generated high levels of motivation and commitment in the workforce.

Inadequate ITS Audit Cooperation

ITS officials hampered auditors' progress in obtaining independent, reliable information for this audit. Throughout most of the audit, officials refused to allow ITS staff to meet with auditors without a member of ITS management present. When we asked to meet with officials directly, without a member of ITS Internal Audit present, ITS officials abruptly cancelled all scheduled meetings. Furthermore, ITS management took extensive periods of time to provide information to the auditors because they wanted to approve the data before delivering it to us. Although there was some improvement in ITS' responsiveness after a meeting with the CIO on June 18, 2015, ITS officials continued to require that all documentation be sent through the CAO before approval to provide it to the audit team.

Since the information we requested was pertinent, and often critical to our audit scope, we repeatedly requested copies of the documents. Table 4 details some of the data we requested and the corresponding ITS delivery response time.

Table 4 – Timeline of Document Requests

Date of Request	Item Requested	Date Received	Response Time
March 2, 2015	ITS email consolidation plans, deliverables	July 2, 2015	4 months
March 2, 2015	McKinsey Contract deliverables	July 6, 2015	Over 4 months
January 8, 2015	ITS disaster recovery plan	Never received	No response/not determinable
January 8, 2015	Transformation progress reports	Never received	No response/not determinable

As Table 4 shows, we asked ITS for a disaster recovery plan in January 2015. Although several months had passed, ITS still had not provided us with a disaster recovery plan. Consequently, in August 2015, we sent ITS a formal preliminary finding concluding that such a plan did not exist, since it was never provided. In response, ITS officials stated that they did have a disaster recovery plan. However, they did not include the plan with their response. Now more than a year later, they have not yet shared it with us.

As noted previously, all auditor-requested documents were expressly sent through the designated ITS officials, although we repeatedly asked that the information be sent directly to us. ITS has a responsibility to the public to provide timely and unfettered access to information to those charged with overseeing and evaluating its actions, to properly demonstrate accountability for the public resources and the authority used to carry out its programs. Transparency and accountability are two cornerstones to good government. When public officials believe that they are not required to be transparent and accountable, the internal control environment suffers. Consequently, there is increased risk that internal controls do not function properly and less assurance that program goals and objectives are accomplished efficiently and effectively.

In the end, ITS' delays in providing us certain relevant evidential matter and its efforts to hamper independent interviews of staff limited our audit work and might have compromised the reliability of certain evidence provided to us. As such, there is considerable risk that important information pertaining to the IT Transformation was purposefully withheld from auditors and thereby hidden from public disclosure. Furthermore, because ITS officials were unwilling to allow their staff to provide any information directly to us without prior management approval and clearance, we have limited assurance that the data presented was not altered or modified after we requested it. As a result, consistent with professional audit standards, we considered that information to be less reliable in forming our audit conclusions. Thus, according to professional standards, we are required to report management's impairment of our audit scope. Readers of this report should consider the effect of these scope limitations on the findings and conclusions presented in our report.

Recommendations

1. Formally assess the adequacy of the internal control environment at ITS and take necessary steps to ensure the control environment is adequate, including cooperation with authorized State oversight inquiries.

2. Complete an overall risk assessment of ITS and incorporate it into the new FY 2016-17 project plan.

3. Establish formal timelines for completing various phases of Transformation projects and the broader Transformation itself.

4. Work with State agencies to facilitate their sharing of successful and innovative practices to more efficiently and effectively manage ITS resources and assets.

Audit Objectives, Scope, and Methodology

The objectives of our audit were to determine how effective the Transformation process has been in ensuring that the resulting ITS clusters operate efficiently and whether the Transformation has been successful in standardizing the processes followed by each agency. The audit covers the period January 22, 2015 to March 30, 2016.

To accomplish our audit objectives and assess related internal controls, we interviewed various C-level executives as well as cluster CIOs and former agency executives to obtain an understanding of the progression of the Transformation. The audit team used the *Project Management Body of Knowledge* (PMBOK Guide, 5th edition) as criteria by which to measure project management deliverables. We also met with project management officials to determine steps followed and best practices during a transformation. We attended NYS Forum presentations where ITS officials presented on Transformation topics, and conducted a site visit at the backup data center. We obtained and reviewed policies, procedures, and other relevant documentation. We reviewed Commission and ITS reports to gain an understanding of expected Transformation deliverables and examined documents provided by ITS officials to assess the success in meeting Commission expectations.

We conducted our performance audit in accordance with generally accepted government auditing standards, with the exception of the scope impairment detailed previously in this report. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. Except for the effect of the limitations discussed in the section of this report entitled Inadequate ITS Audit Cooperation, we believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating

the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

Authority

The audit was performed pursuant to the State Comptroller's authority under Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

Reporting Requirements

We provided a draft copy of this report to ITS officials for their review and formal comment. Their comments were considered in preparing this report and are attached in their entirety at the end of it. ITS officials disagreed with several of our report's findings and conclusions, and they asserted that current ITS practices are consistent with our recommendations. Based on ITS' response, we anticipate that ITS will continue to work toward full implementation of our report's recommendations. Nonetheless, with respect to the conduct of the audit itself, ITS officials misunderstood their obligations regarding cooperation with statutorily authorized State oversight entities, such as OSC. Also, our rejoinders to certain ITS statements are embedded within its response as State Comptroller's Comments.

Regarding the audit's recommendations, ITS officials indicated that a formal risk assessment is currently underway. The risk assessment should be completed in a most timely manner. We believe an assessment completed much earlier in the Transformation could have added greatly to its success. Further, we encourage the ITS portfolio unit to establish formal timelines for major Transformation projects, since this has not been an ongoing practice for several of its projects we reviewed. As detailed in the report, the Transformation is now in its fourth year, and it is still unclear when certain major components of the initiative will be completed.

Within 90 days after final release of this report, as required by Section 170 of the Executive Law, the Chief Information Officer of the Office of Information Technology Services shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons why.

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Vision

A team of accountability experts respected for providing information that decision makers value.

Mission

To improve government operations by conducting independent audits, reviews and evaluations of New York State and New York City taxpayer financed programs.

Agency Comments and State Comptroller's Comments

NEW YORK STATE OF OPPORTUNITY. | **Office of Information Technology Services**

ANDREW M. CUOMO
Governor

MARGARET MILLER
Chief Information Officer

June 30, 2016

Andrew A. SanFilippo
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Division of State Government Accountability
110 State St., 11th Floor
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     Re: Draft Audit Report 2015-S-2 issued May 27, 2016

Dear Mr. SanFilippo:

     The Office of Information Technology Services ("ITS") has reviewed the Office of the State Comptroller's ("OSC") above-referenced Draft Report relating to Audit 2015-S-2 of Information Technology Services ("ITS"), regarding "Effectiveness of the Information Technology Transformation" (the "Report").

I.   Background and IT Transformation Achievements to Date.

     When the Governor took office in 2011, he recognized that the State was not operating its IT resources efficiently and effectively and that a transformation was necessary in order to deliver world-class information technology ("IT") services to New Yorkers in an era of massive digital expansion. In convening the Spending and Government Efficiency Commission (the "SAGE Commission") and authorizing it to report on its findings, the Governor moved from recognition of this difficult IT inheritance to remediation and intended transformation. In that connection, the Governor created ITS in response to a recommendation of the SAGE Commission. After the issuance of the SAGE Commission Report in early 2013 and the creation of ITS, ITS commenced a multi-phase, multi-year effort to consolidate and transform IT assets, resources, infrastructure, and service delivery across more than fifty executive agencies.

     The scope and scale of such a transformation is unprecedented in the public sector and as such, there is no external comparator.

     One of the benefits of the Governor's IT transformation program which created ITS is that we now have visibility to the risks inherent in the State's infrastructure. It has become clear that a significant technology debt had accumulated over many decades of under-investment and inadequate fiscal management across the state, creating operational, legal and financial risks. In addition to consolidating and transforming the organization, we are investing significant funds and resources to eliminate this debt. The fragility of the State's infrastructure pre-transformation was much more serious than had been understood at the time of the SAGE Commission, with the result that the scale of challenge is even greater. It is important to view the very considerable progress to date in this context.

2015-S-2

We have encountered, and will continue to encounter, challenges in this multi-year journey. But those challenges do not deter us; rather, they inspire us to be even more creative, innovative, and dedicated to achieving service excellence and the best possible citizen experience.

We are bringing together what was once a highly decentralized, inefficient IT structure across more than fifty disparate agencies into a single agency. We can now work to maximize the tremendous talent in the workforce, standardize the myriad systems and applications implemented in each agency, and create an environment in which ITS can leverage IT investments across all state government, adopt industry best-practices, and enhance service delivery to our partner agencies, businesses interacting with the state, and the citizens New York State serves providing needed services more rapidly and cost-effectively, to fuel the innovation economy. Today, ITS's 4,000 professionals actively support over 14 million citizen accounts, 150,000 employee/contractor accounts, 60,000 phones, 99,000 laptops and 3,433 VDI remote connections.

At every stage plans have been created based on the best information available at the time. We have been agile in adapting these plans where needed as we learn more about the challenges we face. Each phase requires a different focus, different capabilities and different partners, but builds inexorably on the previous one.

We are very proud of the progress made to date in transforming the experience of agencies and citizens with more resilient, secure IT services while delivering significant cost savings. Some specific examples of our progress to date include the following:

ITS is Providing Consolidated Infrastructure

- World Class Data Center. Pre-transformation, each of more than fifty agencies ran their own data center. We have already consolidated more than twenty of the largest, most fragile centers into a single Tier 3 center offering 99.82% availability, enhanced security, monitoring and incident detection, and business continuity.

- Unified email and personal productivity tools. ITS has migrated from and decommissioned over twenty legacy email systems, including 155,000 mailboxes, to the largest single tenant in Microsoft's cloud-based Office365 service. This enables enhanced collaboration and communication across State agencies.

- UniteNY. The UniteNY project has consolidated dozens of outdated voice and data networks across the State's myriad locations with low cost, internet-based solutions using shared services to deliver voice and video services.

IT is Enabling Good Government

ITS has implemented a strategic planning process to ensure we are spending smart and on initiatives that deliver maximum citizen impact through ensuring each initiative is matched to administration and agency goals, and return on investment is clearly identified. This strategic planning process feeds into resource planning to ensure staff skills, procurements and infrastructure needs can be delivered in a timely and cost-efficient manner.

ITS is Delivering Citizen-Focused Services

ITS is delivering integrated IT services from the citizen viewpoint across their multiple personas (citizen, parent, taxpayer, benefit recipient, care giver, business owner). These services mirror the best of the commercial world in functionality, availability, reliability, usability and security.

ITS is Building Once to Re-use Often, Standardizing for Value, Speed and Resilience

It is industry best practice to build capabilities once and use in multiple places, to deliver a seamless citizen experience, at the best value, securely and reliably. We are achieving this by identifying opportunities for sharing technology solutions across agencies with similar needs. Examples include the following:

- Launched in 2013, the Grants Gateway initiative provides a standard means for non-profits to apply for State grants across 18 different agencies while speeding up processing.

- NY Business Express which launches in 2016, guides business owners through application for the myriad licenses and approvals required from multiple agencies via a single application process.

- The State Department of Environmental Conservation Automated Licensing System (DECALS) is a simple, efficient online system for citizens to obtain sporting licenses and permits. The system was launched to make it simpler for people to purchase licenses, and to help attract newcomers to hunt and fish in New York.

- Strategic platform technologies procured and set up with a ready-trained state workforce able to be used by multiple initiatives.

ITS is Delivering Metrics-Based Management

During 2016, ITS will become a metrics managed organization with goals set for each of our strategic objectives and key measures of progress reported on a quarterly basis. Not all this data will be clean to begin with and not all progress will be on target but by measuring and reporting on key metrics we will focus our resources to deliver to our goals.

ITS is Focusing on Cyber Security

ITS continues cyber security improvements with key programs to address cyber risk and comply with industry best practice standards of the National Institute of Standards and Technology (NIST, part of the U.S. Department of Commerce) 800.53 and ISO 27001, and regulatory rules for all agencies supported by ITS. ITS is engaging key suppliers and organizations, and the New York State Intelligence Center (NYSIC), to assist in implementation of our enterprise-wide programs, close high-risk gaps, and guide the deployment of cyber security best practices. With the cyber security function centralized under ITS, the State can implement the policies consistently, and react swiftly across all the IT assets when we receive intelligence about potential threats.

ITS is Building Operational Excellence

New York citizens expect IT enabled services to be reliable, secure and available 24/7. In order to achieve the required level of service, we have already made significant progress in overcoming decades of under-investment in infrastructure, processes and skills by accelerating our consolidation of legacy data centers and significantly upgrading our level of operational maturity while further driving down costs.

ITS is Focusing on Staff Development

Our staff are a vital asset in delivering the best possible service to our citizens, businesses, partner agencies and all other digital visitors to New York State. While we have much to do to ensure that all team members have the opportunity to reach their potential and make the greatest contribution to our transformation program, we have already made progress in the following areas:

- Strengthening our senior team. As the transformation has progressed the skills required have changed and evolved. We are enormously grateful to those leaders who have already made such a huge contribution. ITS is very proud to have now been able to attract a new cadre of senior leadership from across the private and public sectors, attracted by the strength of our vision and the opportunities to deliver world class IT services in the service of the citizens of New York State.

- Communication. Increasing the frequency and quality of our team communication at all levels to ensure all team members understand the overall ITS strategy and how their work contributes to the mission of ITS and our partner agencies

- Development and Training. Ensuring our training and development plans are closely aligned with our transformation strategy and that team members have the skills needed to be effective and to progress in their careers.

- Recruitment. Implementing an intensive hiring program to ensure we are bringing in sufficient new team members to allow us to fulfill our objectives and allow existing team members to progress in their careers.

- Performance Management. Continuing to seek ways we can reward and promote outstanding talent.

- We plan to become a national leader in building the IT workforce of the future by partnering with academic and IT leaders to develop the workforce needed to grow the technology business in New York State.

With this background in mind, we would like to respond in detail to some of the specific points made in the Report.

II.   SAGE-Identified Project Progress

The Report finds that ITS has not made "significant progress" on three of four projects identified in the SAGE Commission Report. ITS disagrees with this assessment, and offers the facts below in support of its position.

Email consolidation, which began in July 2013 upon the execution of an Office of General Services statewide centralized contract to purchase Microsoft Office365 ("O365"), is complete, saving money and providing a single, unified platform for State employee communications. ITS is glad OSC recognized this achievement.

Data center migration, using methodology developed by McKinsey, has progressed well – more than half of the State's many high-risk data centers have been safely and appropriately consolidated within the State's Tier 3+ data center, a state-of-the-art facility which did not exist when ITS was created. The Tier 3+ data center built by ITS has mitigated many pre-existing risks by providing: adequate record protection and disposition, logical access control policy and practice, and physical access control and security. Safely moving over 11,000 servers spread across more than fifty data centers is very high risk, and such risk must be consistently evaluated and appropriately mitigated for each server move. In recognition of this, ITS began consolidation before the data center construction was complete, by consolidating physical servers across clusters. In the event ITS must activate a traditional disaster recovery plan for any system, the State is currently providing a geographically distinct and fully operational disaster recovery backup site in Utica. All systems having been identified as potentially requiring traditional disaster recovery mitigation are fully backed-up at the Utica site.

State Comptroller's Comment - Although ITS officials reference the activation of a disaster recovery plan, ITS officials did not provide us with copies of such recovery plan (assuming one was formally developed). Further, we received contradictory information on the recovery plan when we asked various ITS officials about it.

The consolidation of the old CAPNET phone system into the UNiteNY VoIP system has also been successful. Ninety-seven percent of CAPNET lines – in other words, virtually all of them – have been migrated to the UNiteNY VoIP solution. It should be noted that the original target for the VoIP initiative was to convert 75% of all lines to VoIP; ITS has achieved more than this target already, and is actively working to convert the remaining 3%. This represents an incredible achievement and a large saving to New York State taxpayers. The Report mischaracterizes this great achievement by focusing on the number of locations still using CAPNET, which is not a relevant statistic as it does not correspond to system usage.

State Comptroller's Comment - We did not mischaracterize the UniteNY initiative. This initiative consisted of VoIP and six other projects: Organizational Change Management; Network Consolidation; Wide Area Network Design; Migration Readiness; Operational Readiness; and Unified Communications (UC) Core Build. Further, our report simply details the progress status of these various components of the overall initiative, based upon documentation provided by ITS officials.

The Enterprise Identification and Access Management ("EIAM") initiative identified in the SAGE Commission Report has not been completed based on intervening priorities. When ITS evaluated the feasibility of EIAM, it was discovered that the Department of Taxation and Finance, the Department of Motor Vehicles, and the Department of Labor – those agencies which would benefit most from EIAM – *already shared a directory structure consistent with EIAM*. Therefore, ITS determined that while it would continue the EIAM initiative, other projects would take priority.

III.   Accelerating the Development of IT Projects

The Report takes issue with the acceleration of certain IT projects identified in the SAGE Commission Report. As a threshold matter, it should be noted that one of the identified projects is for the benefit of the Department of Financial Services, which is not a transformation agency and is not supported by ITS. Please find below a detailed response which includes current project updates:

Projects	Description	Agency	Current Status
Strategic Initiative 1	Transition from paper to web-based submissions that populate the underlying database	DMV	RFP developed and issued, currently being evaluated
Strategic Initiative 2	Mass customization of form correspondence	OTDA	Forms developed and in production, printing solution in development
Strategic Initiative 3	Increase use of self-service	DMV	Project pilot implemented in 19 DMV offices
Strategic Initiative 4	Use predictive analytics to improve fraud detection	OCFS	Pilot completed by end of 2015, fully implemented in all SSDs outside NYC
Strategic Initiative 5	Adopt handheld devices to increase productivity	Parks & Rec.	Still in planning phase
Strategic Initiative 6	Redesign complaint and inquiry handling	DFS	DFS not part of IT transformation
Strategic Initiative 7	Use intelligent case management to streamline permitting	DOT	Project in progress, phased roll out to begin by end of 2016
Strategic Initiative 8	Streamline adjudicatory process	WCB	Project initiated, performance testing in progress
Strategic Initiative 9	Internally manage needlessly expensive vendor services	OTDA	Completed, yielding $87 million in savings

IV.   Organizational Restructuring Has Not Impeded Progress

ITS disagrees with the Report's assessment suggesting organizational restructuring has impeded progress. As ITS continues with the unprecedented IT transformation, ITS has been able to continue to attract a very talented and dynamic management team who are leaders in their fields[1] and whose skills and abilities are an excellent match for the phase of the IT transformation. As any organization matures, staff replacement is inevitable as retirements and promotions to other opportunities in the public and private sector take place.

The report also mentions an employee survey conducted by ITS in 2015. It is important to note an overwhelming majority of respondents, 82%, felt they performed an important job at ITS. Management is actively working to expand upon this positive sentiment.

State Comptroller's Comment - We are pleased that 82 percent of the respondents felt they have an important job. However, as noted in the report, just 20 percent of the employees completing the survey expressed satisfaction with the policies and procedures of ITS executive leadership.

In addition to its talented management staff, ITS has restructured the way in which IT services are delivered to New York State customer agencies through the use of strategic consultant engagements. McKinsey & Co. was engaged in 2014 by a former CIO to aid in transformation planning. This work, provided to OSC by ITS in full, contains many recommendations which ITS already integrated into operations yielding significant operational efficiencies, including: Project Governance, ITSM, ITIL, and the use of the Strategic Planning Board. The current IBM engagement addresses a different scope than the McKinsey engagement. While the McKinsey engagement provided the framework for improved operations, the current IBM engagement is building upon that success by implementing McKinsey recommendations into the IT management framework of ITS.

State Comptroller's Comment - We agree the McKinsey report, for which a contract was in place since the beginning of the Transformation (in November 2012), provided an overall framework for the initiative. However, at the time of our audit fieldwork, IT Infrastructure Library (ITIL) and IT Service Management (ITSM) were in the beginning stages of implementation at ITS. In fact, in response to our preliminary finding, ITS officials stated that they were in the process of implementing the ITIL approach to ITSM.

V.   ITS Did Not Impair the Audit Scope

ITS has never withheld and would never purposefully withhold any important or material information from OSC**.** ITS disagrees with the Report's assessment suggesting inadequate cooperation by ITS.

An ITS liaison was present in meetings between ITS staff and OSC auditors by agreement, and thus, ITS disagrees with the assertion scope impairment was incited by the presence of an ITS audit

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[1] The Report tries to take issue with the fact that the current CIO has added certain Deputy Cluster CIO positions to ITS. What the report fails to note, however, is that prior to the creation of ITS, there were more than 50 CIOs

liaison in auditors' interviews with ITS executives. Presence of such liaison is consistent with federal audit guidance in GAO-05-35G, which prescribes a "designated point of contact who is knowledgeable about the agency's relevant programs and organization and is able to facilitate [the auditor's] ability to complete its work in a timely manner."

State Comptroller's Comment - We agree the GAO prescribes a designated point of contact to help facilitate the audit. However, far from facilitating our audit work, ITS' actions were, in fact, uncooperative, including delaying and impeding auditors' requests for documentation and requiring executive approval before providing it to them.

The Report contends ITS unreasonably delayed providing requested documents to auditors, and filtered documents through the ITS Director of Administration. Auditors requested multiple documents, multiple times, and ITS provided all documents that existed in the form requested as soon as they were collected. In fact, ITS provided over 1,800 pages of documentation, in addition to the voluminous McKinsey report and recommendation consisting of ten binders of materials, to OSC during the course of the audit. Additionally, documents were not filtered by the ITS Director of Administration. Consistent with common audit practice, the Director of Administration served as the single point of contact for document production during the audit to ensure an accurate record of what was provided to the OSC audit team.

VI.   ITS Has Realized Cost Savings and Other Benefits to Date

ITS disagrees with the Report's assertion ITS has not realized cost savings. As provided to the auditors, ITS estimated savings of $8.6 million during fiscal year 2015-16 and $19.9 million during fiscal year 2016-17 for a total of $28.5 million. These savings were a result of data center consolidation, e-mail consolidation, network consolidation and the UniteNY project projected costs savings and cost avoidance. When the value of vacated real-estate, reduced power, reduced staff levels and cost avoidance are included the real cost savings are considerably higher.

State Comptroller's Comment - Our report does not assert that ITS has not realized cost savings. Rather, as our report notes, ITS failed to adequately track total costs and savings realized during the first two years of the Transformation. We further addressed the various inconsistencies in the information ITS provided regarding cost savings. For example:

- In December 2015, ITS officials provided a spreadsheet outlining purported savings **estimates** of $8.6 million during the then current fiscal year (FY 2015-16) and **anticipated** cost savings of $19.9 million in the following fiscal year (FY 2016-17); and
- In February 2016 (only two months after ITS provided us with the aforementioned spreadsheet), ITS gave us conflicting information in response to our final preliminary finding. In that response, ITS officials stated, "To reiterate information previously provided, transformation efforts **have already yielded** $28.5 million in hard, demonstrated cost savings to date, and these savings are expected to be as much as $160 million in the next year."

## VII.   Recommendations in the Report

ITS considered the entire Report and concludes that all recommendations contained therein are already ITS practices, some long standing. As to each recommendation: 1) ITS has an internal controls unit and that unit's mission is to assess the adequacy of the internal controls environment; 2) ITS has a continuous risk assessment effort underway, but the completion of a full assessment must await the completion of the transfer of all transformation agencies' non-personal services dollars; 3) ITS has a portfolio unit and that unit's mission is to establish formal timelines for completing all projects; and 4) "work[ing] with State agencies to facilitate their sharing of successful and innovative practices to more efficiently and effectively manage ITS resources and assets" is, and has long been, an ITS practice.

VIII.   Conclusion

IT transformation efforts to date have been extremely effective, achieving very significant positive change, benefits and cost savings for the State of New York, consistent with the intention of the SAGE Commission's Report. ITS actively participated in the audit in a spirit of cooperation and with the goal of educating and providing meaningful input. In spite of this cooperation and input, the Report reveals a fundamental lack of understanding by the auditors of what is involved in transforming a large, complex IT organization and of the pre-transformation IT situation within the State's agencies, and of the audited subject matter.

State Comptroller's Comment - ITS' comments are misleading and inaccurate. As previously noted, far from facilitating our audit work, ITS' actions were, in fact, uncooperative, including delaying and impeding OSC auditors' requests for documentation and requiring executive approval before providing it to them. Further, contrary to ITS' claims, we were well aware of what is involved in transforming a large, complex IT organization, of the pre-Transformation IT situation within the State's agencies, and of the audited subject matter. In fact, OSC auditors routinely audit NYS IT systems and therefore have extensive historical knowledge of the pre-Transformation IT condition. As noted in our report, we performed three other IT audits while the Transformation was in progress. We also met with officials from and researched other large, complex IT transformations.

Respectfully,
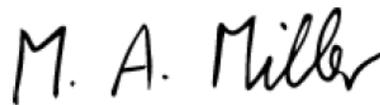
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