



EXECUTIVE OFFICE OF TECHNOLOGY SERVICES & SECURITY

COMMONWEALTH OF MASSACHUSETTS | 1 ASHBURTON PLACE, 8TH FLOOR, BOSTON, MA 02108

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MEMORANDUM

TO: Representative Aaron M. Michlewitz - Chair, House Committee on Ways and Means
Senator Michael J. Rodrigues - Chair, Senate Committee on Ways and Means
Hon. Suzanne M. Bump – State Auditor
Michael J. Heffernan – Secretary, Executive Office on Administration and Finance

FROM: Curtis M. Wood – Secretary, Executive Office of Technology Services and Security, & Chief Information Officer, Commonwealth of MA

DATE: December 13, 2019

SUBJECT: **Executive Office of Technology Services & Security 2019 End of Year Legislative Report**

Purpose of this Report

The Executive Office of Technology Services and Security's (EOTSS) 1790-0100 line item in the Fiscal Year 2020 operating budget includes language requiring EOTSS to report on various aspects of IT consolidation in the Commonwealth as well as the secretariat's operations and efficiencies:

"...that not later than December 13, 2019, the executive office shall file a report with the secretary of administration and finance, the auditor and the house and senate committees on ways and means that shall include, but not be limited to, the following: (i) financial statements detailing savings realized from the consolidation of information technology services within each executive office and other initiatives; (ii) the number of personnel assigned to the information technology services within each executive office; (iii) efficiencies that have been achieved from the sharing of resources; (iv) the status of the centralization of the commonwealth's information technology infrastructure; (v) the status of the commonwealth's cybersecurity; and (vi) strategies and initiatives to further improve the efficiency and security of the commonwealth's information technology."

In August 2017, EOTSS was established as a cabinet-level organization after receiving approval from the Legislature through the Article 87 government restructuring process under the Massachusetts Constitution. Created as the lead information technology (IT) organization of the executive branch, EOTSS has been guided by the mission of providing secure and quality digital information, services, and tools to constituents and services providers when and where they need them. Marking our two-year anniversary, EOTSS is pleased to present the details contained in this report to our partners in state government.

Examples of Savings and Efficiencies Gained through Consolidation

Telecommunications Modernization Initiative – EOTSS undertook an audit of the executive branch's telecommunications network and assets in order to identify opportunities to realize both savings and efficiencies.

EOTSS contracted with Shaheen & Associates, a telecommunications auditing and consulting firm that specializes in billing verification, network optimization, and expense management. The goals for the audit were to: (1) provide the first-ever inventory of the executive branch's telecommunications network and assets; (2) identify any potential areas for cost savings through disconnecting under- and unutilized lines and circuits; and (3) identify any potential areas for cost savings by rectifying billing errors made by telecommunications vendors that provide services to the Executive Branch.

The audit provided a vital foundation for EOTSS to partner with fellow secretariats to root out inefficiencies by mapping out the inventory of over 5,000 unique telecommunications accounts and approximately \$66.5 million in annual telecommunications spend across the Executive Branch.. Spearheaded by EOTSS, agencies across the Executive Branch were able to identify and disconnect under- or unutilized lines and circuits without experiencing any adverse business impact or service interruptions. Additionally, rectifying billing errors with the Commonwealth's telecommunication providers proved to be worthwhile and successful in recovering both one-time savings and ongoing annual savings through credits and refunds.

Since the launch of the Telecommunications Modernization Initiative, the audit process has resulted in:

- 10% reduction in annual telecommunications spend;
- \$6.8 million in ongoing annual savings across the Executive Branch;
- \$2.9 million in one-time savings through credits and refunds resulting from billing inaccuracies; and
- 20% reduction in total unique telecommunications accounts, resulting in operational efficiencies in managing and paying bills, as well as reinvesting state employee time into other core functions.

The Telecommunications Modernization Initiative is winding down following the completion of the audit. Moving forward, the initiative will:

- Provide for potential additional savings from billing claims that are currently pending with the Commonwealth's telecommunication providers.
- Lead to systemic reforms to facilitate the leveraging of the Commonwealth's purchasing power for future telecommunication-related procurements.
- Improve self-auditing capabilities of Executive Branch secretariats to ensure future periodic monitoring of the cybersecurity, spend, and efficiency of its respective telecommunications network.

IT Personnel

The following chart shows the number of personnel assigned to IT services within each executive office as of December 2019:

Secretariat	Number of Personnel
A&F	154
EOE	33
EEA	43
HHS	416
HED	21
LWD	28
EPS	25
TSS	349
DOT	40
<i>TOTAL</i>	<i>1107</i>

Examples of Efficiencies Achieved through Resource Sharing

IT Recruiting – EOTSS’s recruiting team has expanded its scope and now serves as the lead talent recruiter for all IT roles across the Executive Branch, assisting our agency partners in attracting and recruiting some of the best minds in the IT industry. With this consistent approach to IT recruitment, the Commonwealth can capitalize on talent pools without pitting one state agency against another to ensure that IT needs are met across the Executive Branch.

EOTSS’ recruiting team evaluated its recruitment practices against industry best practices and developed a cohesive strategy in sourcing, branding, and workflow, resulting in measurable improvements to the overall process:

- Average time to fill an IT position: 72.25 days (26% faster than Commonwealth average)
- Average time to fill an IT position at M5 level or above: 115.42 days (24% faster than Commonwealth average)
- Average time to fill a non-management IT position: 65.06 days (30% faster than Commonwealth average)

e-Discovery – The Commonwealth’s centralized e-Discovery service provides record preservation and extraction of email data upon request by the data owners. EOTSS’s e-Discovery-as-a-Service (eDaaS) team is implementing new enterprise e-Discovery software, which will enhance delivery of these services and add new industry-standard capabilities. The software will be capable of ingesting electronic data from multiple sources, such as a desktop and network shared drives, while providing enhanced search, analysis, and visualization tools. The new software will reduce costs and increase operational efficiencies and management functions for legal personnel across the Executive Branch by offering a user-friendly interface to review and code documents.

Mass.Gov – Partnering with other state entities, EOTSS has enhanced the search function on the Commonwealth’s website, Mass.gov. Prior to the change, constituent searches on Mass.gov would yield results from only content pages housed on Mass.gov, such as pages for Executive Branch secretariats. By partnering with IT personnel at other state entities, such as the Legislature, searches on Mass.gov now access 80 state websites, including MAlegislature.gov. This enhancement provides a valuable service to the constituents we serve to ensure they are able to access the information and services they need.

Community Compact Connector Tool – Under the leadership of Lt. Governor Polito, EOTSS developed an online portal to support the Community Compact program to offer all 351 communities in the Commonwealth information on state resources and grant opportunities available to local municipalities. This streamlined interface provides a suite of tools for municipal leaders to interact with state government, including a municipal grant finder, technical assistance finder, and a grants calendar.

Centralization of the Commonwealth's Information Technology Infrastructure

Microsoft Modern Workplace Initiative – EOTSS, in partnership with Executive Branch secretariats, is currently undertaking an initiative to deliver a ‘modern desktop’ to all users consisting of O365, Windows 10, Office Pro Plus, One Drive and Teams, while serving as a centralized service provider for Executive Branch secretariats. The initiative will support EOTSS’s strategy to improve data security, safeguard privacy, and promote better service delivery within the Commonwealth, all while reducing operations expense. Additionally, information security capabilities will be enhanced to better mitigate risk and protect citizens’ data. With the goal of enabling a modern, secure workplace, while providing a customer-centric user experience, EOTSS looks forward to sharing updates on this initiative in future reports.

Strengthening the Commonwealth’s Cybersecurity Posture

Technology Improvements – Cybersecurity has been the principle focus for (EOTSS) since the Executive Office was established. EOTSS has worked closely with each secretariat on its overall cybersecurity posture and has made critical improvements in the areas of policies, procedures, and infrastructure.

In building a culture of readiness and preparedness, EOTSS has deployed critical technological improvements to best protect the Commonwealth against cyber threats, including:

- Establishing a vulnerability management and patch management program for a routine, automated process of examining the Commonwealth's IT infrastructure for known flaws.
- Cloud migration of servers to provide high availability and disaster recovery for critical Commonwealth applications.
- Proofpoint anti-phishing software to provide email security against potentially malicious emails sent to Commonwealth addresses.
- Z-Scaler web filtering software to block connections to potentially malicious websites.
- Splunk analytics and data aggregation to create a Security Information and Event Management (SIEM) for the Commonwealth.
- Identity Access Management, including multi-factor authentication (MFA), establishing privileged users, and a standard for New Enterprise Applications.

Information Security Policies – EOTSS has published a set of Information Security Policies based on National Institute of Standards and Technology (NIST) framework in addition to assisting Executive Branch secretariats in self-auditing their respective access management, asset management, and communication and network security protocols.

Statewide Cybersecurity Awareness Training – Beginning in 2018, EOTSS rolled out annual cybersecurity awareness training for Commonwealth employees to ensure that the state's workforce is best able to detect cyber threats. EOTSS is partnering with the Human Resources Division (HRD) to roll out new content, including simulated phishing exercises, in the coming year to keep pace with evolving threats and to promote good cyber hygiene across the state's workforce.

Municipal Cybersecurity Awareness Grants – In October 2019, to cap off Cybersecurity Awareness Month, EOTSS Secretary Curt Wood joined Lt. Governor Polito at Worcester City Hall to announce the award recipients for the first-ever Municipal Cybersecurity Awareness Grants.

The \$250,000 grant announcement will provide critical cybersecurity awareness training for over 42,000 municipal and public-school employees throughout the Commonwealth to better detect and avoid cyber threats. With the growing risk of cyber threats to municipal governments and schools, these grants will serve as an important tool in the overall cybersecurity posture of the Commonwealth.

Improving the Efficiency and Security of the Commonwealth's Information Technology

IT Investment Advisory Board – In addition to centralizing IT infrastructure and driving initiatives relative to cybersecurity, digital platforms, and data management, EOTSS also supports many IT-related investments made by other state agencies as a steward of the IT 5-year Capital Investment Plan for A&F.

Recent major capital investments include the modernization of the state tax system, the state lottery system, along with the Massachusetts Broadband Institute (MBI) and Municipal Fiber initiatives. This partnership has proven valuable, as state agencies are able to leverage EOTSS's expertise in undertaking IT-specific projects.

To ensure that the Commonwealth's IT investments are guided by a strategic planning process, EOTSS created the IT Investment Advisory Board. This Board – comprised of Security, IT, and business operation executives from across state government – meets monthly to review IT capital proposals and projects.

Specifically, the Board uses four guiding principles when evaluating capital proposals to ensure they:

- Are high-impact to the citizens—have a (short) fixed duration, have clear scope, and directly support the Commonwealth's goals;
- Are supported by an up-front business process re-design;
- Leverage so-called “out of the box” technology wherever possible, using custom builds as a last resort; and
- Have a high probability of success and are operationally sustainable and supportable.

Thanks to the efforts of the IT Investment Advisory Board, in collaboration with the agencies we support, capital proposals have clearer business objectives and better alignment to IT investment principles. This improvement in strategic planning has led to many successes in securing the Commonwealth's IT infrastructure against cyber threats, including:

- Cloud migration of major Commonwealth systems: UI Online, HRCMS, MMARS, Mass GIS and the Background Record Check System.
- Cloud migration of eLicensing systems for the Division of Professional Licensure (DPL), Alcoholic Beverage Control Commission (ABCC), and the Department of Labor Standards (DLS).
- Consolidation of One Network and Active Directory to enable better management of end user devices and strengthening cybersecurity (in process).
- Migration to the new Mass.gov, with 100% of legacy pages redirecting to appropriate locations on the new site to improve our constituents' online interaction with the Commonwealth.

Coupled with reporting requirements agreed upon with the Legislature for larger-scale IT projects, the Board serves as an integral tool in the Commonwealth's strategy of modernizing its IT infrastructure.

IT Bond Bill – As the pace of technology innovation continues to accelerate, it is critical for the Commonwealth to equip its workforce with modern, secure, and efficient tools to offer best-in-class services to the constituents we serve.

Ensuring that our state agency partners and its corresponding workforce are equipped with the necessary equipment and productivity tools to provide a platform for the millions of residents, visitors, and businesses that interact with and receive essential information and services from the Commonwealth remains a top priority. Our focus is to streamline state services to make government more impactful and to make every interaction with government easier, faster, and more secure.

In April 2019, Governor Baker filed the Baker-Polito Administration's first IT Bond Bill since taking office in 2015. The bill includes \$600 million in proposed IT authorizations that would support IT infrastructure needs throughout the Commonwealth, strengthen defenses against cyber threats, and improve how state agencies serve their constituents. Collectively, these investments are essential in supporting EOTSS in its ongoing infrastructure transformation and modernization with an increased emphasis on business planning and leveraging data across the Executive Branch to better serve the Commonwealth's constituents. EOTSS appreciates the Legislature's careful consideration of this important legislation.

Conclusion

EOTSS has made great strides in its first two years as a cabinet-level organization. Thanks to our continued partnership with the Legislature and our fellow secretariats, we have continued to centralize IT programs, services, and personnel, while further enabling service improvements to more efficiently meet the rising expectations of our constituents and stakeholders across the Commonwealth.

From health and education, to the environment, economic development, employment, public safety, and other state services, our investments in modern IT applications and infrastructure have provided a more accessible, secure, and user-friendly experience throughout state government.