

MAINE STATE LEGISLATURE

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Information Technology in Maine State Government

2016 Annual Report



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Office Of Information Technology

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Foreword from the Chief Information Officer (CIO)

This 2016 OIT Annual Report fulfills the statutory reporting requirements of the Chief Information Officer (CIO) set forth in the [Maine Revised Statutes, Chapter 163 §1973](#) subsection 3B and [§1974](#) subsection 6.

Office of Information Technology proposes to become a new agency, the Department of Technology Services

The Office of Information Technology, working with the Governor's office, will be proposing the creation of a stand-alone technology agency, to be named the Department of Technology Services (DTS). This will be a cabinet-level agency, and the Chief Information Officer (CIO) will report to the Governor as his principal technology advisor.

This proposal follows the organizational structure of twenty other states. The creation is to ensure that strategic technology issues, technology cost, risk management, technology procurement, and technical improvements are reviewed and discussed at the cabinet level, with all agencies. The new agency will have oversight of all technology purchases and projects, whether done internally or by a third-party provider. Additionally, DTS will help to promote enterprise level technology solutions, to ensure that expenditures return the best value for the state. DTS will have oversight for technology risk management, which includes both cyber security and disaster recovery.

In support of the enterprise view of technology, in 2016 we established the State Information Technology Steering Committee. This Committee, which is chaired by the Chief Information Officer, includes the commissioners from DHHS, DOL, and DAFS, and an advisor from the Governor's office, as permanent members. Commissioners from four other agencies serve a one-year term as rotating members. The Committee charter is to help make technology decisions (technology investments, enterprise technology direction, risk management), and create State of Maine technical strategy.

The Committee reports its recommendations directly to the Governor on a quarterly basis. Details on the scope of the Committee are listed below:

- a. Endorse a strategic, enterprise-wide plan for the State's IT needs;
- b. Prioritize and make recommendations concerning IT investment;
- c. Suggest a plan for adoption of tools and practices for operational efficiency;
- d. Monitor IT performance and benefits across all state agencies;
- e. Advise IT risk management including the areas of cybersecurity and disaster recovery;
- f. Review vendor management and IT projects costing over \$1 million, or other strategic IT investments as determined by the committee; and
- g. Review application development and investments to ensure compliance with the enterprise-wide plan for IT needs; and
- h. Make recommendations regarding the status, recruitment and retention of the State's IT workforce.

Jim Smith
Chief Information Officer



Executive Summary

In January 2005, the Office of Information Technology (OIT) was created by Executive Order, consolidating functions, staff, and equipment from the Bureau of Information Services (BIS) and all Executive Branch Agencies. The consolidation was done to promote State-wide information technology solutions and use of information efficiently across government. Since the consolidation, OIT has been delivering the full range of technology services to the Executive Branch, and selected services (such as e-mail and network support) to non-Executive Branch agencies.

OIT provides technology support and strategic leadership for 12,000 Executive Branch employees, 14 Cabinet-level departments, and all the smaller agencies in the Executive Branch. It also provides network support for the Judicial Branch, Secretary of State, and Attorney General. It supports Maine Citizens through the Maine.gov web portal, public safety radio project, ConnectME broadband expansion, etc. The Chief Information Officer (CIO) directs, coordinates, and oversees information technology (IT) policymaking, planning, architecture, and standardization throughout state government. The CIO, as head of OIT, provides central leadership and vision in the use of information and telecommunications technology on a statewide basis; sets policies and standards for the implementation and use of information and telecommunications technologies; develops and supports IT-related legislation; identifies and implements IT business and project management best practices; and facilitates research and development activities to identify and establish effective IT service delivery.

Over the last two years and continuing into the future, OIT has been / will be following industry best practices in several areas:

- In-practice:
 - Revamped the Project Management Office, to provide professional level expertise for project management
 - Introduced 'Agile' project management approach, to improve project delivery and functionality

- Put significant effort into IT workforce recruiting and retention, since 25% of OIT resources are eligible to retire in the next two years
- Have adopted and implemented a cloud first strategy (like the federal government) to take advantage of industry offered infrastructure
- Have worked with all agencies to review and revamp cyber security practices
- In-planning:
 - Work with the Procurement Division in DAFS to revamp IT procurement (risk, delivery)
 - Review / create plan for upgrading our legacy systems (some are over 25 years old)

OIT Divisions:

- Application Systems
- Core Technology Services (infrastructure and customer support)
- Project Management Office
- Business Process Management
- Cyber Security
- Business Continuity and Disaster Recovery
- IT Architecture and Policy
- Finance
- Radio Services
- Technology Business Consultants
- Vendor Management / Contracts
- Workforce Innovation

OIT's two largest organizations are Application Systems and Core Technology Services. The Applications Systems organization oversees systems development and maintenance for approximately 600 application systems, for all Executive Branch Agencies. Core Technology Services include network and voice services, radio operations, data centers, servers, desktop/ laptop computers, and IT customer support for all 12,000 State employees in the Executive Branch.

OIT's 450+ staff support:

- 65,000 Help Desk contacts per year, with a 98% rating of satisfied or highly satisfied
- 12,000+ desktop / laptop computers and e-mail accounts
- 3,000+ users with smart phones and access from other mobile devices
- 13,000 phone lines
- Over 50 projects in support of all Executive Branch agencies and enterprise systems
- 800+ servers supporting 600+ agency application systems and databases
- 562 million megabytes (562 terabytes) of data storage
- Network support state-wide, with wireless access in 288 locations (658 access points)
- State-wide radio network with 43 towers and 2,625 radios

Significant improvements in the past year include:

- Strengthening cyber security
- Improving project management
- Launching business process improvements
- Core Data Center Network Upgrade

The overall State-wide IT budget for fiscal year 2017 (July 2016 – June 2017) was \$137.2 million. Of this, approximately 48% was from the General Fund, 19% from Federal funds, 11% from the Highway Fund, and 22% from various other funds.

2017 Direction

- **Continuous Process Improvement: Business Process Management (BPM) & Lean**
 - BPM is a discipline involving a combination of modeling, automation, execution, control, measurement and optimization of business activity flows, in support of enterprise goals bringing improved agility, process efficiency, reduced costs and better visibility.
 - Lean: Creating more value for customers by improving process performance through the elimination of process waste.

- The State of Maine is actively completing BPM projects, with more in the planning stage and is currently evaluating a Lean program.

• Agile Methodology

- Agile benefits are improved stakeholder engagement, transparency, early and predictable delivery, results in more predictable project delivery, predictable costs and schedule, allows for change, improved quality and focuses on business and end user value.
- According to studies, across all sized projects, Agile projects are 350% more likely to be successful than traditional waterfall projects with only a 9% failure rate compared to 29% for waterfall.
- As a result, the State of Maine has moved to Agile on many projects, with significant success over older methodologies, however increased Agile implementation is required to maximize value.

• Project Governance and Best Practices

- According to the Project Management Institute's 2016 Pulse of the Profession, \$122 million is wasted for every \$1 billion invested due to poor project performance, a 12% increase over last year.
- Adhering to project management methods and strategies reduces risks, cuts costs and improves project success rates.
- Given this, increased focus in implement strong project governance and best practices, cost/benefit analysis and project portfolio alignment with the States strategic objectives is required.

• Risk Management

- Cybersecurity: Uphold the confidentiality, integrity, and availability of State information assets.
- Disaster Recovery: The technological continuity plan that mitigates against both natural and human-caused calamities.

- **Cloud Approach**
 - The Federal government has adopted a “cloud first” approach to technology to realize savings and efficiency. The State of Maine will be also championing this approach.
- **Workforce Development**
 - Over 25% of the current OIT workforce will be eligible to retire in the next 2-3 years. To prepare for this, we have revamped both our recruiting and retention programs, and adding internship and mentor programs.
- **Community Outreach:**
 - **Project Login** – State-wide partnership to double the number of IT grads in Maine over the next four years.
 - **Cyber Security Test Lab** – State-wide partnership has created a cyber-security lab at the University of Southern Maine, to be used for testing and training future cyber security professionals.
 - **Maine Robotics** – in partnership with the Maine Robotics Board, promote robotics and Legos teams in the high schools and elementary schools to further science, technology, engineering, and math (STEM) education and development.
 - **Veterans Outreach Program** – we created partnerships with the Career Centers, veterans representative with the National Guard, and veterans representative specializing in job placement for those returning from abroad. This outreach resulted in filling several positions from interns to director level. We began with a Veterans Day recognition event, and we will continue with more events.
 - **Career Fairs** – OIT employees and interns participate at college career fairs. We met with students to gain an understanding of their needs and career expectations. This allowed our employees to share their work experiences, gain experience being exposed to a “greater sense” of community, social interaction outside of the work place, and allowed them to practice presentation skills.
- **High School Technology Night** – Each year, OIT hosts a High School Technology night, where students from area high schools join OIT professionals to learn about IT careers, pathways, and opportunities. Each year, about 50 students attend, and OIT is joined by local colleges and professionals to help with the presentations and exercises.

OIT in 2020: The Plan

OIT strategy for the Five-Year Plan will encompass project delivery, building a resilient, redundant, and flexible infrastructure, and risk management (including cyber security and disaster recovery).

The foundation for the next five years will be:

1. **Business Process Management (BPM)** for process efficiency
2. **Agile Methodology** for predictable project delivery
3. **Enterprise Strategy** for reusable systems
4. **Risk Management** (cyber security and business continuity/ disaster recovery planning)
5. **Workforce Development** for finding and training the needed technology professionals

The Evolved Approach: Enterprise Modernization

OIT proposes over the next five years to develop a focused strategy of enterprise modernization. Investment in these five strategic areas will result in reduced development costs, reusability of assets, predictable delivery, and flexibility.

Business Process Management/ LEAN

- Help Agencies to respond to changes quickly
- Empower Agencies to make changes themselves
- Reuse tools that work across government
- New tools and products quicker to market

Agile Delivery

- Agencies drive the priorities
- Agencies control costs
- Implementations are 3 times more successful
- Making changes is low risk and straight forward
- Predictable project delivery

Legacy Modernization

- Methodically retire expensive legacy systems
- Replace aging inflexible hardware
- Develop a modern flexible workforce
- Currently legacy maintenance costs \$50M in FTE support annually

Risk Management

- Redesign aging, vulnerable networks
- Design infrastructure with disaster recovery included
- Bolster our cyber security workforce and tools

Workforce Innovations

- Hire new skills and talent
- Harmonize skills around small number of platforms and technologies
- Knowledge transfer to new workforce
- Address shrinking talent pool through interns and outreach

Enterprise Strategy

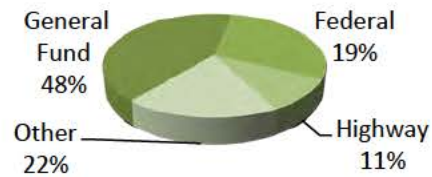
Financials

OIT's Rate-Based Budget

The Office of Information Technology (OIT) was established to provide IT leadership and consolidated services to all Executive Branch agencies, other State agencies and qualifying public entities in the areas of state-wide computing and telecommunications technologies (voice, data, video and radio), enterprise network applications, and infrastructure services. OIT also has oversight of all application services delivered to and maintained by Executive Branch agencies to satisfy the agency's business plan and meet the overall objectives of the administration.

The Statewide projected IT budget – what's in the original Agency submissions to the budget office – is for \$137,240,980 for FY17.

State IT Budget 2017 \$137.2 million



FY17 State IT budget is \$137,240,980

\$— State Total Annual IT Budget —\$



Key Areas – Strategy and Accomplishments

Increased Continuous Process Improvement Focus

As State government we need to operate efficiently and maximize the value our processes bring. Process improvement does this by eliminating waste, optimizing process efficiency and reducing operating costs.

The Project Management Office supports continuous improvement efforts through Business Process Management and Lean. Lean means creating more value for the customer through the elimination of waste. This waste includes defects, waiting, non-utilized talent, motion, extra-processing and inventory.

Many states are already seeing strong returns in their state Lean efforts:

Washington

- \$5.92 million in savings
- \$27.4 million in costs avoided
- \$3.16 million in additional revenue

Arizona

- 62,239 hours of employee capacity redirected to high value-add activities

Connecticut

- 74% process efficiency improvement for Veterans receiving state services

Colorado

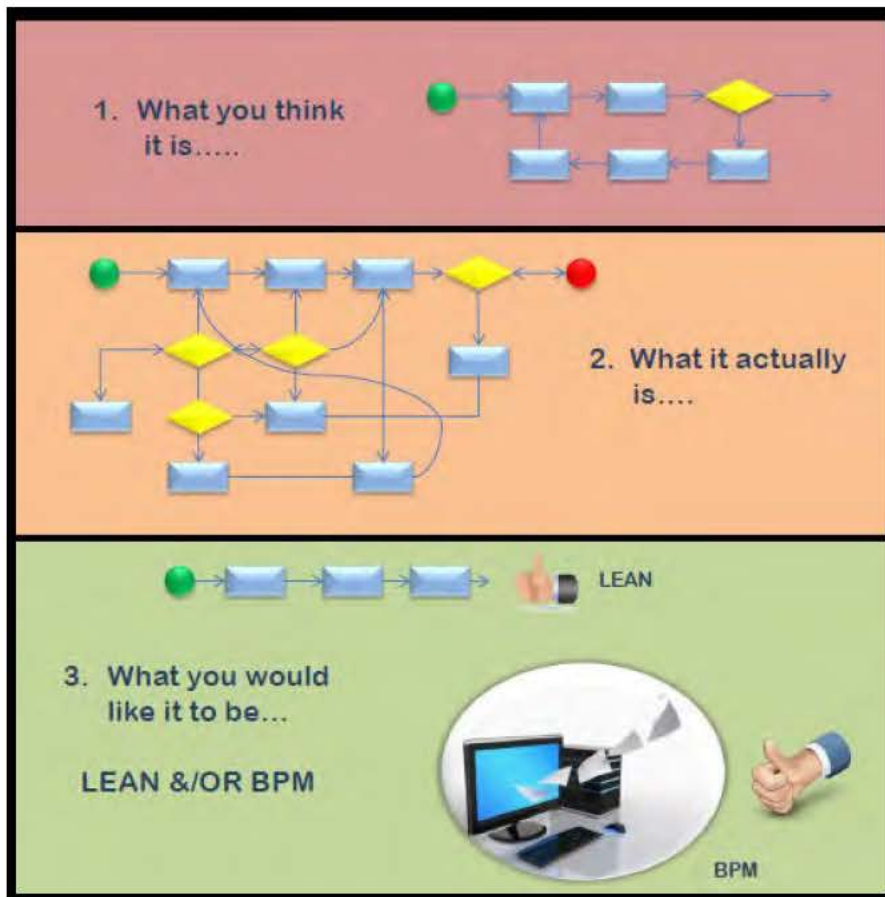
- \$2 million in annual cost savings from 1 Lean project

Benefits of implementing Lean are:

- Greater productivity
- Greater throughput
- Improved quality
- Reduced cycle times
- Smoother operation
- Reduced operating costs

Business Process Management takes it a step further by automating the process thereby:

- Minimizing human-based steps & refocuses FTE savings to other priority tasks
- Providing cost savings
- Reducing process errors
- Streamlining the process
- Increasing productivity



Key Areas – Strategy and Accomplishments

Business Process Management (BPM)

Business Process Management (BPM) is a discipline that uses various methods to discover, model, analyze, measure, improve, and optimize business processes through technologies.

BPM Value:

Business Process Management (BPM) and workflow analysis help organizations fundamentally re-think how they do their work in order to promote business effectiveness and efficiency while striving for innovation, flexibility, and integration with technology. When done prior to implementing automation, the resulting streamlined business processes and workflow can improve agency program effectiveness, speed the delivery of services, and significantly reduce operating costs.

BPM Partnerships

The Maine OIT BPM team has been working with various agencies to look for both process efficiencies and opportunities to define common processes across the enterprise. Examples of this collaboration are:

Department of Administrative and Financial Services (DAFS) MainePays accounts payable application

Prior to this project the SOM AP process was almost exclusively paper based, slow and poorly documented. The last two steps of the process were: (1) data entry and (2) the creation of an electronic image. This project introduced a different path by scanning and capturing data first. This application will be used by multiple agencies with governance by Office of the State Treasurer and will significantly reduce payment transactions.

Department of Administrative and Financial Services (DAFS) Travel application

This application enables State employees to electronically submit in-state travel reimbursement requests for approval and to receive reimbursement; previously a tedious manual process. The application was built upon the existing MainePays framework

which allowed for faster, more streamlined development as common processes did not need to be re-developed. In addition, providing an enterprise wide solution benefits all state agencies and provides a standardized methodology for travel processing.

Division of Purchases, Purchasing Maine application

The Purchasing Maine application was designed to process State of Maine contracts for all Executive Branch agencies in the State of Maine.

Office of the State Treasurer PayMaine payment module application

The goal of the payment portal is to provide a convenient place for electronic funds submission to the State of Maine. The application processes transactions from customers directly, or via a web service which allows access from other systems. Other applications like Maine Background Criminal Checks and Maine Pesticides are already starting to use this web service.

Board of Pesticides Control's Maine Pesticide, Enforcement, Regulation and Licensing System (MEPerls)

MEPerls automates a number of manual processes; provides an internet interface for external constituents; accommodates electronic transactions; interfaces with the State's accounting software (AdvantageME); provides mobile electronic inspection application; and enhances reporting.

Department of Marine Resources' Licensing, Enforcement and Environmental Data System (LEEDS)

With LEEDS, the public is able to manage their licenses and reporting directly. Staff time is saved through automation of key processes, including license eligibility determination and reporting compliance. Marine Patrol can submit case information to supervisors through a user-friendly interface, which is routed through the chain of command with the push of a button.

Key Areas – Strategy and Accomplishments

Department of Labor (DOL) Blocked Claims application

This project automated the verification and processing of claims resulting in a substantial reduction of processing time.

Agile IT Project Management

Agile Project Management supports and embraces change throughout the entire development stage. It focuses on delivering features of functionality with the greatest business value first and providing real-time data to support the management of cost, time and scope.

Agile Project Management reduces complexity by breaking down the many-months-long cycle of building requirements for the whole project, building the entire product and then testing to find hundreds of product flaws. Instead small, usable segments of the software product are specified, developed and tested in manageable, two- to four-week cycles. Thereby minimizing risk and improving the predictability by taking one large, high risk project and decomposing it into many small, lower risk projects.

Agile is a project management framework that maximizes the efficiency and quality of product delivery to end users.

- Requirements evolve but the timescale is *fixed*
- Capture requirements directly and visually from users for immediate development
- Develop small, incremental releases and iterate
- Focus on frequent delivery of products
- Complete each feature before moving to next
- Testing is integrated throughout the project lifecycle – test early and often
- A collaborative and cooperative approach between Agency and Technology

According to an independent study done on a sample of over 8,000 projects, Agile teams are on average 25% more productive than their industry peers

To agencies, Agile gives the business control over what is delivered based on the priorities that are most valuable to the agency's mission. It also allows managers to know with very high accuracy how well the team is performing, not month to month but day by day:

- **Lowers Risk:** Problems are caught daily and fixed weekly, not in final testing when it's too late.
- **Software works as business intends:** Business and IT are focused on same goal at the same time.
- **Reduced unexpected costs:** Initial quality is higher which means less rework.
- **Developed direction changes with the business:** Priorities can change every three weeks.
- **Agencies realize value faster:** Finished features can be used as soon as they are completed.

Agile versus Waterfall

Agile

- 350% higher success rate than Waterfall across all sized projects
- 4X cheaper than cost of equivalent waterfall project according to case studies
- Resources are 25% more productive
- Short delivery time means products to market faster
- Lowers Risk
- Issues are identified quickly
- Very easy to make course corrections
- Business is in full control of the delivery
- Quality assurance is done from day one

Waterfall

- 11% success rate across all sized projects
- 97% challenged/failure rate - large size projects
- Long delivery cycles -- expectations often not met
- Takes months or years to plan
- Increases Risk
- Isolates Business from details of project
- Difficult to make course corrections
- Encourages Silos

Key Areas – Strategy and Accomplishments

- Planning errors go undetected for months

Agile Project Management Center of Excellence & Business Process Management merge under the Project Management Office

This reorganization strengthens our Agile project management and Business Process Management practices by providing a single strategic direction that supports:

- Management and reporting on Agile projects state-wide
- Implementation of Agile best practices
- Agencies in identifying ways to improve process efficiencies
- Development of Agile governance and appropriate procedures
- Agile outreach workshops/training curriculum
- Selection and onboarding of skilled Agile professionals to projects and agencies as appropriate

Continued Focus on Project Portfolio Management

Project portfolio management is key to aligning projects with the organizations strategic objectives. Through the use of prioritization based on data points such as cost/benefit analysis, Agencies are able maximize the value projects bring.

Benefits of Project Portfolio Management include:

- Collaborative decision making to support the alignment of projects to the organizations strategic direction
- Holistic view of all projects within the portfolio
- Project prioritization based on cost/benefit analysis and other key data points
 - Allows best value projects to deliver more value from portfolio
- Minimizes risks to individual projects
- Maximizes human resources for control and efficiency

Project Management Best Practices

No other single activity has a greater impact on the IT infrastructure and associated costs as does sound

project management. In fact, multiple studies have supported this statement. A 2016 study shows that organizations waste \$122 million for every \$1 billion invested due to poor project performance; a 12% increase over 2015.

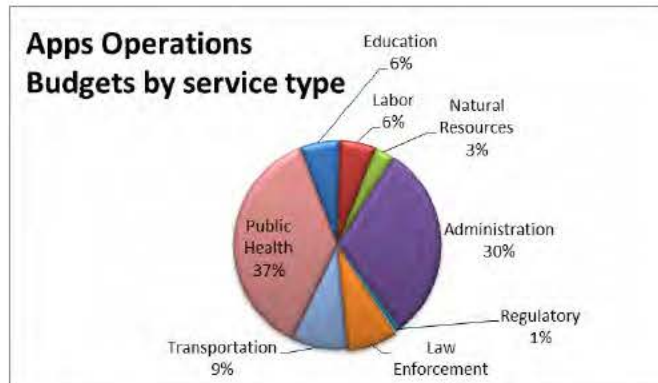
As a State government, it is imperative that we operate in the most efficient manner by avoiding wasteful spending and productivity. Increasing the chances for success of our projects maximizes the value the State of Maine receives for its investments. This is accomplished through a combination of:

- Operating under a sound project governance framework
- Selection of the appropriate project methodology
- Implementation of project management best practices
- Standardized project management policies and tools

According to the Project Management Institutes 2016 Pulse of the Profession, research reinforces the tangible and intangible value project management provides to an organization, including risk reduction and cost savings. Years of analysis shows that high-performing organizations have implemented proven project, program and portfolio management practices. As a result their projects meet original goals and business intent 2.5 times more often (89% vs 34%) and waste 13 times less money. Therefore, it is imperative that project management is viewed as a strategic competency for success and sound project management practices applied to all IT projects.

Key Areas – Strategy and Accomplishments

Application Services



With 350 staff members and contractors, OIT Application Services develops and maintains 600 agency and enterprise application systems, which support a myriad of agency and Enterprise programs for all agencies of the Executive Branch of Maine State Government.

Challenges

There are a number of significant challenges faced in the support of state applications:

- Workforce Recruiting and Retention
- Legacy Application Issues
- Siloed funding

Recruiting and Retention

Staff recruitment and retention remain a significant challenge. The Applications divisions continually operate with 15% vacancies. As the economy has improved this situation has worsened. The net result is an impact on the quality of service, the amount of work we can do, and an increase in cost when we hire contractors to fill vacant roles.

There two positive areas involving the State IT workforce: The first is those staff that we do have are enthusiastic, can-do, problem solvers. No matter how daunting an effort they believe they are up to the challenge. On every occasions they meet or exceed reasonable expectations.

Another bright spot has been OIT's internship program which has afforded us the opportunity to attract recent and prospective college graduates

which might otherwise have left the state to begin their careers (See the workforce management section).

Legacy Applications Issues

As mentioned above Applications Support has responsibility for some 600 different application systems. About 85% of our efforts are dedicated to operating and maintaining the State's legacy applications, that is to say "keeping the lights on." The balance of our activity is applied to new initiatives which include modernization of old applications and to a lesser degree new functionality. The state has applications as old as 40 years of age with the average being around 15 years of age. The older an application the higher the maintenance cost and more expensive it is to adapt to changing agency needs.

Approximately 50% of our workforce is assigned to Oracle-based applications and databases, and some 25% assigned to Microsoft-based applications and databases. In addition, the State's portfolio leverages about 100 other technologies which tend to dilute focus and limit the critical mass needed to create centers-of-excellence (COE). Even so, there are COE opportunities available, particularly with the Oracle and Microsoft environments as well as for functional areas that include testing, planning, design, and other shared services.

Silo-ed Funding

The challenge to applications support at the State of Maine is creating the teams that have the breadth of technical ability along with the depth needed to deal with the episodic nature of application support. Work comes in cycles. Unfortunately, staffing in Applications Support is constrained because it is provisioned based on each agency's ability to pay rather than the work at hand. For example, smaller agencies may only be able to afford one technician for a year even though the true need is for three or four technicians for a quarter of a year. Silo-ed funding for application support is a barrier to an Enterprise approach. Any change from the status quo will require a very close partnership between the agencies to ensure that the technology services available continue to be relevant.

Key Areas – Strategy and Accomplishments

Going Forward

OIT needs to consolidate teams to provide a better focus on technology and shared services. Not only does this create better economies of scale, it creates opportunities to standardize the application of technology, and it reinforces the creation of an enterprise which can provide a rich and reliable set of services across the state government. The following efforts are underway or envisioned in the near future:

- Creation of a centralized Oracle migration team to focus on the regular software maintenance tasks required by 200+ Oracle applications. The outcomes of this will include standardized application of technology and lower resource needs.
- Creation of an automated testing team to liberate staff from manual repetitive testing activities. Expected outcomes include both improved quality and reduced resource requirements.
- Creation of a centralized Managed Services Operations team. Increasingly the State of Maine is leveraging managed services from vendors with a track record of providing commodity technology services. These services require far less internal resources. However, the disciplines needed to manage these operations are very different than required of traditional on-premises in-house services. This unit will focus on the administration of these relationships.
- Acquisition of an Enterprise Service Bus which will reduce the resource burden by standardizing data interfaces between applications and other data partners.

Listed below are a number of key modernization and replacement efforts underway:

Labor – Bureau of Unemployment Compensation Tri-State MRM Consortium

- This project will replace the Department of Labor's 40 year-old custom-built unemployment compensation and tax systems, which are used to support the general public and employers, with

respect to the collection and disbursement of unemployment benefits.

- The effort seeks to adapt an existing modern, streamlined, and largely paperless system to support the joint needs of Maine, Rhode Island, and Mississippi and continue to interface with over 170+ existing systems and data partners.
- Scheduled to be complete in 2019.

Public Safety – Spillman Records Management System

- The Records Management System (RMS) application contains detail data from the start of an Investigation through closure. The Mobile application will replace ROADS, the current Mobile application with Spillman Mobile installed on the Officers' laptops in the vehicle. A contract has been signed with Spillman. Spillman is a well-known provider of CAD, Mobile, and Record Management Systems in Maine with 41 other Sheriff's Offices and local police departments using the application. These agencies will now share data through the Insight Broker with the State level agencies.
- Solutions II (Spillman Managed Care) installed the hardware and software.
- Scheduled to be completed summer of 2017.

Agriculture, Conservation, Forestry – Convert MS Access to SQL Server/.NET front ends

- Smaller agencies tend to rely on vendor toolsets requiring less technical depth to meet the daily IT demands. Over time these proliferate and suddenly require support that wasn't budgeted. Collectively analyzing common data elements and business requirements across a multitude of small applications that are built in MS Access like toolsets allows Application Services to propose collective replacements in supportable, secure technologies and reduce overall support costs.
- Scheduled to be completed in 2019.

Key Areas – Strategy and Accomplishments

DHHS - Electronic Health Records Project

This involves the implementation of a new, remotely hosted, Electronic Health Record (EHR) and related information systems for the two psychiatric facilities, Riverview Psychiatric Center and Dorothea Dix Psychiatric Center. It will replace the legacy Meditech system which does not meet hospital requirements. It includes an Electronic Health Record System (CoCentrix Coordinated Care Platform (CCP)), a new electronic billing system (Profiler), and a new pharmacy management system (Ascend). A document archive will contain the medical records from Meditech.

There has been significant progress to date configuring CCP to meet hospital requirements, and on connectivity to the hosted systems. The initial scope has been adjusted to include Pharmacy implementation and integration in the initial deployment, as well as upgrades to integrate the Pharmacy components.

- Expected to complete, in several phases, in 2017.

DHHS - Maine Background Check Program

Created a system where background checks can be performed from a single point, saving the effort of checking many sources of information individually for facilities that are licensed by the Division of Licensing and Certification (DLC).

- We are finalizing implementation of the first phase, currently designed to serve providers of care for the elderly as well as children, and is expected to be expanded to many areas where this service is needed.
- We will be working on phase II enhancements throughout calendar year 2017.

DHHS - Eligibility system (ACES) Modernization (17/18)

- The Automated Client Eligibility System (ACES) is over 10 years old. There is an ongoing struggle to

stay in compliance with existing and evolving State and Federal policies.

- The plan is to implement a business rules engine to replace the current “home grown” model, design and implement program integrity functions that provide a “red flag” during the initial eligibility determination process; implement application performance enhancements, and provide data access/reporting enhancements. This plan is currently under review by the Federal Centers for Medicare and Medicaid Services (CMS).
- This has been approved by CMS and the work has begun with initial deliverables scheduled for April of this year and completion in FY18.

Maine Revenue Services - Web Portal

- Will replace several public-facing applications with an integrated web portal for Individual income taxpayers and business taxpayers. In a phased approach, the portal will ultimately provide services related to 46 tax types. Expected to be completed in FY17-18.

DAFS – Human Resources Management System (HRMS)

- This is a major project to replace State of Maine enterprise suite of human resources and payroll legacy applications primarily residing on the IBM mainframe.
- Significant work in reengineering and automating today’s manual business processes.
- The new system, SOMER, will be a cloud-based, software as a service solution.
- Projected delivery December 2017.

Maine Revenue Services - Collections Technology Project

- Provides improvements in the lien process and has implemented improved phone number management in conjunction with the LiveVox automated phone system that schedules and completes phone calls that improves daily call volume for collectors.

Key Areas – Strategy and Accomplishments

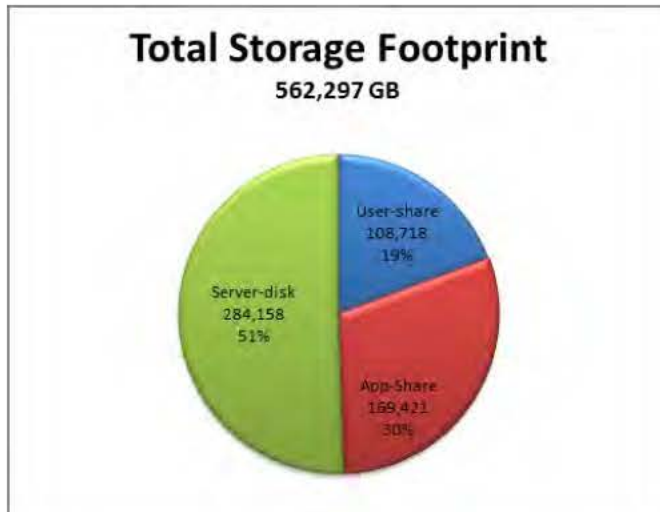
- Also included are address management enhancements that we expect to reduce the amount of returned mail, replacement of older Access spreadsheets through database enhancements, as well as work lists and improved reports for collections processing and tracking.

DHHS – Eligibility System (ACES) and Child Enforcement for Maine (CSEME)

The implementation of Encryption-in-Flight (EIF) between the application and database layers in both our ACES and CSEME production environments ensures that the sensitive data passed back and forth is fully encrypted. This effort will continue with the implementation of Wallets to the client devices which will effectively block that potential risk and strengthened our overall data transmission security by ensuring all data is encrypted/decrypted between the two seamlessly based on the trusted certificate relationship established during the login process, eliminating the external threat of data being captured during transmission.

Agency Data Storage Consumption

The pie chart below shows the amount of data storage for all State agencies supported by OIT. Each year, the consumption of data storage by agencies grows.



Key Areas – Strategy and Accomplishments

Risk Management

Cyber Security

The Office of Information Technology has made significant progress in the last few years in combating cyber threats. But Cyber Security threats continue to proliferate, and given a network of our size and complexity, the current Cyber Security approach must continue to evolve to align with industry best practices.

The Challenge

From a Cyber Security standpoint, the State Executive Branch network presents the following challenges:

- 600+ sites, stretching from Kittery to Madawaska
- 12,000+ users with desktops/laptops
- 800+ servers
- 30,000 "other" devices (phones, printers, routers, HVAC controllers, cameras, etc.)
- 600+ applications
- Numerous non-state devices (approved and not approved)
- 1,000s of remote devices
- Commingled network with the Secretary of State, Attorney General, Audit, and the Judiciary, with no security walls in-between
- 20 separate lines of business with different priorities
- External attacks have increased roughly five-fold in the last two years

Threat Metrics

On an average working day:

- 1.4 million intrusion attempts are stopped
- 30,000 spam emails are blocked
- 15 workstations get infected with malware, leading to loss-of-productivity of about six hours per workstation

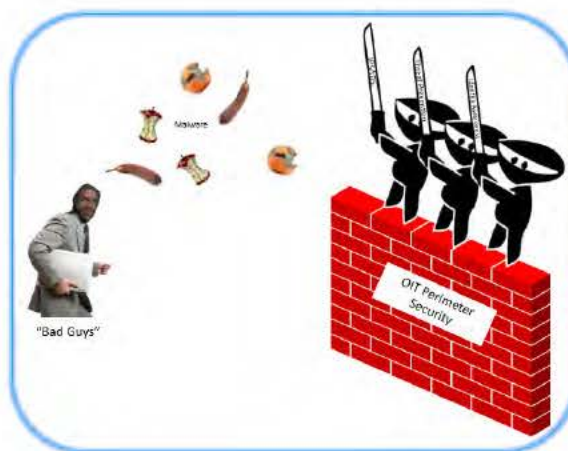
Background

The citizens of Maine trust the State with a massive repository of personal information, including Social

Security numbers, date of birth information, addresses. Breach of citizen personal information inflicts a stupendous damage to a government. At a minimum, it includes citizenry's loss-of-confidence in their government, statutory fines, the added expense of investigation and remediation, etc. Unfortunately, cyber-attacks are becoming more common, and inflicting greater damages. The most serious state-level breach was the South Carolina Revenue breach of October 2012, which compromised 3.6 million Social Security Numbers and 387,000 credit/debit cards. The cost of remediation has been estimated at \$27 million.

There are no guarantees in Cyber Security. In spite of best efforts, a network of our size and complexity will always have its weak points. But it is important to harden the network to industry best practices. This will dissuade hackers, who will then more likely move on to softer targets. Mitigating a Cyber Security breach post-fact is at least an order-of-magnitude more expensive than guarding against it.

Cyber Security is a matter of continuous vigilance, and is never fully done. OIT is proud of its accomplishments over the last three years. Nonetheless, the State still faces significant Cyber Security gaps.



Phishing Exercises – Combating the Threat

In 2016, OIT Enterprise Security conducted phishing exercises to test and educate State of Maine employees on their role on security. The exercises were conducted on a quarterly basis and applied

Key Areas – Strategy and Accomplishments

against a little over 10,000 State of Maine employees, with over 15,500 phishing training emails sent during that period. This is a ~500% increase in the population exposed to this training from the year 2015.

Upon falling susceptible to an attack by clicking on the links within a phishing email, an employee was redirected to an education page with tips that will help the employee to not fall susceptible to phishing attacks in the future.

The latest research conducted by industry experts suggests that it takes up to four exercises to lower the overall susceptibility of an organization. Real data collected from our exercises shows that after the first phishing exercise conducted by OIT, the State of Maine average across the Executive Branch for susceptibility was 25%. For those agencies that have received repeated exercises, click rates have been reduced to as low as 5%.

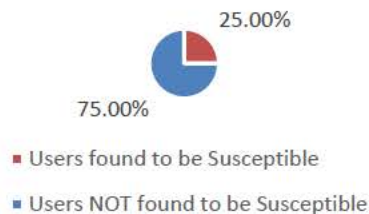
Cyber Security Audits – Proactive Measures

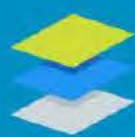
As part of our continuing effort to ensure we understand cyber security risks and to ensure we employ industry best practice cyber defense, OIT has initiated a three tiered cyber security program that provides a level of assessment and baseline of security controls to be incorporated in agencies' operations.

Partnering with the Community

In the past two years, the State of Maine has formed a number of multi-stakeholder partnerships that brings together expertise from various internal and external parties to combat the increasing cyber threats. A notable partnership with the Office of Information Technology is the Maine Cyber Security Cluster (MCSC) at the University of Southern Maine.

User Responses after First Phishing Exercise





Cybersecurity Intrusions

OIT's response to an ever increasing threat:



State of Maine Security Measures



Average sites
blocked per day:
40669



Unauthorized access
attempts per day:
1,393,265



Average ransomware
blocked per day:
3.67

OIT Enterprise Security Phishing Exercises

Executive Branch Departments and Agencies
Tested: 33

Phishing Susceptibility Ratings: 0-65%

Executive Branch Average Phishing Rating – **30%**



Presented By: OIT Enterprise Security



Key Areas – Strategy and Accomplishments

Governor's Executive Order on Cyber Security

The Governor's Executive Order 2014-0003 on Cyber Security mandated annual Cyber Security training, and OIT's oversight on devices accessing State data. See

<http://www.maine.gov/tools/whatsnew/attach.php?id=626944&an=1>











Cyber Security Training Mandated by Governor's Executive Order (2014-0003)

OIT Enterprise Security has worked to provide Security Awareness Training to each State of Maine employee in the Executive Branch, as per the Executive Order issued by Governor LePage in 2014. During the 2015 year, OIT had delivered the training with a 26% completion rate. Not all agencies offered their participation in this effort during 2015. A greater focus was put on training participation throughout Executive Branch agencies. As a result of this effort, 2016 training yielded a completion rate of over 93%.

List of Mandatory Training Videos for State Employees to be reviewed annually





Library of Training Videos

Mandatory Training: 11 of 11 completed

 You Are The Shield Completed	 Email, Phishing, & Messaging Completed	 Browsing Completed	 Mobile Device Security Completed
 Passwords Completed	 Working Remotely Completed	 Insider Threats Completed	 Physical Security Completed
 Hacked Completed	 Personally Identifiable Information (PII) Completed	 Conclusion Completed	

Recommended Training: 6 of 6 completed

The following are additional modules that you have the option to view, but are not required for you to complete your training.

 Social Engineering Completed	 Social Networks Completed	 Encryption Completed	 Data Security and Data Destruction Completed
 Cloud Services Completed	 Privacy Completed		

Key Areas – Strategy and Accomplishments

Business Continuity/ Disaster Recovery (BC/DR)

Business Continuity and Disaster Recovery are processes and plans that help organizations prepare for disruptive events – whether an event might be a hurricane, a data breach, or simply a power outage caused by a backhoe in the parking lot. BC/DR encompasses how employees will communicate, where they will go, and how they will keep doing their jobs. The details can vary greatly, depending on the size and scope of an organization and the way it does business.

OIT continued development of its BC/DR program after successfully completing several major program milestones in 2015 such as the Business Impact Analysis (BIA) and developing strategies to mitigate the most critical BC/DR capability gaps. The list below highlights some major program improvements and accomplishments achieved throughout 2016:

- ⊙ Developed additional program structure, working towards compliance with several major BC/DR related standards: ISO 22301:2012, NFPA 1600, and NIST SP 800-34.
- ⊙ Training on special BC/DR tools and procedures for key personnel
- ⊙ Completed a massive upgrade of the State's 25 year old network infrastructure resulting in greatly improved ability to ensure continued network services despite suffering a potential catastrophic disaster.
- ⊙ Regularly published a quarterly Risk Management Newsletter that has a readership including all State Departments, Local and County Emergency Management Agencies, and Thomas College
- ⊙ An OIT Employee, who is also a Guardsman, was selected by the Maine Army National Guard to travel to the country of Montenegro and conduct a Government-level Disaster Recovery Strategy Seminar and Exercise

Expanding BC/DR Planning beyond OIT

A partnership between OIT and Maine Revenue Services (MRS) resulted in the first successful BC/DR program adaptation outside of OIT. Personnel from both organizations came together to apply lessons learned from OIT's 2015 BC/DR program development efforts and expanded the adoption of the new enterprise automated business continuity management software to build the MRS program structure. MRS committed over 30 employees to receive specialized training, completed a Business Impact Analysis project and risk assessment, prioritized their essential business functions, and began developing strategies to restore critical services to meet specified recovery objectives.

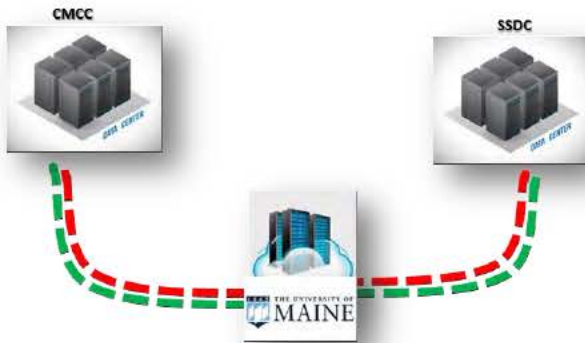
Following OIT's successful BC/DR program pilot project with MRS, the Department of Administrative and Financial Services (DAFS) embarked on a department-wide BC/DR initiation project in the fall of 2016. Each bureau will conduct a Business Impact Analysis and Risk assessment, which will determine what business functions are the most critical. This process will also determine what resources will be required to restore functions after a disruption, and how quickly this must happen in order to avoid unacceptable consequences. DAFS will improve their ability to respond and manage crisis situations as well as improve their strategic capabilities to recover critical services more quickly.

Contingency Data Center Site for IT Disaster Recovery

To enhance our ability to recover critical IT services, a partnership has been developed with the University of Maine at Orono. A co-location agreement was signed in December 2016 that provides the State with dedicated space at the University's newly built data center for use as a Disaster Recovery site. The State previously had only two data centers in Augusta within 5 miles of each other and lacked enough unused floor space to act as a recovery site in the event OIT suffered a catastrophic loss of a data center.

Key Areas – Strategy and Accomplishments

The strategic partnership provides the State with the ability to begin IT disaster recovery operations much more quickly. This capability has the potential to reduce data center recovery time by several weeks. It also saves Maine thousands of dollars by taking advantage of state owned facilities and sharing of strategic resources to increase BC/DR capabilities.



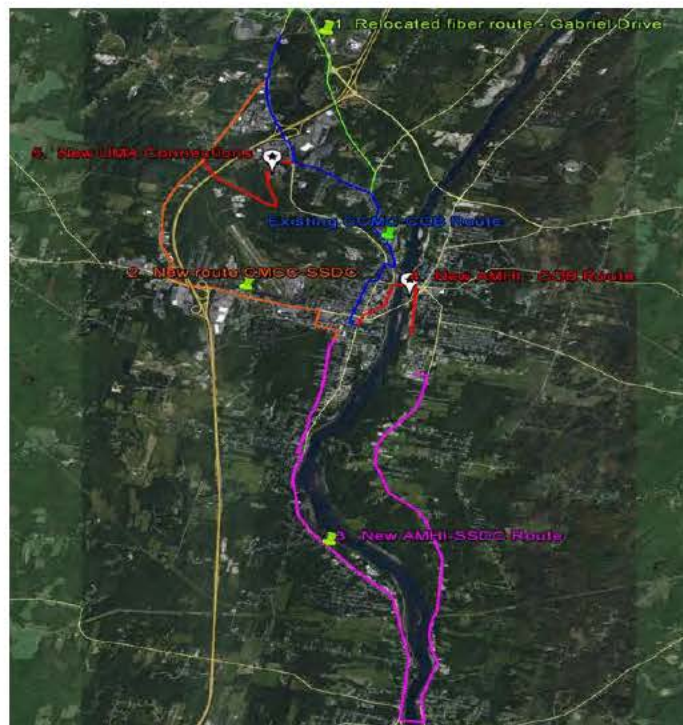
Key Areas – Strategy and Accomplishments

Network / Infrastructure Improvements

With State agencies increasingly reliant on network availability, OIT Network Services has undertaken a series of initiatives to improve capacity and reliability for all State agencies.

1. **Core Network Improvements:** 2016 saw major improvements in the reliability, availability, scalability and manageability of the State data network, and successful upgrade of the most critical elements in the State's data network. All key network components at the heart of the network were duplicated to provide a back-up should a primary device fail, and to allow technicians to take one device off-line for repairs without affecting network availability. This major overhaul displaced three highly vulnerable devices with 14 devices to provide both redundancy and distributed functionality. There is still much to be done to increase reliability across the entire network down to the desktop. In 2017, the Network team will be focused on upgrading data center campus switches to improve reliability and capacity.
2. **Internet capacity:** Total demand for Internet access continues to grow dramatically. Two separate links now provide full redundancy for State agency access to the Internet. This dual-link design will ensure that if one link fails or needs to be serviced, the other link will have sufficient capacity to provide acceptable response times. Current average utilization of 600 megabits per second (Mbps) can be expanded to 2,000 Mbps (or 2 gigabits per second) as needed.
3. **Network Diagnostic Tools:** Over the past year, the Network Team implemented important new tools to help monitor the health of the network. In doing so, the team can now move from a reactive to a proactive posture, identifying and resolving problems before they become service affecting.

4. **Augusta Fiber Ring:** The three Augusta campuses, (East Campus, State House Campus, and Commerce Drive Campus) each comprise roughly 2-3,000 State employees. Connections between these campuses formerly ran on fiber optic cables that linked Commerce Drive to the Cross Office Building (COB), and COB to the East (Riverview) campus. While this design had been adequate in the past, a single car accident could take out a pole, leaving an entire campus or data center without network access. In 2016, a new fiber network was installed following a ring topology. Now, each campus is fed from two directions, largely eliminating the possibility of some disaster isolating that campus. Notice on the attached map that the CMMC complex has fiber feeds into both 45 and 51 Commerce Drive, that the Capitol complex has fiber feeds into both the State Office Building and the Sewall street Data center and that the East campus has entrances from Arsenal street and Hospital Street.



Key Areas – Strategy and Accomplishments

Workforce Innovations

Research both nationally and statewide indicates that there are not enough technology and computer science resources graduating from college to replace the retiring workforce, or to keep up with the growing need of IT resources. OIT is attempting to overcome this “Silver Tsunami” effect by proactive efforts to hire interns and veterans. OIT mentors are assigned to help ensure success of the intern program.

25%
of OIT workforce will be
eligible to retire
in the next two years.

**The next generation of IT professionals are well established in cyberspace
including LinkedIn and Facebook**

OIT is meeting them where they are to attract some of the best and brightest
to establish their IT careers here in Maine and at the Office of Information Technology.

Online presence is now expected and essential.

OIT in LinkedIn

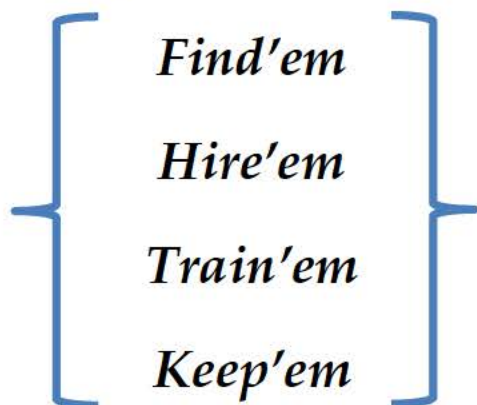


OIT in Facebook



Strategies for Workforce Innovations

Simply put – “We need to...”



IT Workforce Challenges and Solutions

Per the U.S Department of Labor, information technology occupations are projected to grow 12 percent from 2014 to 2024, faster than the average for all occupations. These occupations are expected to add about 488,500 new jobs, from about 3.9 million jobs to about 4.4 million jobs from 2014 to 2024. At the same time the need for IT resources is growing, large numbers of IT workers are leaving the workforce for retirement.

We will be losing expertise to retirement. Twenty-five percent of OIT employees will be eligible to retire in the next two to three years; that equals almost 1,700 years of State of Maine IT experience.

Workforce Innovations has started several initiatives to find and build that next generation IT workforce:

- **Technology Night** – We have invited students from surrounding high schools to spend an evening with our IT professionals, learning about the variety of career opportunities. This year we hosted our 4th annual Tech Night.
- **Career fairs** – We have had a presence at all major Maine college career fairs and participate in community events.
- **Use of social media** – Online recruitment, use social media outreach on sites like Facebook and LinkedIn, to engage with talent where they reside -- online.

- **Intern/Mentorships** – The program provides computer science students a chance to work in our department. This program also provides a development opportunity for existing employees to gain leadership skills. In the three years since the program implementation, over 75% of our interns have become full time employees.
- **Veterans Apprenticeship Program** – We have created partnerships with Veteran Outreach Career Centers, the Military and National Guard to recruit talent from those returning from abroad, unemployed, or disabled and re-entering workforce.
- **Proper hiring and onboarding** – the key to an engaged workforce is hiring the right people – setting clear expectations -- and welcoming them with a robust interactive onboarding to OIT.
- **Retrain** – Develop the means for on the job training and transferable skills; create career paths to allow existing resources to learn new skills to modernize legacy applications.
- **Succession Plan**- Provide a structure to allow for transfer of knowledge and skills before retirees leave the workplace



The R's of Workforce Planning

Recruitment
Retention
Retirement

Retrain
Refocus
Recreate

Recruitment, Retention and Retirement are the three workforce planning areas that were initiated since Workforce efforts were put into place.

Retrain, Refocus, and Recreate – using innovative strategies to develop and measure our workforce.

Workforce Solutions

OIT is addressing challenges with a proactive approach led by a learning and development team working collaboratively to improve OIT's technology workforce skills. Our goals are to attract and recruit the new generation of workers and to establish training which promotes and encourages career paths to address succession planning.

With the success of the Internship Program, we have realized some gains by attracting entry-level workers with basic IT skills and training them.

Additionally, we have used the mentoring component of the internship program to train our existing workforce in the supervisory skills needed to develop into leadership roles. Eighty percent of our interns have become full-time employees.

New in 2016

We established a Veterans Apprenticeship Program which allows returning Veterans with IT skills an opportunity to work one-on-one with an experienced Veteran and IT leader in our department. This sponsorship approach and ability to get the Veteran on meaningful projects where they can quickly ramp up their IT skills is working. Out of the IT Veterans hired in the State of Maine's Hire-A-Vet Campaign, we hired over



50%

of them. And, all are working and engaged in meaningful work.

Results –IT Candidates apply for jobs online

We modernized our recruitment and have seen results in total number of applicants who are applying, and those applying have the IT skills we need. We have quadrupled the number of applicants received for each position and have reduced the number of days to hire by fifty percent.

OIT Tech Night

4th Annual OIT Tech Night for High School Students

Office of
Information
Technology
Annual Tech Night



The Office of Information Technology held its 4th annual Tech Night on March 17, 2016. We had over 70 high school students attend and learn how IT professionals use technology to support their customers. We show the students the variety of careers opportunities that are available in technology, including application development, project management, network engineering and cyber security. They have an opportunity to practice with team building exercises using the agile methodology, code to create viable solutions to business requirements. Educators attended from colleges and universities and displayed information about the IT degrees that are offered here in Maine.

The use of Tech Night, internship program, veterans outreach, partnering with institutions of higher learning, and community events demonstrate interactive support and leadership that highlights IT careers.

*work hard.
have fun.
make a difference.*
Workforce Innovations

State-wide Communications Technologies – Broadband and Public Safety

ConnectME Authority



Annual Report to Legislature:

www.maine.gov/connectme/about/reports.shtml

The ConnectME Authority is a public instrumentality of the state, to develop and implement broadband strategy for Maine. The Authority is governed by a Board which is comprised of seven members appointed by the Governor or specifically identified and designated by statute.

The Maine Legislature has adopted the following goals related to broadband:¹

- A. Broadband service be universally available in this State, including to all residential and business locations and community anchor institutions;
- B. There be secure, reliable, competitive and sustainable forward-looking infrastructure that can meet future broadband needs; and
- C. All residents, businesses and institutions in the State be able to take full advantage of the economic opportunities available through broadband service.

The ConnectME Authority administers three grant funding programs:

- Infrastructure Grant Program - since 2007 funding solutions for affordable broadband service to the unserved areas of Maine have provided 137 grants, making broadband available to 39,000 households and businesses, awarding \$11 million in public-

private funding with a 53% grant match by broadband service providers.

- Community Planning Grant Program awarded the first pilot awards in 2016 to communities for producing plans that define local broadband needs, goals and encourages adoption of identified best practices by participating municipalities and organizations. \$212,000 was awarded in four grants to encompass 23 communities.
- Municipal Gigabit Broadband Network Access Fund remains unfunded at this point.

Over the past nine years, the Authority has continued to see an increase in the need for broadband at the household and business levels. Receiving more infrastructure applications than can be funded for the unserved areas of the state demonstrates the continued work that remains to be done to provide universal broadband access to all Maine citizens.

The newly launched, first in the nation, community broadband planning grant program has been well received by Maine entities. Those not funded by the Authority and many other communities are using the ConnectME planning process in their efforts and reaching out to staff for information and assistance.

The largest challenge for the Authority and Maine in general will be funding broadband adoption and expansion. Public – private partnerships, as the Authority has funded in all grant rounds, will continue to add value to Maine’s broadband landscape. Increased communication with Maine businesses, government entities, regions, non-profits, for-profits, and community anchor institutions indicates to the Authority that solutions continue to be of utmost importance in expanding last mile and middle mile solutions.

¹ 35-A MRSA §9202-A.
<http://www.mainelegislature.org/legis/statutes/35-A/title35-Asec9202-A.html>

Statewide Radio Communications Network (MSCommNet)

The Maine State Communications Network (MSCommNet) is the digital public safety radio communications network for Maine State Government Agencies and was commissioned in late 2014.

OIT developed and commissioned this unified statewide land mobile radio network for State law enforcement, public safety, and public service agencies.

Full System Operational Optimization: completed 2016

Optimization included upgrading the five busiest two-channel sites to multi-channel trunked site for greater call volume:

- Bald Mountain – now four channels
- Spruce Mountain – now four channels
- Whitten Hill – now four channels
- Gray – now three channels
- Mount Ephraim – now three channels

Radio Communications within Maine State Government Agencies

MSCommNet provides state-of-art land mobile radio communications for Maine State Government agencies:

- Maine State Police/Department of Public Safety
- Game Wardens/Department of Inland Fisheries and Wildlife
- Forest Rangers/Department of Agriculture, Conservation, & Forestry
- Marine Patrol/Department of Marine Resources
- Maine Emergency Management Agency (MEMA) / Department of Defense, Veterans and Emergency Management (DVEM)
- Department of Environmental Protection
- and others

MSCommNet has handled 22,123,544 push-to-talks or 11,061,772 conversations in the last eleven months, averaging 30,306 conversations per day for State agency customers. Total talk time for these eleven months was 21,072.46 hours. MSCommNet provides interoperability with public safety partners through a “RegionNet” service available for all municipal, county, tribal, adjacent

State and Province, and Federal public safety agencies, and the Maine National Guard (DVEM). RegionNet coverage is provided through traditional VHF narrowband analog repeaters.

National Recognition

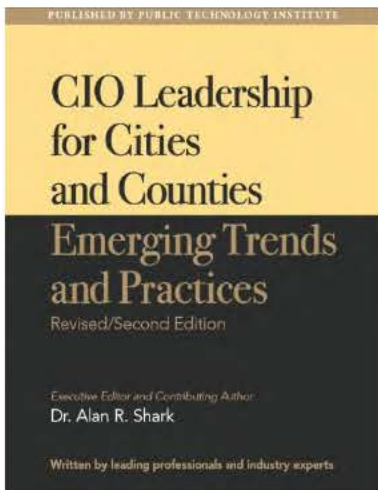
StateScoop Interview on IT Strategy

Maine Chief Information Officer (CIO) Jim Smith and Director of Project Management and Business Process Management (PM/ BPM) Joshua Karstens were interviewed by StateScoop at the National Association of State CIOs (NASCIO) conference. See 8 minute video at: <http://statescoop.com/maine-looks-to-feds-private-sector-for-help-on-it-strategy>



Public Technology Institute

CIO Leadership for Cities and Counties, published by Public Technology Institute. Workforce Innovations Director Kelly Samson-Rickert and CIO Jim Smith published a chapter in this book, called "Workforce Strategies – Find, Hire and Keep Talent". See chapter 27: <http://www.pti.org/news/displaynews.asp?NewsID=274&TargetID=1>



OIT Briefs Industry Experts on Agile and Incremental Software Development



As part of the National Association of State Chief Information Officers (NASCIO) 2016 Midyear Conference, Maine OIT was invited to present on the work they are doing to implement agile project management and improve project delivery. Joshua Karstens, Director of Project Management and Business Process Management presented on behalf of the State of Maine in front of a packed house of conference attendees.

NASCIO is the professional association representing state chief information officers and information technology executives and managers from all states.

Government Technology Public CIO Magazine

Article: Overcoming Barriers

Director Joshua Karstens discusses overcoming barriers in IT projects through the implementation of Agile.

https://drjdbij2merew.cloudfront.net/PCIO/PCIO_Mag_Summer16.pdf

StateTech Magazine

Article: Collaboration Technology Fuels Innovation for States and Localities

Director Joshua Karstens discusses how agility breeds innovation.

<http://www.statetechmagazine.com/article/2016/04/collaboration-tech-state-local-governments>

StateTech Magazine

Video: Recruit and Retain a World Class IT Team

CIO Jim Smith and Director Joshua Karstens were interviewed about recruiting IT talent to the State of Maine.

<http://www.statetechmagazine.com/media/video/nascio-2016-recruit-and-retain-world-class-it-team>

Maine's Report Card = **B** 2016 Digital States Survey Analysis **Maine is trending upwards ↑** Source: [Center for Digital Government](#)

*Center for Digital Government's Digital States
Performance Institute Biennial Survey
2016 Digital States Survey Analysis*

The 2016 Center for Digital Government Digital States Survey response from the State of Maine continues to demonstrate progress and improvement over the 2014 submission.

This is reflected in an overall grade of B. A grade of "B" indicates:

The state is trending up. Results are demonstrated in many survey categories, and state leaders use modernization to change entrenched practices to prepare for more sustainable operations. Incentives for collaboration are in place, and performance measures are used in key areas.

Response Highlights:

Maine received its highest comparative scores in the following categories:

- **Innovation, Collaboration and Jurisdictional Differentiators (Response 5A) – (102 points of a possible 102)**
 - An outstanding response demonstrating Maine's support of efficiency, performance and cost containment efforts and articulates benefits nicely with clear ROI statements, progress descriptions and innovations.

- **Specific Service Delivery Highlights (Response 2A) – (99.3 points of a possible 102)**

- A solid response discussing Maine's Accounts Payable BPM solution and its statewide collaborative efforts. Good discussion of statewide objectives and goals. More emphasis on explicit ROI measurements would strengthen this response.

- **Specific Service Delivery Highlights (Response 2B) – (94.2 points of a possible 102)**

- This is an excellent response describing Maine's law enforcement data exchange initiatives. The initiatives are well-described with clearly stated ROI and effective descriptions of effective collaboration.

Areas to Focus on for Continued Improvement:

Maine can retain or improve its current overall rating by increasing the number of responses that address results, benefits and outcomes with tangible and quantifiable data. More emphasis on demonstrated ROI, hard or soft dollar, is needed. Establishing before and after performance benchmarks for major initiatives from which progress can be demonstrated and measured would be a best practice consistent with top scoring states.

OIT Organization and Services

Core Technology Services

Core Technology Services include network and voice services, radio operations, data centers, servers, desktop/ laptop computers, and IT customer support for all 12,000 State employees in the Executive Branch.
























OIT Customer Service Catalog

www.maine.gov/oit/services/index.shtml

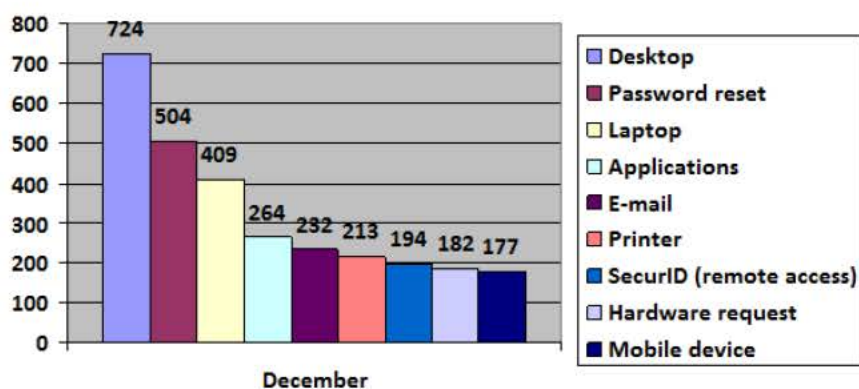
The screenshot shows the OIT Service Catalog website. At the top is a banner with the text "OIT SERVICE CATALOG" over a background of interlocking puzzle pieces. Below the banner is a search bar with the placeholder text "Search the Catalog". Under the search bar are four links: "A-Z Listing", "Help", "Recently Added", and "Service Catalog Home". The main content area displays ten service categories, each with a small icon, a title, and a description:

- Application Development & Support**: Web Design & Development, State-Wide Applications
- IT Service Management & Continuous Improvement**: HelpDesk & User Support, IT Service Management
- Email, Messaging, Conferencing, & Fax Services**: Email, Secure Email, Messaging, Audio Conferencing, Web Conferencing, Fax Services
- Project Management**: Overview, Portfolio Management, Project management Training, Best Practices,
- Data, Voice and Radio**: Remote Access, Wide Area & Local Area Networks, Radio, Voice/Telephone Services
- Central Print, Copy & Printer Maintenance**: Central Printing, Copy Center, High Speed Printing, and Printer Maintenance Services
- Hosting**: Backup and Recovery, Storage, Database, Linux, UNIX, Virtual and Windows Hosting, File & Print
- OIT Performance Metrics**: Key performance metrics for OIT provided services.
- Risk Management**: Incident Response, IT Continuity Planning, Physical Security, Security Awareness Education
- Infrastructure**: Wiring Services, Application Monitoring, Internet Information and Web Services

OIT Metrics/ Facts

	562 million	megabytes (562 terabytes) of data storage
	25 million	emails per year (inbound)
	14 million	spam emails blocked per year
	1.4 million	intrusion attempts foiled (daily)
	65,000	customer support calls, 98% satisfied or highly satisfied rating
	48,000	“tickets” for service
	35,984	network connections
	13,037	phone lines
	12,370	email accounts
	7,000	SecurID (remote access) accounts
	3,091	users with Blackberries, iPhones, and other mobile devices
	2,625	mobile & portable radios
	945	Oracle and SQL databases
	808	servers (physical and virtual)
	600+	applications systems (all Executive Branch agencies)
	600	facilities supported statewide with network access
	500	invoices processed (monthly)
	388	contracts managed
	288	wireless access locations (658 access points)
	50+	projects in support of all agencies and enterprise systems
	43	mountain-top radio tower sites
	24/7/365	network monitoring
	24/7/365	business continuity / disaster recovery (BC/DR) management

Top Problem Types Received by OIT Call Center for December

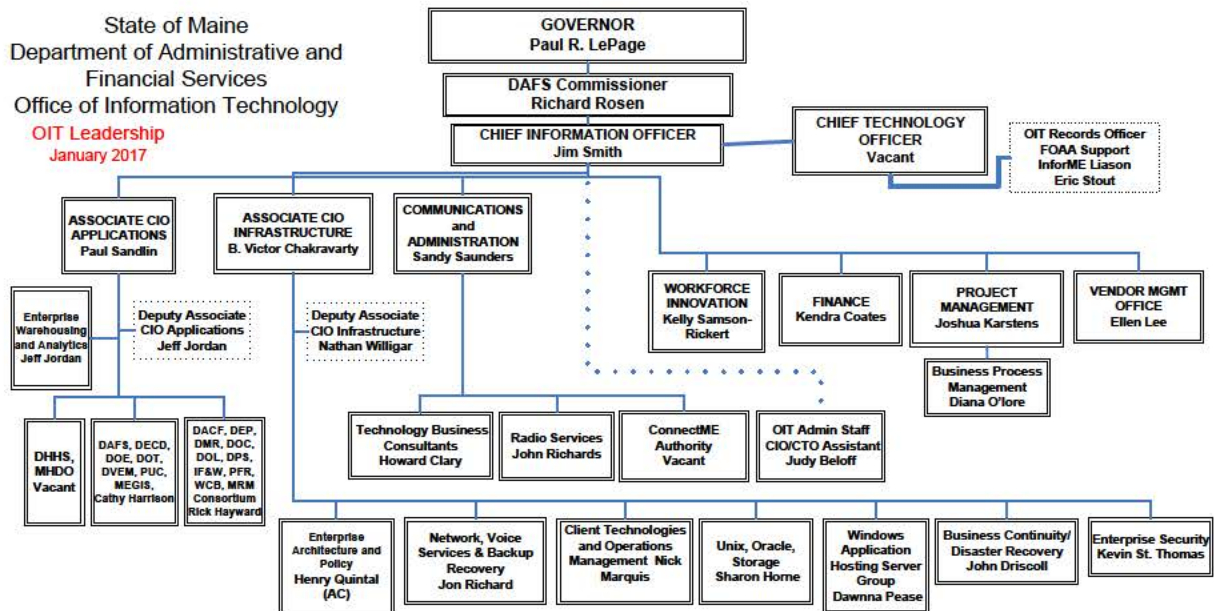


Top Problem Types
Received by OIT Call
Center for Sample Month

OIT Organization Chart

State of Maine
Department of Administrative and
Financial Services
Office of Information Technology

OIT Leadership
January 2017



Chief Information Officer (CIO)

- Liaison to Governor's Office for all things relating to IT
- Liaison to Legislature and Committees
- Liaison to Judicial Branch and Constitutional Offices
- IT strategy/ direction-setting
- IT business relationship
- Communications and media relations (marketing)
- Represents State of Maine on National Association of State CIOs (NASCIO)
- Boards and Committees:
 - IT Executive Committee, Chair
 - CIO Council, Chair
 - GeoLibrary Board, Member

Chief Technology Officer (CTO)

- Represents CIO as needed

Associate CIO for Applications

- Development and maintenance of all agency and enterprise applications (both custom-built and commercial software)
- State-wide strategic application vision towards common, integrated solutions
- Standardization of common tools and practices
- Operational budget for applications
- eGovernment (InforME and OIT)

Associate CIO for Infrastructure

- Oversees all OIT operations
- Management of the State's IT infrastructure (network, servers, storage, data centers, etc.)
- Enterprise architecture and security
- IT desktop support and customer service delivery
- Operational budget for core infrastructure services
- Strategic planning/ implementation
- IT service management
- Disaster Recovery / Business Continuity
- Communications and Administration
 - Technology Business Consultants
 - ConnectME Authority
 - OIT Administrative Staff
 - Statewide Radio Network Services

IT Executive Committee

The [IT Executive Committee](http://www.maine.gov/oit/about/committees/it_executive.html) is charged with providing executive leadership, not only for agencies, but also for State Government as a whole, ensuring that the business needs and priorities of the enterprise are identified and satisfied.

www.maine.gov/oit/about/committees/it_executive.html

Chair: Jim Smith, Chief Information Officer
Office of Information Technology
Administrative and Financial Services

Cabinet Departments (Executive Branch)

Governor's Office
Aaron Chadbourne
Jonathan LaBonte

Administrative and Financial Services
Dave Lavway
Doug Cotnoir

Agriculture, Conservation and Forestry
Courtney Marchelletta
Henry Jennings

Corrections
Martin Murphy

Defense, Veterans and Emergency Management
Bruce Fitzgerald

Economic and Community Development
Denise Garland

Education
Charlotte Ellis

Environmental Protection
Marc Cone

Health and Human Services
David Simsarian

Inland Fisheries and Wildlife
Bill Swan
Tim Peabody

Labor
Richard Freund

Marine Resources
Meredith Mendelson

Professional and Financial Regulation
Anne Head

Public Safety
Major Chris Grotton

Transportation
Cindy Owings-Hutchison

Workers' Compensation Board
Paul Fortier

Other Agencies

Public Utilities Commission
Harry Lanphear

State Archives (Secretary of State)
Tammy Marks

State Library
Janet McKenney

National Association of State CIOs 2017 Priority List



State CIO Top Ten Priorities for 2017

Top Ten Strategies, Management Processes and Solutions

1. **Security and Risk Management:** governance; budget and resource requirements; security frameworks; data protection; training and awareness; insider threats; third party security practices as outsourcing increases; determining what constitutes “due care” or “reasonable”
2. **Consolidation/Optimization:** centralizing, consolidating services, operations, resources, infrastructure, data centers, communications and marketing “enterprise” thinking, identifying and dealing with barriers
3. **Cloud Services:** cloud strategy; proper selection of service and deployment models; scalable and elastic IT-enabled capabilities provided “as a service” using internet technologies; governance; service management; service catalogs; platform; infrastructure; security; privacy; data ownership
4. **Budget, Cost Control, Fiscal Management:** managing budget reduction; strategies for savings; reducing or avoiding costs; dealing with inadequate funding and budget constraints
5. **Legacy modernization:** enhancing; renovating; replacing; legacy platforms and applications; business process improvement
6. **Enterprise IT Governance:** enterprise IT policy and planning; improving IT governance; partnering; inter-jurisdictional collaboration; industry advisory boards; legislative oversight—achieving proper balance; agencies participating as members of a “state enterprise”
7. **Data Management and Analytics:** data governance; data architecture; strategy; business intelligence; predictive analytics; big data; roles and responsibilities
8. **Enterprise Vision and Roadmap for IT:** vision and roadmap for IT; recognition by administration that IT is a strategic capability; integrating and influencing strategic planning and visioning with consideration of future IT innovations; aligning with Governor’s policy agenda
9. **Agile and Incremental Software Delivery:** iterative design and incremental development of software solutions; allows for design modifications, prototyping and addition of new capabilities as part of the development process
10. **Broadband/Wireless Connectivity:** strengthening statewide connectivity; implementing broadband technology opportunities



State CIO Priorities for 2017

Top Ten Technologies, Applications and Tools

1. **Legacy Application Modernization/Renovation**
2. **Cloud Solutions:** software as a service
3. **Security Enhancement Tools:** CDM, advanced analytics, digital forensics
4. **Business Intelligence (BI) and Business Analytics (BA):** applications, big data, data analytics
5. **Identity and Access Management**
6. **Data Management:** Master Person Index/Master Data Management; information exchanges
7. **Disaster Recovery / Business Continuity**
8. **Networking:** voice and data communications, unified, SDN
9. **Enterprise Resource Planning (ERP)**
10. **Customer Service/CRM:** technologies and solutions

OIT consolidation – before and after...

Before OIT - illustrative



OIT Data Center in 2016 - Actual



OIT Metrics/ Facts

🖥	562 million	megabytes (562 terabytes) of data storage
🖥	25 million	emails per year (inbound)
🖥	14 million	spam emails blocked per year
🖥	1.4 million	intrusion attempts foiled (daily)
🖥	65,000	customer support calls, 98% satisfied or highly satisfied rating
🖥	48,000	“tickets” for service
🖥	35,984	network connections
🖥	13,037	phone lines
🖥	12,370	email accounts
🖥	7,000	SecurID (remote access) accounts
🖥	3,091	users with Blackberries, iPhones, and other mobile devices
🖥	2,625	mobile & portable radios
🖥	945	Oracle and SQL databases
🖥	808	servers (physical and virtual)
🖥	600+	applications systems (all Executive Branch agencies)
🖥	600	facilities supported statewide with network access
🖥	500	invoices processed (monthly)
🖥	388	contracts managed
🖥	288	wireless access locations (658 access points)
🖥	50+	projects in support of all agencies and enterprise systems
🖥	43	mountain-top radio tower sites
🖥	24/7/365	network monitoring
🖥	24/7/365	business continuity / disaster recovery (BC/DR) management