



DEPARTMENT OF
INFORMATION TECHNOLOGY

FISCAL YEAR 2016 OPERATING BUDGET

TESTIMONY OF

Gregory J. Urban, Deputy Secretary

*Senate Budget and Taxation Committee
The Honorable Edward Kasemeyer, Chair
Public Safety & Administration Subcommittee
February 17, 2015*

*House Appropriations Committee
The Honorable Keith E. Haynes, Chair
Public Safety & Administration Subcommittee
February 19, 2015*

Good afternoon, Mr. Chairman and members of the committee. I am Gregory Urban, Deputy Secretary of the Maryland Department of Information Technology (DoIT). Thank you for giving me the opportunity to provide this testimony to the general assembly.

DoIT provides central IT services and oversight for IT projects and procurement activities for executive branch and independent agencies. We serve as a principal procurement unit, covering the areas of IT and telecommunications purchases, and take the lead in developing the State's strategic IT direction. In addition to our Statewide role, DoIT operates as the full service IT operations for number of agencies. DoIT undertakes and implements projects that support and advance the objectives of the State's IT Master Plan, **consolidation, interoperability, and standards**.

I would like to take a moment to highlight some of our work that illustrates the value of the services that we are delivering to state agencies and Marylanders. Over the past year DoIT has strengthened its infrastructure so that it can support additional agencies through services in DoIT's ever growing service catalog. DoIT has implemented the foundation of a shared services model, and has started using this model to provide web services, firewall and network security services, and utility computing services. Additionally, DoIT assumed responsibility for the IT operations of the Department of General Services, nearly doubling the total number of State workers whose IT needs are being provided by DoIT.

The most mature component of DoIT's shared services model is the Web shared services platform. DoIT's web shared services platform:

- Supports additional agencies including DNR, DHCD's Maryland Mortgage Program, Veteran's Administration, DORS, and the MD State Rehabilitative Council. The overall solution provides a more efficient and cost effective platform for shared services of servers and application software for 60 agency sites.
- Consolidated the Governor's sites, Ethics Commission and 12 Governor's commission sites into the shared services platform.
- Migrated all of sites in DoIT's web platform to responsive web template.
- Developed and redesigned 8 Green.maryland.gov sites into DoIT's WordPress platform.

DoIT continued a cyber-security practice that initiated key cyber security activities, including the implementation of a cyber-security training program, Security Mentor, for over 42,000 employees with a participation rate of over 95%. DoIT continues to work with state agencies to establish and define best practices for safeguarding data, managing risk, and addressing and ever evolving threat matrix.

DoIT's networkMaryland program continues to leverage the investments and partnerships resulting from the statewide fiber optic network known as One Maryland Broadband Network (OMBN). During 2014 DoIT partnered with Allegany and Garrett Counties to increase the

number of K-12 schools and community anchor institutions with fiber optic connectivity by 17.

DoIT has made broad improvements in the quality, consistency, speed-to-release, and risk assessment associated with IT solicitations and contract vehicles. During FY 2015 DoIT implemented a model IT contract to modernize and reform IT procurement. This effort created a standard set of model terms and conditions for IT contracts tailored to the type of IT product or service being acquired. The new approach is designed to remove the 'one size fits all' approach and is focused on updating terms and conditions in a way that reflects the evolution of how IT services are consumed. The effort is also designed to balance the risk for the State to ensure proper protection, while addressing many of the issues raised by the business community that hinder competition and drive up price points in the market, and limit a MBE company's ability to act as a prime contractor. During the second half of FY15, DoIT will publish a model Software as a Service (SaaS) contract . SaaS has emerged as a prevailing means for procuring IT services, and the model contract will enable the State to have up to date and specific contract terms for use when procuring services such as Google Apps for Government, Workday and Salesforce. DoIT will continue modernizing IT procurement practices and processes while making the acquisition of IT products and services a more efficient and competitive process, which benefits both the State and the vendor community.

Though we have made significant progress, DoIT has set an equally aggressive agenda for FY2016. DoIT continues to build the organizational infrastructure required to offer an expanded suite of IT services to State agencies. This includes an increased range of IT security, continued modernization of agency practices through web-accessible applications, and more robust end-user computing services.

On behalf of Governor Larry Hogan, I thank you for your time.

Agency Response to DLS Questions, Issues, and Recommendations

*DoIT advises that agencies will still be responsible for the content on their websites. DoIT's role will be to develop standards and provide resources for agencies. **The department should brief the committees on the progress made since the transfer of these positions.***

DoIT developed a responsive web template for agencies that provides optimal viewing across mobile devices and platforms. To date, 50 agency web sites have been redesigned using the responsive web template. The Web Systems team has redesigned and migrated 70 agency sites in a shared services platform hosted by DoIT. The Web Systems team has met with over 20 agencies including MDOT, DBED, MSDE, DPSCS, MDE, DHMH, and DHR to provide consulting services such as template assistance, graphics, site inventory and analytics.

*Missing from the measures is any indication of the quality of Maryland.gov. There are numerous factors that contribute to a good website, including accessibility, navigation, content, security, speed, accuracy, and currency (up-to-date data). In addition to providing resources for agency websites, **the department should direct some of its MFR efforts to developing indicators that measure the quality of State websites.***

In addition to the agency templates and guidelines, DoIT Web Systems has been working with agencies to implement site analytics and surveys which can be used to develop MFR measures.

*Every two years the Center for Digital Government, the research and advisory arm of Government Technology magazine, evaluates state governments' ability to improve internal processes and better serve citizens. In the 2014 survey, the state of Utah received an A grade. In Utah, the "public expects to be able to interact with their government using new convenient technologies." The report notes that Utah now offers over 1,100 online services. It is unclear how many services Maryland offers. **The Department of Legislative Services (DLS) recommends that DoIT develop MFR indicators that measure progress toward realizing this vision. Budget bill language requiring DoIT to include MFR measurement data is recommended.***

DoIT concurs that online services offered to citizens is an appropriate measurement to track, as evidenced by the fact DoIT has been tracking this measurement. In FY 2014, the number of online services offered by Maryland agencies has increased by 15%:

FY13 - 139 online services

FY14 - 160 online services

15.1% change

For this measurement the definition of online service is: *Online service is an interactive or transaction based service, not including static maps or pdf's, but does include interactive maps that users can search or filter to facilitate information exchange.*

Specifically related to the work performed by NIC, the program has provided 47 services over the initial 3 years of the contract, with 13 additional services requested via a work order. The online services breakdown is:

2015: 4
2014: 26
2013: 6
2012: 10
2011: 1

The challenge in determining the appropriate MFRs is to ensure the metric used provides a meaningful analysis of the work performed. For example, developing 3 applications that are each each used by 1 million citizens may be more impactful than developing 100 applications each used by 1,000 citizens. We also caution the comparison with other states as each state has differing goals for their program and measurement yardsticks. For example, the Utah reference indicates they have more than 1100 online services. This count includes federal, city and county online services, where as the program in Maryland only addresses State services. Additionally, the NIC contract in Utah started in 1999.

*The cybersecurity awareness training program began in December 2013. The program is delivered to registered Executive Branch employees and contractors with a State email account. It consists of monthly lessons on topics like passwords, working remotely, and data loss prevention. The training is provided at no cost to the agencies. The program was made mandatory by the previous Administration for Executive Branch employees. In 2014, DoIT advises that 40,000 employees and contractors participated. The goal is to have 90% of employees completing each month's training in fiscal 2015. Missing from the training regime are employees from the Legislative and Judicial branches. **The department should brief the committees on its willingness to offer the training to other branches of government at no cost.***

The cost of the program provided by Security Mentor to Maryland employees is calculated on a per/subscriber basis. As such, each new employee that uses the services incurs a charge to use that service. The money allocated in DoIT's budget covers solely the employees in the Executive Branch and Independent agencies.

The contract that DoIT has with Security Mentor can be used by other branches of government via an intergovernmental cooperative agreement. Said another way, both the Legislative and Judicial branches could "piggy-back" the contract that DoIT is using, which would give them each the ability to manage the deployment of the service to their user base, manage the contract directly based on the funding allocated to the initiative, and prioritize the deployment of the service based on the needs of each branch.

If either branch is interested in using the contract already in place via an intergovernmental cooperative agreement DoIT would certainly work with the appropriate procurement person to

assist each branch establish a contract for these services.

*The goals for data loss prevention tools are that 5 agencies have them operational by fiscal 2015 and 10 by fiscal 2016. These goals seem modest. **The department should brief the committees on its efforts to ensure that agencies have adequate data loss tools and any plans to expand the use of these tools.***

Implementing an enterprise data loss prevention (DLP) tool is a very complex deployment. Commercial DLP tools are relatively expensive, require specialized skills and experience to effectively administer, and often have a high “false positive” rate. A true DLP tool monitors, detects, and blocks sensitive data while in-use (endpoint actions), in-motion (network traffic), and at-rest (data storage). False positives restrict users from performing their jobs as they can’t transfer data that is erroneously identified as confidential. Configuring the systems to reduce false positives is one of the areas that requires specialized skills and expertise.

Another obstacle to a successful DLP deployment is that once confidential data is found, agencies do not have secure encrypted locations to store that data. Statewide centralized scanning of sensitive data may also raise security objections at the agency level, who are the true custodians of the data.

All of this is to say that the goal of 5 agencies is not modest. True data loss prevention would require the State to institute broad controls to block the ease at which data can leave the perimeters of agency networks, as well as the statewide network. The State would also need to block the use of applications like Dropbox, Box, CloudDrive, etc. across the State. This would start with creating policies to ensure employees are aware that the use of unapproved cloud applications are not allowed and also provide them with approved alternatives (such as Google Drive). Additionally, the State would need to have the agencies restrict the movement of data to DVD, CD, Flash, and other forms of removable media. All of this can be accomplished, but it requires management understanding and buy in, and funding. The additional security could be seen as adversely impacting productivity.

Each agency could implement controls (without cost) to have a very basic version of DLP using tools already within their environment. DoIT is developing several services such as virtual desktops (DaaS), centralized firewalls (SECaaS) and application level DLP (Google Apps components) that will incrementally better position the State to protect non-public data within our custody.

To our knowledge, SRA is the only agency that has successfully implemented a DLP tool (Code Green). Other agencies exploring automated tools include UMD, UMBC, Towson, DoIT, and DBM. DoIT began a pilot program for sensitive data protection, but unfortunately the tool used has a high “false positive” rate and does not provide true DLP functionality.

The new indicators also include a measure of the number of certified security professionals employed by the State. Each agency determines its own staffing levels that are appropriate to

*protect its systems from unauthorized access, modification, disclosure, or destruction. They can employ their own staff or procure contractors. **The department should be prepared to brief the committees on the need for security professionals, how DoIT supports agencies assessments, and what an appropriate statewide target for professionals is.***

Security professionals provide several key functions. First, they help identify which datasets need to be protected. Second, they match the security requirements to the data sets. Third, they employ methods to restrict data from being obtained by unauthorized sources.

The number of security professionals required in the State depends on several factors, including the degree of centralization of IT security established as well as the number of agencies that hold non-public data (such as PII: personally identifiable information). Additionally, agencies that have specific security requirements to meet over and above generally accepted security practices (such as HIPAA or IRS publication 1075) should have a dedicated security professional on staff.

Given these factors and the current delegation of IT security responsibilities among State agencies, a reasonable target for Statewide IT professionals is in the range of 25-30 security professionals. Consolidation of security support for smaller agencies, or consolidation of some security functions, would make this staffing level more impactful.

*DoIT's fiscal 2015 budget was also reduced by \$806,076 in the January 2015 round of cost containment. This is a 2% reduction. DoIT has not indicated how this reduction will affect operations. **The department should brief the committees on how the fiscal 2015 budget will be reduced 2% and how this will affect operations.***

DoIT intends on meeting the 2% reduction without an impact to operations. We have identified options for reductions, and we are working with DBM and the Governor's Office to finalize actions that will allow us to meet our reduction targets in both FY 2015 and 2016.

Responses to Issues

1. Department Should Evaluate Personnel

Beginning in December 2013 DoIT placed a significant focus on filling vacant positions, many of which were left vacant to meet cost containment requirements. Since December 2013 DoIT has filled 26 vacancies, and has 5 candidates that should be onboarded by the end of March. The slight uptick in vacancy rates in January 2015 was in part caused by the change of administration. Based on the current allocation of positions, DoIT believes there are no more than 6 positions that need to be reclassified prior to being advertised and filled. We anticipate the agency's vacancy rate to be between 10% and 14% by the end of March 2015. With that said, we agree that IT salaries in Maryland are often non-competitive; as State IT salaries are lower than Federal paycales, salaries of other State IT workers, and the private sector.

2. Maryland FiRST Operating Budget Expenditures Expected to Increase

*The new wireless system is being implemented statewide. Costs are expected to increase steadily. **The department should be prepared to brief the committees on projected operating budget costs and the deliberations of the Radio Control Board.***

As portions of the radio system that are in production exit the warranty phase, DoIT will incur operations and maintenance costs associated with managing the equipment and performing break/fix operations. The cost of the operating program is below:

Projected Radio System Operating Budget Costs

Fiscal Year	FY16	FY17	FY18	FY19	FY20	FY21
Radio System Maintenance	2,155,000	3,547,300	5,489,344	7,698,000	9,818,050	11,030,200
Tower Site Maintenance & Admin	381,645	765,000	937,500	1,072,500	1,072,500	1,072,500
DoIT System Staff	390,000	435,000	480,000	610,854	650,000	666,250
Contractor Support	990,784	804,172	764,244	240,000	240,000	240,000
Total	3,917,429	5,551,472	7,671,088	9,621,354	11,780,550	13,008,950

The program is operated with the Networks Division, and is reimbursable to State agencies. Today, the State agencies that use the system reimburse DoIT for the costs to operate the system. Each agency has a mature budgeted program for these costs, and most of them are already funding radio systems that they will be migrating away from (although they will still incur costs for staff and subscriber equipment).

The Radio Control Board (RCB) has deliberated on the following items:

- Advanced System Key Policy (Policy Approved)
- System User MOU (MOU Approved)
- Maintenance Contract scope and cost for Phase 1 & 2 reviewed

- Establishment of committees to support the Board
- Board briefed on potential funding strategies: state fees/taxes or agency user fees
 - Board did not support agency user fees
- Reviewed agencies with pending MOUs
- Infrastructure / Tower maintenance strategy discussed with an emphasis on complexities stemming from shared infrastructure

Specifically relating to the operating budget, the RCB deliberated on the options available to fund the O&M for the radio system. Although a recommendation has not yet been created, the board did establish that they will not support creating user fees for organizations to participate in the radio system as either a direct user or interoperability partner. Additionally, the board deliberated on improving the current model for supporting the State owned infrastructure and the possibility of consolidating the support of State facilities (communication shelters, HVAC, generators, ...) into a single program, as opposed to having these sites handled by a multitude of state agencies.

3. Maryland Insurance Administration Did Not Comply with State Procurement Regulations

*The State developed a major IT development process and procurement regulations to reduce the risk that major IT projects fail. The Maryland Insurance Administration did not follow these practices or procurement law. The new premium tax system has lost features, which resulted in a number of audit findings. **The department should brief the committees on its review of IT projects. This should include a discussion of processes in place to minimize the number of agencies and projects that avoid obtaining proper procurement approval or avoid following required planning processes.***

FY14 marked the end of the second full fiscal year that the two-step Information Technology Project Request (ITPR) process was implemented. The two-step process (Project Planning Request – PPR, and Project Implementation Request – PIR) continues to yield positive results for the entire portfolio, with agencies exhibiting signs of more focused and careful planning when undertaking major IT projects. Where it was once considered standard to simply look to a software program or new system to solve a problem, agencies are embracing the importance of developing comprehensive strategies for implementing IT solutions. While project management maturity, capacity, and capability levels remain varied across the State agencies engaged in MITDPs, overall planning efforts within the portfolio are focusing on critical activities such as business process improvement, end user adoption and implementation plans, rather than just IT development tasks. This highlights a positive trend toward increased awareness among State agencies of what it takes to successfully implement complex, large-scale technology projects. Through better integration of the procurement support team and the oversight project management team, large procurements are challenged to determine if they are projects that should go through the MITDP process. Similarly, MITD Projects are supported by the procurement unit to ensure that appropriate best practices and State laws/regulations are followed.

4. State Policies on Internet Advertising:

*The State Department of Assessment and Taxation recently began to provide space to advertisers on the Internet. This raises issues including what is appropriate on State websites and what compensation policies are suitable. **DLS recommends narrative that requires DoIT to develop Internet advertising policies.***

DoIT has no position at this time on advertising on State websites. It should be noted that the federal government prohibits advertisements on sites within the “.gov” domain.

Responses to the Recommended Actions

Recommended Action 1: Delete funds for the Medicaid Enterprise Restructuring Project

DoIT Response: DoIT **partially concurs** with this recommendation. The Medicaid Enterprise Restructuring Project has failed to complete the planning phase of the SDLC. The project has stalled while DHMH and CSC have tried to establish a reasonable plan that would allow the system originally envisioned to be implemented successfully within a timeframe and budget agreeable to the State, the Centers for Medicare and Medicaid Services, and CSC. At this point in time DoIT supports reinitializing the project, and using previously allocated and unspent funds to initiate a new planning phase; essentially closing the current project and starting a new project with the same goal of modernizing the State’s Medicaid system.

Recommended Action 2: Reduce funds for the Automated Financial System project due to delays.

DoIT Response: DoIT **concur**s with this recommendation.

Recommended Action 3: Delete funds for the Integrated Tax System

DoIT Response: DoIT does not concur with this recommendation. DoIT supports the initiation of the ITS project for FY16. ITS project will replace the Comptroller's State of Maryland Tax (SMART) system, Computer Assisted Collection System (CACs,) and other outdated tax processing systems, integrating with a robust data warehouse to both continue and expand revenue generating projects and provide enhanced reporting functionality. The integrated system will allow the Comptroller to efficiently administer all taxes and fees required by law. This includes the processing and collection of personal income tax and sales and use tax, the State’s largest sources of revenue. Successful implementation will bring the Comptroller a modernized system which makes use of current technologies and is supported by and adaptable to the mainstream IT workforce, and the expansion of revenue generating projects may help to mitigate future budget shortfalls. Uniformity in processing across tax types will simplify compliance by taxpayers and allow for a more dynamic use of Comptroller staff.

Recommended Action 4: Add language requiring the department to include Managing for Results indicators concerning websites and web applications with the fiscal 2017 budget.

DoIT Response: DoIT **partially concurs** with this recommendation. DoIT concurs that MFRs should be created to evaluate the effectiveness of the eGovernment program, but does not concur that restricting appropriations is needed to achieve this result as evidenced by the fact DoIT has begun collecting the relevant data and using it internally to manage the program and the contractor. See discussion above for details.

Recommended Action 5: Add narrative requiring the department to submit a report on personnel actions.

DoIT Response: DoIT **concur**s with this recommendation.

Recommended Action 6: Require the department to submit a report on State Internet advertising policies.

DoIT Response: DoIT **takes no position** on this recommendation.

Recommended Action 7: Add a section to the back of the bill that reduces reimbursable fund appropriations to reflect reductions made by Sections 20 and 21 relating to employee general salary increases and increments.

DoIT Response: DoIT **concur**s with this recommendation.

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FISCAL YEAR 2015 ACCOMPLISHMENTS

DoIT undertakes and implements projects that support and advance the objectives of the State's IT Master Plan: **consolidation, interoperability, and standards**. The highlights of DoIT's accomplishments are as follows:

Operational Efficiencies

Established a Centralized IT Services. DoIT continues expanding the framework for central IT services that it can offer to other State agencies.

Consolidated Computing Capability. DoIT continues moving forward with an enterprise approach to upgrade and consolidate its data centers, and making centralized compute resources available to other State agencies. Consolidating computing infrastructures will improve disaster recovery, physical security, cyber security, and efficiencies for the DoIT's data and applications. Establishing an Infrastructure as a Service (IaaS) offering will serve the growing compute needs of State agencies. IaaS is a model for enabling ubiquitous, convenient, easily scalable, on-demand access to a shared pool of configurable computing resources.

Centralized network security infrastructure. DoIT created a Security as a Service (SECaaS) platform that agencies can use to establish a network security boundary (firewall) between the agency's private data network and other networks, including the Internet. This firewall infrastructure, centrally managed, will help all State agencies have a high level security through a central service, and allowing for higher service and security levels than some agencies would be capable of deploying independently. Currently six agencies are being supported on this platform and several others have indicated their desire to migrate.

Virtual Desktop Infrastructure. DoIT believes there are significant benefits of virtualization of the desktop environment to simplify administration and reduce operating costs while maintaining reliability and enhancing security for end users. Running desktop operating systems and applications inside virtual machines that reside on servers in the data center is appealing to DoIT and starts to blur the lines between traditional desktop support and data center support. In FY2015 DoIT began building a multi-tenant infrastructure to support a Virtual Desktop Infrastructure (VDI) deployment for the DoIT, and those agencies for whom DoIT provides IT support. Ultimately DoIT envisions being able to provide virtual desktops to any agency that requests the service from DoIT, as well as to agencies that DoIT provides support via the Desktop Services Unit.

Continued Enhancement of networkMaryland and the One Maryland Broadband Network. DoIT's networkMaryland program continues to leverage the investments and partnerships resulting from the statewide fiber optic network known as One Maryland Broadband Network

(OMBN). During 2014 DoIT partnered with Allegany and Garrett Counties to increase the number of K-12 schools and community anchor institutions with fiber optic connectivity by 17.

Continued the migration to a single, consolidated, cloud email platform. Over 40,000 users were migrated to the new system, which was fully deployed at DBM, DGS, DHR, DNR, DJS, DLLR, MDE, MEA, OAH, and other agencies. Over 40,000 users are using the new system, with the remaining users to be migrated by the end of FY2015.

ServiceNow Implementation (ITSM / CRM system). Currently DoIT uses Remedy as the tool to manage the problems, incidents, and service requests of the different operating programs. ServiceNow, delivered in a Software as a Service (SaaS) model, will allow the tool to be used by other programs within DoIT that currently use either manual processes or have stand-alone databases that don't integrate into any central data repository. Additionally, the tool will host DoIT's Service Catalog. ServiceNow allows users, regardless of location, to request services of DoIT. As part of an overall strategy to increase the user base supported by DoIT without a linear growth in support staff, this tool enables both a reduction in the ratio of service desk employees to supported users, as well as an increase in the number of services delivered.

Statewide Applications Development Projects.

- The Pre-Offer Check (POC) web application that was developed for OPSB in response to legislation under HB 525 (2012) was updated to include the WorkDay application that launched in November, 2014.
- Consolidation of agency monthly and annual MBE reports into a centralized database and reporting tool for GOMA. Consulting with GOMA contractors for security and development standards for new MBE Goals application.
- Development of a DNS and SSL inventory application for agencies to request DNS records and SSL approvals.
- The www.spending.dbm.maryland.gov website was updated with FY14 payments data, and new functionality was developed which allows a user to export all or filtered data to an Excel spreadsheet. Payments data for all years on the transparency website was also added to the data.maryland.gov portal as part of the open data initiative.

Statewide Web Standardization Initiatives.

- A statewide photo library using Flickr was expanded to more than 1290 images with ongoing work with agencies such as DBED Office of Tourism to add Maryland image assets that are available for use by all State agencies.
<http://www.flickr.com/photos/statemaryland>.
- DoIT redesigned the statewide social media standards on the <http://www.doit.maryland.gov/Webcom> site providing guidance and technical support for dozens of agencies as reflected on the Direct2U page
<http://www.maryland.gov/pages/socialmedia.aspx>.
- The news.maryland.gov WordPress platform was expanded to host sites for MSDE, DGS, GOMA and DPSCS. The platform was designed in coordination with the Governor's Communication Office to allow agency PIO's to publish press releases for 12 agencies.

- Agency Responsive Web Template: DoIT provided guidelines, templates and assistance to agencies that has facilitated 48 agency sites migrations to the Responsive Web template to date. Currently providing consulting and technical assistance to agencies migrating to the responsive web template for MEA, DPSCS, MDE, and MSDE.
- Completed Governor's Transition plan and testing to update 80 agency sites with new Governors' image on Inauguration Day, 1:00pm.

FY 16 Web and Applications Goals:

- Cloud Hosting and Web Shared Services contract to expand centralized web services for agencies.
- SharePoint 2013 upgrade for DoIT hosted sites providing improved content management, workflow, social media and mobile design features.
- Setup DB2Connect web services to provide agencies with FMIS reporting tools.
- Expansion of web services to agencies to include calendar and events, surveys and online forms and NearYou widget.
- Standardization of 3rd party tools for agency web sites using GovDelivery and Google Analytics.

Procurement Modernization. DoIT is leading an effort to evaluate and update the State's contract Terms and Conditions used for IT procurements, and improve them so that they are more relevant to the IT services and equipment being procured in today's environment.

Statewide agency procurements. So far in FY 2015 DoIT has facilitated the approval of more than 200 contracts valued at more than \$600M, which includes contracts DoIT approved within its delegation of authority and contracts approved by BPW on DoIT's agenda. DoIT anticipates that it will facilitate approval of more than \$1 billion in IT contracts in FY 2015.

DoIT procurements. DoIT has executed three Master Contracts that enable State agencies to procure IT products and services more efficiently. In addition, DoIT enhanced its contract for cyber security training services, which provides interactive training to State employees regarding cyber security risks and vulnerabilities.

Public Safety & Other Security Considerations

Security Awareness Training. DoIT continues to provide monthly online Security Awareness Training for over 42,000 State employees and contractors. The goal of the training is to ensure that State employees and contractors have a solid understanding of Information Technology (IT) security procedures and best practices. Training on a different IT security topic is provided monthly to help participating employees and contractors recognize and respond appropriately to real and potential IT security concerns.

Cybersecurity. Vulnerability Assessments and Penetration Testing.:? DoIT is currently coordinating vulnerability assessments and penetration testing with selected agencies. DoIT

first works with the agency to identify specific areas of concern and interest to determine the appropriate assessment or test. A vulnerability assessment identifies, classifies, and security holes (vulnerabilities) in a selected computer, network, or infrastructure equipment. With a penetration test, DoIT acts as a malicious user attacking a computer system with the intention of finding computer security weaknesses to potentially access the computer and the associated data.

State Security Processing. DoIT's Service Desk manages security associated with end user privileges for key Statewide applications including, Financial Management Information System (FMIS), the State Personnel System, Benefits, and the Capital Budget Information System. All security requests are now generated and processed electronically. This expedites processing and eliminates costs associated with paper filing and storage.

Implemented Enhanced Automated Hardware and Software Management Tools. DoIT implemented tools and processes to automate the collection of hardware and software inventories within their networks. The tools also automate the process of updating, deploying, and reporting on the successful installations of software security patches. Unpatched systems are a serious security liability and leave networks vulnerable to attack. With the implementation of these tools, DoIT improved the accuracy of asset management and reduced risks associated with known software vulnerabilities.

Coordinated Information Technology Requirements for the new Maryland Emergency Management Agency's Statewide Emergency Operations Center (SEOC). DoIT planned and implemented Information Technology (IT) requirements in support of the new/refurbished SEOC at Camp Fretterd, MD. Responsibilities also included the planning and implementation of IT requirements for an alternate SEOC facility that was fully functional for the duration of the new SEOC construction project.

700 Mhz Public Safety Radio System. In February 2014, we completed testing and activated Phase 2 providing superb coverage across Maryland's Eastern Shore. Throughout the remainder of the year five MSP barracks and two SHA districts were transitioned to the Statewide 700 MHz Radio System. We completed a comprehensive system upgrade in May and June while limiting operational disruptions to less than 10 minutes over a six week period. In December 2014, the SHA State Operations Center transitioned to the Statewide Radio System consoles with connections to their legacy systems for uncompleted regions. In support of Phase 3, seventy one tower and site installations were completed. Twenty three classroom training sessions were conducted for trainees from multiple agencies on the system.

During 2014 the Statewide 700 MHz Radio System supported 8,417,653 radio transmissions. Throughout the year we had four notable events that were aided by the interoperability afforded by the Statewide 700 MHz Radio System. In April 2014, MEMA used the system to directly coordinate with MSP enabling the safe execution of a river rescue that required traffic to be held on I-95. The system was used for secure multi-agency command nets supporting the Star Spangled Spectacular. In November 2014, a Baltimore Police Helicopter used the system to

talk directly with MdTA to coordinate the capture of a bank robbery suspect near the Ft McHenry Tunnel. Lastly, a suspect from a NJ carjacking incident was apprehended by MdTA units near Baltimore after coordination with MSP and MdTA units over the 700 MHz radio system in December.

Constituent/Customer Service, Good Government Citizenship

Maryland Accessible Telecommunications Program (MAT). Began distributing IP-based captioned telephones, allowing the program to serve a previously unserved population of Maryland residents (those that need captions and have high speed internet, but not an analog phone line). The MAT program added two new evaluation centers, in Elkton and Easton, making it easier for clients in northern Maryland and parts of the eastern (is eastern capitalized?) shore to go into centers for evaluations. For FY2016, the MAT program will make progress in the addition of tablets to the program. The MAT program will ensure the stability of a qualified evaluator in an evaluation center covering the Greater DC Region.

Maryland Relay. MD Relay website revamped and activated Social Media (facebook and Twitter) accounts. In 2015 TAM will introduce to public the new Visually Assisted Speech to Speech (VA STS), which allows for more understanding of the speech disabled person's words by using gesture/expression and other visual clues so the conversation can be relayed more accurately and establish a STS training line.

The eGov Program. Continues to work with State agencies to develop applications that improve business processes and citizen services.

Statewide enterprise GIS system MD iMap 2.0. Designed from the ground up, is now hosted in a state data center and included revamped map services organization. The new system was a joint effort with DoIT's Infrastructure Team.

Mobile friendly (missing word? "version"?) of the MD iMap program website. In cooperation with DoIT's Web Team, the GIO office launched a revamped new site which includes a significantly enhanced and more open GIS Data Catalog map, and dashboard application galleries a new application dedicated to distribution of the state's LiDAR evaluation data and improved support information for state agencies and other customers. (starting with the word "dashboard", the rest of this sentence makes no sense.)

Open Data Act in FY2015. DoIT supported the commission which recognizes geospatial as well as tabular data. The law also combined the existing open data and geospatial councils into The Council on Open Data with state, local and private sector participation. Conducted four meetings and completed annual report with findings and recommendations.

Statewide parcel data. DoIT supported making statewide parcel data freely available for download and as a map service. This policy/funding changed 20 years precedent and became effective July 1, 2014.

Maryland's emergency management mapping application. The secure version on Maryland's emergency management mapping application, OSPREY EOC, was updated to a new mobile friendly 3.0 version. Launched OSPREY Dashboard EOC which helps MEMA planning unit monitor situations and prepare sitreps.

FY 2016 Open Data objectives. DoIT will continue to drive utilization of GIS and Open Data resources up while holding fixed costs in check, by leveraging connect.maryland.gov authentication gateway to increase exposure to at least the following applications: maryland.arcgis.com, OSPREY EOC, and WebEOC. Leverage DoIT virtual desktop initiative to pilot deployment of Desktop GIS software. Goal is to make deployment across state easier, while maintaining centralized licensing. Renegotiate ELA with ESRI updating the mix of products and aiming for a 5% cost reduction for customer agencies. Conduct a pilot statewide data inventory per recommendations of Council on Open Data. Create a common search interface for data.maryland.gov and data.imap.maryland.gov so that users looking for Maryland data don't have to guess which system it will be in. "No wrong door"/"One stop shop" for Maryland Open Data. Launch damage assessment application with in support of MEMA.

Major IT Projects Update

Projects Completed in Last Half of FY 2014:

Education: Maryland Longitudinal Data Systems (MLDS).

The existing Pre-K-12 data warehouse system was developed in the late 1990s. In 2009, the Maryland State Department of Education (MSDE) received a U.S. Department of Education (USDE) five-year grant for \$5,990,186 to re-engineer and expand the system to improve the functionality to meet instructional improvement and federal reporting needs. The Pre-K-12 data warehouse and business intelligence reporting system for grades Pre-K-12 is designed to meet: (1) No Child Left Behind federal reporting requirements; (2) Eden federal reporting requirements; (3) State Fiscal Stabilization Fund reporting requirements; (4) Race To The Top (RTTT) reporting requirements; and (5) to disseminate school performance information to Maryland constituents. The USDE grant defines four objectives to measure grant success. The objectives and associated deliverables include: (1) re-engineering the existing MLDS data warehouse to add a variety of new student longitudinal data; (2) implementing a business analytics platform and the creation of advanced analytics and reporting dashboards to help local schools and teachers improve instruction; (3) expanding web data collection system to collect specific additional types of data from the local schools; and (4) creating a State course code standard that aligns with the USDE standard course codes and supports a prototype unofficial standardized Pre-K-12 student records subsystem.

Environment: Water Supply Information and Permitting System (WSIPS).

Seeing a need to replace an aging legacy data management system for the Water Supply Program, the Maryland Department of the Environment (MDE) fielded WSIPS, a relational database that interacts with other databases, provides improved services to the regulated community and improves access to information through a web-based format for stakeholders, environmental regulators and planners.

Human Resources: Enterprise Content Management Solution (ECMS).

The Department of Human Resources' (DHR) Enterprise Content Management Solutions (ECMS) captures, maintains, manages, and shares documentation and information across an enterprise comprised of both the agency and its external business partners. This project was undertaken to meet the urgent need for document imaging within local departments of Social Services to assist Case-workers with faster turn-around times. Furthermore, ECMS directly addressed the DHR lawsuit: Thompson v. Donald, and brought DHR into compliance. The project was deployed using a phased approach. Phase 1A & 1B implemented the standardized document management infrastructure and included the Pilot and Statewide Rollout; Phase 2 examined and solved the issue of data conversion/integration of legacy systems including Montgomery County Implementation and the Conversion Road Map. Phase 3A & 3B implemented a set of advanced features that enhanced the system based on vendor review & user feedback, and also includes Retrieval-only Access for DHR partner entities, as well as Advanced Reporting features.

Transportation - Aviation: Integrated Airport Security System (IASS).

At the end of FY09, Maryland Aviation Administration (MAA) management combined the Controlled Access Security System (CASS #7402), MAA (CCTV #7403) and TSA CCTV (#7404) projects, into the Integrated Airport Security System (IASS). The IASS project implemented a new Closed Circuit Television (CCTV) system, including CCTV cameras at Transportation Security Administration (TSA) specified locations throughout the Baltimore Washington International (BWI) Terminal, and a new Controlled Access Security System (CASS) application. The new system is maintained and operated by the Maryland Aviation Administration (MAA) Office of Airport Security. The IASS is a state-of-technology system with scalable security monitoring features and functionality.

Projects Completed in FY 2015:

Transportation - Transit: BUS Real Time Information System (RTIS).

This project provides a cost effective solution for providing transit passengers with real-time information on the status of their desired bus. Using GPS technology and the internet, the web-based Real Time Information System (RTIS) calculates the arrival time of buses for specific stops and routes, then communicates the information to passengers via wireless handheld devices (such as cell phones and PDAs), the internet, electronic message signs, and kiosks.

Public Safety and Corrections: Offender Case Management System (OCMS).

This project implemented a full lifecycle Offender Case Management System (OCMS) to manage information as the offender moves between Arrest and Booking (A&B), Pre-Trial Detention, Department of Corrections (DOC), and Department of Parole & Probation (DPP) functions of the State's criminal justice system. Public Safety will implement a Commercial Off-The-Shelf (COTS) solution that best meets the needs of each of these four operational business units responsible for case management. Significant configuration and some amount of customization went into OCMS's design and deployment to support Maryland's unique booking process and statutes.

Projects scheduled to be completed in FY 2015:

Education: RTTT 27-Accessing and Using State Data (Dashboards).

This project is part of the Race to the Top (RTTT) program that is funded by a USDE grant awarded to MSDE in September 2010. This project's objectives are to improve the effectiveness, accountability, performance, and assurance reporting of Maryland's public schools, teachers, and students by creating 36 dashboards and making them available to the Local Education Agencies (LEA) staff and teachers via a business intelligence system.

Education: RTTT 32-Item Bank System (Item Bank).

This project is part of the RTTT program that is funded by a grant awarded in September 2010. It funds the procurement and implementation of a computer adaptive test platform, an item bank system to house formative and summative test questions, and a limited number of tablet test platforms. These testing systems will provide test questions that are aligned to the federal and

State common core for instruction. This project contains four sub-projects: #32 Implement a Test Item Bank System (TIBS); #33 Implement a Computer Adaptive Test (CAT) Delivery System; #34 Complete an Item Load and Setup of the Item Bank and CAT system; and #35 Implement Adaptive Testing Units for High Schools.

Education: RTTT 49-Educator Information System Expansion (EIS).

The Educator Information System (EIS) was originally created to reengineer the educator certification processes for the MSDE, Division of Certification and Accreditation and to implement an information system to support those processes. The RTTT EIS Expansion will include new educator data sets, data import programs, and data analysis reports that support the RTTT reform initiatives. Maryland's education reforms for RTTT implement a number of educator professional development, credentialing, evaluation, and assignment initiatives that require additional educator information to be collected, tracked, and reported. This project supports the additional data collections to meet those reforms.

Health & Mental Hygiene: MERP ICD-10 Remediation.

The U.S. Department of Health and Human Services (HHS) announced a final rule that will facilitate the United States' ongoing transition to an electronic health care environment through adoption of a new generation of diagnosis and procedure codes. The final rules mandated that everyone covered by the Health Insurance Portability and Accountability Act (HIPAA) must implement ICD-10 for medical coding on October 1, 2015. DHMH's MMIS must attain system enhancements that will allow for the conversion from ICD-9 codes to ICD-10. To meet October 2015 compliance, DHMH will remediate the legacy MMIS to be ICD-10 compliant by utilizing the Centers for Medicare & Medicaid Services (CMS) General Equivalency Mappings (GEMs) to convert ICD-10 codes to ICD-9 codes. DHMH has determined that this approach would be the most economical method by using the GEMs crosswalk to minimize changes to the legacy MMIS. ICD-10 will be required for certain interfaces, and submitted ICD-10 code values will have to be available to communicate with providers and stakeholders; however, the intent is to use the cross-walked ICD-9 code values within the legacy MMIS claims, encounters, and pre-authorization processes and policies. The full implementation of ICD-10 will be handled in the new MMIS that will be structurally designed to fully incorporate ICD-10.

State Police: Computer Aided Dispatch/Records Management Systems (CAD/RMS).

The Maryland State Police (MSP) is leading an effort to create a centralized law enforcement based Computer Aided Dispatch/Records Management (CAD/RMS) system. Initial major stakeholders for the system are the law enforcement entities within MSP, Department of Natural Resources (DNR), Maryland Transportation Authority (MdTA), Maryland Transit Administration (MTA) and Maryland Institute for Emergency Medical Services Systems (MIEMSS). The system will be scalable so that additional stakeholder agencies, including county and local law enforcement, may be added subsequent to the initial system implementation. The system includes automated field reporting, Geographic Information Systems (GIS), vehicle tracking, and mobile communications.

Projects scheduled to be completed in FY 2016:

Budget and Management: Statewide Personnel System (SPS).

The personnel activities of executive branch agencies are currently supported by systems that were developed and implemented in 1975. The legacy systems interface with statewide agencies serving 800 core users, who manage the personnel activities of approximately 45,000 State employees and benefits activities of approximately 253,000 combined State employees, retirees and their eligible dependents with millions of transactions processed annually. In recent years, the limitations of these legacy systems have become apparent and the risks to State personnel management have increased. These limitations make it very difficult and time consuming to manage and accurately report personnel movement and associated activities. The purpose of the SPS project is to obtain Software as a Service (SaaS) Human Capital Management (HCM) solution to replace the State's legacy personnel systems. DBM decided on a two-phased approach to the HRIS solution. The initial efforts resulted in the implementation of a recruitment module (JobAps) in August 2012, and additional State HR/Benefits/Time Tracking functionality is being implemented using a SaaS solution in two phases. Phase I went live on November 14, 2014 with HR and Benefits/Time Tracking functionality scheduled to be implemented as part of Phase II that is due to go live in fall of 2015.

Education: Enhanced Child Care Administration and Tracking System (eCCATS).

The eCCATS project will enhance the current CCATS application to support the future business needs of the Division of Early Childhood Development and the Office of Child Care. The fixed-price options will support one of the following primary project objectives, with the schedule based on funding availability: 1. Establish architectural renovations in data and code design, security and usability; 2. Correct essential records for providers, accounting, staff qualifications and credentials documents; 3. Improve reports and work management; 4. Implement a provider portal; 5. Improve payments process with an option for point-of-service interface; 6. Improve case management with an option for expanded DHR interfaces; 7. Provide trainer support and portal expansion with an option for quality reporting; 8. Create grant management of four programs; and 9. Enhance portal and licensing processes.

Transportation - Aviation: Parking Access and Revenue Control System (PARCS).

This project will replace the existing legacy Parking Access and Revenue Control System (PARCS) at BWI airport with current technology. The replacement system will manage parking fee revenue, which is the number one revenue generating program at BWI, providing new parking lot control equipment, enhanced reporting /auditing capabilities, improved customer service and reduced cash transactions. PARCS will also supply the physical infrastructure for E-ZPass, provide new ticket kiosks, and proxy cards for employee parking lots. The goal of the selected PARCS solution is to provide maximum operational reliability while maintaining the flexibility to incorporate future revenue control and collection technologies. The system design and specifications are intended to support BWI's objective to provide the highest level of service to parking patrons while maintaining secure and auditable revenue data.

Transportation – State Highway: Release 14 - CHART Advanced Traffic Management

System (ATMS).

The Coordinated Highways Action Response Team (CHART) Release 14 (R14) encompasses work items from the original Business Area Architecture (BAA) and will officially support Internet Explorer 9 and 10. In R14, the functionality of the State Highway Administration Data Entry (SHADE) currently used by CHART operators will be migrated into CHART ATMS. This includes various contact lists and "call down lists", with integration into the existing traffic event participants feature. R14 will add support for fog warning beacons and fog horns into CHART ATMS. R14 will implement the Calculate Queue Length feature using TSS and Travel Time data to calculate queue lengths and display them in CHART ATMS events. R14 will allow links to Standard Operating Procedures (SOPs) to be configured within CHART ATMS such that certain actions performed by operators will prompt the operator to click a link to view the SOP related to that action/condition.