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Information Technology

Information Technology Initiatives

December 2012

Revision History

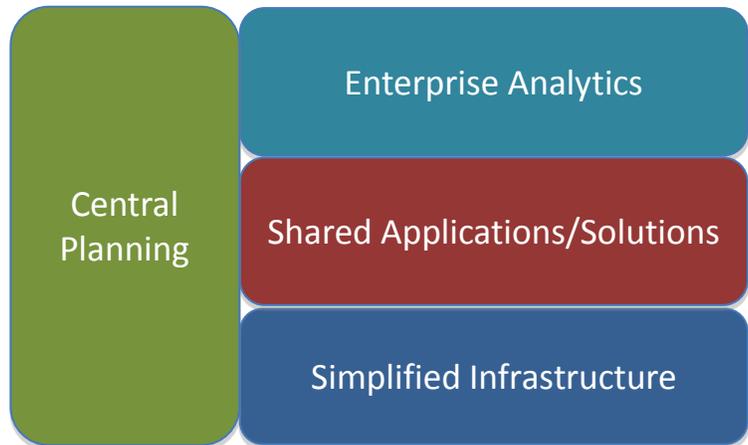
| Version | Date | Description | Revised By |
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| 1.0 | Sept. 2012 | <ul style="list-style-type: none"> • Initial document release | V. Craig |
| 2.0 | Dec. 2012 | <ul style="list-style-type: none"> • Overview updated to reflect IT Optimization. • Initiative updates made in the following sections: <ul style="list-style-type: none"> ○ Identity Management ○ Storage as a Service ○ Unified Communications ○ Server Virtualization ○ Business Intelligence ○ Mainframe Consolidation ○ eLicensing ○ Disaster Recovery: Mainframe and Servers ○ OAKS Enterprise Applications • Added new section: Integrated Eligibility and Health and Human Services Business Intelligence | V. Craig |

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Overview

As outlined in the [IT Strategy](#), the State of Ohio is implementing a four-part IT strategy to reduce costs, increase efficiency, and improve Agency business processes. The four strategic components are focused on improving IT planning, reducing infrastructure complexity, increasing the use of enterprise applications/solutions, and employing business intelligence tools.



The IT Strategy builds on information put forth in the Enterprise IT

Statement of Direction. However, for all practical intents and purposes the Statement of Direction should be considered as superseded by the IT Strategy. Where the Statement of Direction set the course, the IT Strategy plots the course.

Executing on the IT Strategy, OIT presented the following enterprise IT initiatives:

| IT Initiative | IT Strategy Component |
|--|-------------------------------|
| IT Assessment and Inventory | Central Planning |
| Email Consolidation | Shared Applications/Solutions |
| Identity Management | Shared Applications/Solutions |
| Storage as a Service | Simplified Infrastructure |
| Unified Communications: Voice Over Internet Protocol (VoIP) | Simplified Infrastructure |
| Unified Communications: Conferencing | Simplified Infrastructure |
| Unified Communications: Instant Messaging (IM) and Presence | Shared Applications/Solutions |
| Unified Communications: Collaboration | Shared Applications/Solutions |
| Data Center Remediation | Simplified Infrastructure |
| Server Virtualization | Simplified Infrastructure |
| Business Intelligence | Enterprise Analytics |
| Integrated Eligibility and Health and Human Services Business Intelligence | Enterprise Analytics |
| Disaster Recovery: Mainframe and Servers | Simplified Infrastructure |
| Network Aggregation and Consolidation | Simplified Infrastructure |
| Cloud: Infrastructure as a Service | Simplified Infrastructure |
| Cloud: Platform as a Service | Simplified Infrastructure |
| Cloud: Software as a Service | Simplified Infrastructure |
| Mainframe Consolidation | Simplified Infrastructure |

| IT Initiative | IT Strategy Component |
|------------------------------|-------------------------------|
| eLicensing | Shared Applications/Solutions |
| OAKS Enterprise Applications | Shared Applications/Solutions |

This document defines each of these initiatives and their current status. The status of these initiatives will be communicated through quarterly updates to this document.

In keeping with the Governor’s directive on moving Ohio’s technology infrastructure into the 21st Century, the next phase of IT Optimization was published in December 2012—the [IT Transformation Plan](#). IT Transformation is much more than a series of technical projects; it is a multi-phased optimization, standardization, and integration program of people, processes, and technologies, where certain aspects are vital to the long-term success of the State’s transformation to a new environment: committed strategy, governance, customer relationship management, employee development, business process change, and financial sustainability through effective chargeback planning.

NOTE: The State’s fiscal year (FY) begins on July 1 and runs through June 30 of the following year. The fiscal year is named by the calendar year in which it ends. All dates referenced in this document use the FY quarter convention shown below:

FY2012 is July 1, 2011 through June 30, 2012

| Q1 FY2012 | Q2 FY2012 | Q3 FY2012 | Q4 FY2012 |
|------------------------|-----------------------|-----------------------|------------------------|
| July 2011 – Sept. 2011 | Oct. 2011 – Dec. 2011 | Jan. 2012 – Mar. 2012 | April 2012 – June 2012 |

FY2013 is July 1, 2012 through June 30, 2013

| Q1 FY2013 | Q2 FY2013 | Q3 FY2013 | Q4 FY2013 |
|------------------------|-----------------------|-----------------------|------------------------|
| July 2012 – Sept. 2012 | Oct. 2012 – Dec. 2012 | Jan. 2013 – Mar. 2013 | April 2013 – June 2013 |

FY2014 is July 1, 2013 through June 30, 2014

| Q1 FY2014 | Q2 FY2014 | Q3 FY2014 | Q4 FY2014 |
|------------------------|-----------------------|-----------------------|------------------------|
| July 2013 – Sept. 2013 | Oct. 2013 – Dec. 2013 | Jan. 2014 – Mar. 2014 | April 2014 – June 2014 |

FY2015 is July 1, 2014 through June 30, 2015

| Q1 FY2015 | Q2 FY2015 | Q3 FY2015 | Q4 FY2015 |
|------------------------|-----------------------|-----------------------|------------------------|
| July 2014 – Sept. 2014 | Oct. 2014 – Dec. 2014 | Jan. 2015 – Mar. 2015 | April 2015 – June 2015 |

IT Assessment and Inventory

Knowing what is currently in our statewide IT inventory is critical to several enterprise initiatives such as Identity Management, Storage as a Service, Unified Communications, and Cloud Computing. To that end, the State conducted an automated data gathering exercise, covering Agencies who have large server concentrations, with a focus on virtualization progress in 2010. In Q3 FY12, OIT issued a Request For Quotation (RFQ) to inventory data center assets statewide including network equipment, servers, virtual servers, storage, and telecom infrastructure. The RFQ was awarded in Q4 FY12 and focused on an inventory of IT assets within DAS/OIT. The next steps for the asset inventory are broken into four phases:

Phase I: Data Center—Each Agency will be requested to identify data centers that they support and the key attributes describing these data centers.

Phase II: Server Inventory Detail—An automated scan will be conducted using VMWare's Capacity Planner tool. The Capacity Planner will scan on all data center LAN segments identified by each Agency. The tool will conduct a scan of all servers and will pull a variety of attributes from each server, such as the serial number. This information will be leveraged in Phase IV.

Phase III: Software Inventory Detail—During this automated scan by the Capacity Planner tool, an inventory of installed software will be created. After the Capacity Planner tool scans each network segment, installed software will be extracted into a separate database for analysis.

Phase IV: Supplemental Hardware Asset and Software Information—Agencies will be asked to verify information collected within the previous phases and provide any remaining supplemental information and asset information not collected by the scanning tool. Agencies will be requested to provide supplemental information concerning server assets and software discovered during the automated scan. During this phase, Agencies will also be asked to provide information concerning any other IT asset within the data center that was not detected in the automated scan.

The results of this four phase inventory workflow will be a comprehensive and detailed inventory of the State's IT assets.

Email Consolidation

The goal of the Email Consolidation initiative is to have all State Agencies operating on one standardized email platform. One time-saving benefit to this is the seamless integration of email and calendaring. Another benefit to consolidated email is uniform security. With a standardized system, the State can ensure virus protection, spam, disaster recovery, and security are set to the same standard across the State.

Microsoft Exchange has been selected as the statewide platform. Exchange offers additional improvements, including larger mailboxes and reduced operational and maintenance expenses.

OIT is working with Agencies to decommission legacy email platforms and to migrate to the central email service. This migration and decommission is occurring over the course of the FY12/13 budget cycle. To date 72 of 93 Agencies, Boards, and Commissions have been transitioned/migrated to this central service.

Recently migrated Agencies include the following:

- Department of Education
- Bureau of Workers' Compensation
- Department of Alcohol & Drug Addiction Services
- Lake Erie Commission
- Board of Tax Appeals
- Ohio Racing Commission
- Department of Mental Health
- Department of Aging

All remaining Agencies have been contacted by the project team. The project team works with the Agency to set the migration and legacy decommissioning timelines keeping in mind the Agency's business needs and timing sensitivities. The goal is to have all Agencies migrated to Exchange in Q4 FY13.

The following link details the features associated with these services: [Exchange Mail Services](#).

Identity Management

Identity Management is a statewide strategic effort to provide user access and authentication from an enterprise perspective. This will increase efficiency, capabilities, and overall integration for both current and future services. Currently, bidirectional trusts for numerous Agencies are not sustainable or manageable for long-term access. Therefore, the State must identify and implement a new statewide solution. The development of enterprise identity management functions will provide a consistent means across State government to access core shared services and enterprise solutions as well as access services or applications with the appropriate level of authority. This function will be a critical component in delivering additional shared solutions and services and is the foundation to reduced sign-on and a single identity to state workers for enterprise IT services within the State of Ohio. It will also provide automation and user self-service capabilities for password resets, user provisioning and de-provisioning, and facilitate a more comprehensive security approach for the enterprise environment.

The Enterprise Technical Architecture (ETA) Identity Management Workgroup was established by the Multi-Agency CIO Advisory Council (MAC) to implement an enterprise-wide Identity Management approach. The recommendations of the MAC ETA Identity Management Workgroup can be accessed online at [Enterprise Technical Architecture Resources](#).

The business requirements for this initiative have been identified for the Ohio Administrative Knowledge System (OAKS) application. The Identity Management service uses OAKS as the single source for several elements, including the Employee ID, in order to provide a consistent, stable, and repeatable identity for State workers. The initial service was placed in production in September 2011 and the OAKS application is currently consuming Identity from this service. Additional services such as Exchange and Instant Messaging (IM) and Presence are configured to consume this service. Furthermore, pilots are underway within DAS to complete the transformation of Exchange and SharePoint to become part of the Identity service. Federated Authentication is currently being deployed and configured in accordance with the Identity Management Workgroups recommendation. The Identity Management effort focuses on a comprehensive approach for developing and extending identity access, authorization, and management environments to meet the requirements for both current and future services.

The entire initiative is targeted for completion in Q4 FY13.

Storage as a Service

An effective enterprise Storage as a Service solution reduces the risk, cost, and complexity of managing information by providing secure and efficient data storage. The initiative implemented a storage strategy and an enterprise standard storage infrastructure that leverages the ETA Storage Workgroup's recommendations for meeting both short- and long-term storage needs, while avoiding storage shortfalls and the high cost of maintaining excess storage capacity. The workgroup's recommendations can be accessed at [Enterprise Technical Architecture Resources](#).

This initiative leveraged the State's current investments in storage, identified tools that enable holistic management of the State's storage solutions, and provided recommendations on the administration and management of the storage as a service environment.

During Q4 FY12, the technical and quantitative requirements for storage for FY13 were derived from various Agencies. With this information, OIT partnered with the Agencies to procure the necessary storage infrastructure to meet the Agencies' short-term (6 to 12 months) storage requirements. These procurements marked the beginning of the centralization and consolidation of Enterprise Storage within the State of Ohio Computer Center (SOCC). OIT collaborated with the Department of Taxation to migrate their disk storage and virtual tape to OIT's infrastructure. Most of this activity, along with other components of the storage infrastructure, was put in place during Q1 FY13. This quarter, Virtual Storage Area Networks (VSANs) have been simplified and SAN Volume Controller (SVC) Virtualization has been fully implemented.

Unified Communications

Unified Communications can be broken into the following initiatives:

- VoIP and Conferencing
- Instant Messaging and Presence
- Collaboration

VoIP and Conferencing

VoIP (Voice over Internet Protocol) enables you to make phone calls over data networks such as the Internet. Standardized conferencing encompasses video, audio, and web conferencing functions.

Over the past seven years, the State has spent over \$26 million on VoIP solutions. The majority of this funding has been expended by three Agencies and does not include operational costs, only the equipment and software to run it. In addition, six Agencies have VoIP needs that must be addressed quickly. DAS estimates that there are 21,000 Centrex users that are brokered through OIT. This system is at the end of its useful life.

The MAC ETA Unified Communications Workgroup recommended that VoIP become the telephony standard for all Agencies and that priority be given to implementing VoIP and conferencing across all Agencies in the State of Ohio, developing a standard implementation approach, and selecting a standard set of tools. The workgroup's recommendations can be accessed at [Enterprise Technical Architecture Resources](#).

To begin looking at implementation options, the State CIO asked that the Department of Health's CIO co-chair (along with DAS and OARnet) a multi-agency workgroup to define an enterprise solution that addressed the requirements of the State and to identify a direction that protects and maximizes the investments already made by the Department of Health, Department of Job and Family Services, and the Department of Transportation. With six Agencies positioned to expend funds to build their own VoIP solutions, having this service up and available in a short period of time was a major requirement.

The decision was made to research the viability of a hosted solution for VoIP and Conferencing. Numerous meetings and discussions were held with the vendor community, State Agencies and higher education to finalize requirements over several months. An RFQ was released in Q4 FY12 for a hosted VoIP and Conferencing solution. CBTS was selected to provide this service to all State Agencies, Boards, and Commissions, as well as local governments and State supported educational institutions. In late Q2 FY13, the service was operational in the Office of Facilities Construction Commission—the first customer to be on-boarded. Other Agencies are currently testing the solution, with wide scale deployment beginning in January 2013. The Bureau of Workers Compensation and the Environmental Protection Agency are scheduled to begin deployment in January 2013.

Agencies with existing on-premise solutions will be asked to move to the hosted solution when their existing system's contract expires or when their equipment has reached the end of its lifecycle. Until that time, they can also realize savings on their long distance with the Session Initiation Protocol (SIP) option that is a part of this service. The solution is based on tiered pricing—the more users that leverage this solution, the lower the per-seat price.

Instant Messaging (IM) and Presence

IM is real-time text-based chat communication between two or more people using personal computers with shared clients. Presence is the ability to ascertain through the use of technology if a person is on his or her computer and if he or she is available, busy, or otherwise occupied.

The MAC ETA Unified Communications Workgroup found that 85% of the State Agencies were using a Microsoft product for this currently. Therefore, they recommended that the Enterprise Instant Messaging and Presence standard be Microsoft Lync and that it be implemented as a service integrated and available to users of the States' consolidated email offering. The workgroup's recommendations can be accessed at [Enterprise Technical Architecture Resources](#). This service was enabled in Q1 FY13 and will be made available for delivery in Q4 FY13. The VoIP service will integrate with the State's IM and Presence solution as well.

Collaboration

Collaboration tools have been provided through the implementation of SharePoint. The MAC ETA Unified Communications Workgroup recommended that priority should be given to implementing SharePoint across all Agencies in the State of Ohio for collaboration and developing a standard implementation approach.

OIT has provided a shared solution in this space since 2004 and architected an environment to support hosting Microsoft SharePoint as an enterprise collaboration tool. The following link details the features associated with this service: [SharePoint](#). This offering should preclude any new deployments of any collaboration tool and should serve as the target environment as currently installed Agency collaboration tools end their useful or financial life. Agencies can contact the Customer Support Center to obtain access to SharePoint services. Future considerations include the creation of a multi-agency SharePoint development team to assist Agencies with SharePoint site creation and application development.

Data Center Remediation

State servers are located in more than 30 separate locations. Some Agencies maintain their own data center or server concentration and some Agencies maintain multiple data centers. Additionally, most Agencies reported the lack of a comprehensive disaster recovery capability. For those Agencies operating data centers outside of the State of Ohio Computer

Center (SOCC), they may not be operating in a controlled environment, which could result in increased risk due to business continuity exposures.

The SOCC is the State's primary data center, which currently houses approximately 1,200 applications and 3,800 server images. This represents more than half of all servers in State government. The SOCC is also a termination point for virtually all network service providers used by the State. However, the SOCC is underutilized as a data center.

The lack of a unified State data center results in an inefficient allocation of equipment, space, power, and human resources. By consolidating servers, storage, and network management into the SOCC, the State can lower its infrastructure costs and set a foundation to reduce its risk profile. The SOCC requires investment to be able to host the remaining statewide IT infrastructure. Primarily, the SOCC needs additional power and redundant power capabilities to begin data center consolidation activities. Improvements will increase available power, improve cooling utilization, optimize IT management for all IT environments, and reduce unnecessary administrative space use within the building.

Effective use of the SOCC is foundational to the State's ability to implement IT optimization strategies and generate IT cost efficiencies. OIT is sourcing a contract to address current usage and power concerns to ensure the SOCC will meet the data center needs of State government and reduce technology and facility costs.

Multi-agency representatives are currently evaluating responses to a Request for Proposal (RFP) to improve the power and operational capabilities of the SOCC. This contract is expected to be awarded in Q3 FY13.

Server Virtualization

Currently, the State maintains approximately 5,500 web, application, infrastructure, and database servers across all Agencies that support a variety of Agency functions across a diverse set of operating systems and versions.

Over the course of FY10/11, the State identified VMware as the enterprise standard for server and desktop virtualization.

OIT has invested in server virtualization technology and demonstrated its benefits in-house with the consolidation of several hundred servers into a virtual environment. OIT developed a service offering in 2010 designed to provide a virtualized server infrastructure for core and

common server applications. The following link details the features associated with these services: [Server Virtualization Services](#).

To build on the work already completed, OIT is developing a multifaceted approach to continue the virtualization of servers internally (including alternative sites) and to provide virtual environments, virtual data centers, and services to other departments and Agencies within the State.

The Server Virtualization project seeks to build repeatable processes that support the migration of various physical and virtual server topologies to a centralized data center. Currently, the ETA Server Workgroup is working on developing an Agency template and support services to migrate interested Agencies from a physical to a virtual environment. In addition, the ETA is developing a set of standards around the configuration of virtual environments to limit the possibility of unique configurations that would add unneeded complexities to migration efforts.

OIT has established virtual environments for the Department of Rehabilitation and Correction and the Department of Taxation. Additionally, OIT has migrated other Agency environments to the SOCC, such as the Department of Natural Resources and the Environmental Protection Agency.

Business Intelligence

Almost all large, well-run organizations use enterprise data warehouses, business intelligence (BI) tools, and integrated IT solutions to understand what is currently happening in their organization, perform data driven planning and simulations, and leverage tools and competencies rather than duplicate them across the enterprise. The simplification of the IT infrastructure and use of enterprise applications facilitate the design and use of these analytical tools.

State of Ohio enterprise BI provides enterprise data warehousing, business and predictive analytics, decision support, and shared solutions to State Agencies, Boards, Commissions, and institutions of higher education. By turning raw data into usable information, BI helps users analyze policies and programs, evaluate operations, and drive decisions. Additionally, the program delivers shared solutions across multiple organizations, leveraging multiple tools, impacting diverse stakeholders, and integrating disparate IT systems.

State enterprise BI leverages central infrastructure, shared technical resources, and a core competency in business analytics to offer State Agencies efficient and effective information solutions. Whether the focus is enterprise resource planning (ERP), operations and compliance, or program/policy analysis, enterprise BI offers a scalable model to engage subject matter experts in the business to drive technology solutions in a tool-agnostic environment.

Current BI offerings include:

- **Data Warehousing and Decision Support**—Services include data transformation, warehousing, reporting, online analytical processing (OLAP), metrics and key performance indicators (KPIs), dashboards and event reporting.
- **Enterprise Integration Solutions**—Data integration services that enable cross-agency analytics, reporting, and operational decision support across multiple organizations and source systems.
- **Advanced and Predictive Analytics**—Services include analytic tools used to predict future outcomes such as predictive models, simulations, and optimization analysis.
- **Enterprise Resource Planning Analytical Solutions**—Service provides for analysis, decision support, and operational reporting from the State’s enterprise resource planning solution (OAKS).

Integrated Eligibility and Health and Human Services Business Intelligence

In order to improve health outcomes for citizens of Ohio, the Office of Health Transformation (OHT), Office of Budget and Management (OBM), and Department of Administrative Services (DAS) jointly established a new Health and Human Services (HHS) Cabinet to optimize public resources across HHS jurisdictions. The HHS Cabinet is focused on restructuring HHS operations and right-sizing state and local service capacity to be more efficient. As part of this effort, the Integrated Eligibility and HHS Business Intelligence (BI) project has been initiated to modernize eligibility systems and share information across state and local data systems.

Current eligibility processes for HHS programs in Ohio are fragmented, overly complex, and rely on outdated technology. There are more than 150 categories of eligibility just for Medicaid, and two separate processes to determine Medicaid eligibility based on disabling conditions. The lack of standardization has led to work around solutions developed county-by-county, and presents great challenges for automation. Ohio's Client Registry Information System—Enhanced (CRIS-E) System, which supports eligibility determination for Medicaid and the other primary public assistance programs, is more than 30 years old. The current system is not capable of meeting the processing standards for additional Ohioans who will enroll in Medicaid in 2014 as a result of federal health care reform.

Ohio's HHS Agencies also hold a significant amount of information that could be used to improve health care and customer service, but the information is not available in the right place at the right time to make decisions. Organizational silos are pervasive and over time have resulted in information silos that meet Agency specific needs, but not the needs of the whole person being served. There are multiple and often duplicative data systems, data formats, and data entry points, all of which keep valuable and potentially lifesaving information locked away and unusable. This situation results in program inefficiencies, undetected fraud and abuse, higher costs for taxpayers and, in the worst cases, adverse outcomes for Ohioans who rely on the State's services.

OIT is working with the HHS Cabinet to create innovative, flexible, and interoperable solutions for design and development of an Integrated Eligibility system and HHS BI built on service oriented architecture (SOA).

The Integrated Eligibility initiative includes requirements for integrated Medicaid expansion either through the rules set by the Affordable Care Act (ACA), SOA HHS enterprise capabilities of client search and lookup, SOA Competency Center governance and operational processes, common hardware and software infrastructure, referral management and service coordination, retirement of the CRIS-E system, or the expansion of the eligibility solution to other HHS programs. The HHS BI initiative includes data sharing and decision support related to eligibility, claims payment, and other valuable HHS information. The ultimate goal is to integrate business intelligence across the HHS enterprise so information about the whole person being served is available in the right place at the right time to get the best results for that person.

An RFP for the three-phase implementation of Integrated Eligibility and HHS Business Intelligence was issued in Q1 FY13 with award in Q3 FY13.

Disaster Recovery: Mainframe and Servers

In consideration of the State's ability to conduct business and support critical services in the event of a disaster or emergency condition that otherwise renders an Agency's primary production data processing facility or site unavailable or unusable, the State must provide a secondary data processing facility to house State critical applications that support these services and functions.

This site must contain the requisite capabilities to support systems and processing functions including (but not limited to) application usage, power (primary, redundant, and autonomous), physical and application security, networking and telecommunications, operational workspace, backup and restoration as well as system management functions that may be required over the course of the disaster or emergency condition until such time as the Agency's primary data processing facility resumes normal operations following the conclusion of the disaster or emergency condition. This alternate site capability should also provide support for disaster recovery (DR) and business continuity requirements.

DR for OIT Mainframe hosted Agencies is provided by IBM in Sterling Forest, NY. Open systems DR for OIT hosted systems is in the very early stages of development. Numerous other Agencies have contracted DR capabilities with outside entities like IBM and SunGard.

The State is developing a DR strategy for distributed systems and servers that can be leveraged by Agencies.

The foundation for DR is excellent Business Continuity Planning (BCP). Continuity planning is a discipline that helps identify, analyze, and prioritize mission-critical functions based on service criticality; scope and consequences of disruption; survivability (time sensitivity); coordination requirements with other units or external entities; facilities, infrastructure, and IT support requirements. Agencies, in conjunction with DAS should inventory and classify their application portfolio to support their disaster recovery and business continuity planning, as well as reporting requirements for alternate site processing.

To support this effort, the Multi-Agency CIO Advisory Council's Enterprise Technical Architecture Subcommittee launched a Business Continuity Workgroup to select a standard for business continuity planning software. The workgroup recommended that State of Ohio Agencies use RPX software by RecoveryPlanner.com to manage the process of creating, maintaining, and activating Agency business continuity plans across the state. The workgroup recommendation was based on an interview with a Gartner analyst, evaluation of three vendor demonstrations, analysis of the current contract with the vendor and its ability to be expanded statewide, and the significant investment already made by the Agency that has implemented the RPX software. The recommendation was submitted to the Leadership Management Committee and the State CIO for evaluation.

Network Aggregation and Consolidation

The State has initiated the development of a strategy for consolidating disparate Agency networks. There is a significant cost savings opportunity to aggregate network connection points to increase bandwidth at lower costs for Ohio. Additionally, an approach to simplify network topology could substantially enable other initiatives associated with IT optimization. This effort is in conjunction with the SOCC remediation effort that will redesign the data center network. To ensure a State perspective, a multi-agency team has been established that is identifying opportunities to aggregate and consolidate networking across Ohio. Higher Education through the Board of Regents is engaged in the discussion.

Additionally, the State has increased networking options to support MARCS and State Agencies in underserved and unserved rural and remote areas. This solution is comprised of two components: a microwave backbone that supports MARCS directly and a wireless point-to-point wide area network (WAN) that supports state and local government, higher education, K-12, and others.

An additional component to network consolidation is the Network Operations Center (NOC). There are numerous Network Operations Centers (NOCs) throughout the State. Within the SOCC today, there is a NOC dedicated to 24 hour x 365 days a year management and monitoring of the network and network activities. Combined network operations would provide visibility into Agency networks, which is important insight to enable network consolidation. Additionally, ensuring consistent management and security practices and monitoring capabilities for the remaining infrastructure is under design to fully leverage this important 24 hour a day asset. As a starting point, DAS and OARnet are beginning to leverage synergies between their two NOCs.

Cloud Services

Cloud technology has radically impacted the way organizations use hardware, software, and services. The State believes there is a suitable role for external cloud strategies in concert with the State's private cloud offerings. Guidelines have been developed that outline what services and data should and should not be hosted by external cloud providers. Additionally, the State is establishing enterprise agreements for cloud-based infrastructure to ensure the statewide enterprise consumes cloud services in a way that is consistent, secure, and robust. This will allow the State to establish enterprise-wide strategic cloud partnerships.

Currently, DAS delivers many centralized IT solutions. These solutions are delivered in a standards-based, technologically sound and secure environment. To leverage the State's substantial investment in private cloud computing services, State Agencies will be strongly encouraged to use private cloud computing services provided by DAS when considering a cloud-based information technology solution. This includes Infrastructure as a Service, Platform as a Service, and regarding common applications, Software as a Service.

If the private cloud computing services offered by the State do not fully address an Agency's business need and the Agency is considering a public cloud computing alternative, the Agency shall inform OIT of its intent by outlining the requirements, costs, and risks prior to proceeding with the initiative. Upon receipt of the Agency's statement of intent, OIT will schedule a meeting to discuss the request.

If an exception is granted to an Agency to use a public cloud-based solution, the Agency will work with OIT to structure a public cloud agreement to provide a service that meets individual Agency business needs and statewide contract terms and condition requirements.

Mainframe Consolidation

Mainframe computing environments are currently implemented in a number of Agencies. OIT is working with Agencies on physical migration of their mainframe environments to OIT as well as to leverage disaster recovery capabilities. Consolidating and leveraging these environments should drive significant cost savings.

While the number of mainframe-based applications continues to decrease, there are still some very large and critical applications running on mainframes within State government. OIT is working with Agencies still using mainframes to consolidate into a single physical environment and leverage disaster recovery capabilities.

There are three remaining IBM mainframe environments in the State that are consolidation candidates (Department of Taxation, Department of Transportation, and Department of Commerce). Discussions will be initiated with the two other IBM mainframe environment holders (Ohio Public Employees Retirement System and State Teachers Retirement System) to determine if there are opportunities to leverage software maintenance and DR contracts to reduce costs to the State. The Department of Public Safety has recently migrated their mainframe applications to an open systems platform.

The Departments of Commerce and Taxation are currently reviewing IT platform options. Taxation's efforts are focused on the implementation of the new tax system, STARS.

A mainframe team, consisting of OIT and Bureau of Workers' Compensation (BWC) resources, recently consolidated and relocated mainframe functions from BWC infrastructure within the William Green Building to the SOCC second floor via migration of solution assets and processes. Due to this consolidation and relocation, BWC eliminated Agency expenses and optimized operations, realizing a five-year projected savings of \$3,750,000 in operations' cost avoidance, including headcount replacement avoidance. Additionally, OIT upgraded the mainframe environment to accommodate added capacity for consolidations. OIT's existing customers immediately realized significant processing improvements. For example, Job and Family Services observed an eight hour improvement in their month end batch processing window.

eLicensing

DAS manages the current eLicensing system for the benefit of various independent Boards and Commissions. Each Board or Commission is responsible for licensing individuals or

businesses within a specific industry or trade, and has its own rules, regulations, and policies to do so, as delegated by the Ohio General Assembly.

The current system, available from the Ohio.gov portal, is the mechanism through which these Boards and Commissions provide and renew professional certificates and licenses and permits. During periods of heavy activity (license renewal), the system must be able to operate at peak capacity in order to ensure licenses are processed quickly and accurately. It also provides a public-facing capability to allow citizens to verify the credentials of professionals and businesses.

The public-facing interface to the current system can be accessed online at the following URL: <https://license.ohio.gov>.

An initiative is underway to replace the decade old eLicensing application that handles applications, renewals, and disciplinary actions for 600,000 current and expired professional licensees.

The State is seeking system integration services and a Commercial Off-The-Shelf (COTS) eLicensing software application that is configurable to give State staff more flexibility, such as, the ability to create forms, specify workflows, configure business processes, improve reporting, and so on. While the participating Boards and Commissions have immediate needs for an updated eLicensing system; the vision is for the State to implement a scalable enterprise solution capable of serving the needs of additional Boards, Commissions, and Agencies in the future. When fully implemented, the enterprise eLicensing system should provide individuals and businesses a single web-based gateway to access licenses, permits, documents, and related information.

In Q2 FY13, DAS awarded a contract for the next generation eLicensing system (eLicense 2.0). Conversion of pilot customer Boards to the new system will occur in Q1 FY14, with migration completed and the system ready for new customers by the end of Q4 FY14.

OAKS Enterprise Applications

The Ohio Administrative Knowledge System (OAKS) encompasses several enterprise resource planning services for financial and human resources functions. OAKS services enable State Agencies to manage the State workforce and their Agency finances. This encompasses:

- Nearly \$5 billion in monthly voucher transactions
- Payroll, benefits, and human resources transactions supporting over 50,000 employees
- Asset tracking over \$4 billion in value
- Over 20,000 State employees using OAKS daily

Agencies should review their existing financial and human resources transaction processing, reporting, and analysis system assets that have the potential to be addressed by OAKS.

Agency plans and budgetary forecasts should include migrating these systems to OAKS, and decommissioning or otherwise retiring the use and operational and project spend associated with the legacy Agency systems.

HR System Upgrade (New Functionality)

The PeopleSoft HCM 8.9 to version 9.1 upgrade project is funded, staffed, and underway. Projecting a go-live date of Q3 FY13, the new HCM application will deliver two major and several moderate impact improvements to human resources processes:

- Electronic Personnel Action Workflow via SmartERP Software
 - Statewide solution that replaces Agency IT systems and streamlines the pre-hire, hire, transfer, and separation process, built on a re-usable workflow and approval framework inside of the PeopleSoft application
- Employee Performance Review System
 - Replaces existing Agency systems and avoids implementation of new systems. Supports multiple performance review templates, competencies, and Agency-specific goal-setting
 - Enables statewide reporting on employee performance metrics where none exists today
- Additional Administrative Improvements and Usability
 - Improved online employee paystubs
 - Accurately reflects leave balances at various pay periods
 - Online delivery of employee W2 statements
 - Streamlines employee tax returns and reduces administrative costs of reprints
 - Streamlines user interface so that it is more in line with the myOhio.gov portal functions

The project started in March 2012 and continues, on schedule, toward a Q3 FY13 launch. The project is being managed by DAS OIT OAKS and Human Resources Division staff,

with significant involvement from Accenture and human resources professionals across various State Agencies.

Time Tracking

The State owns licenses to and supports the PeopleSoft HCM 8.9 Time and Labor and Kronos systems. Across State Agencies, there are roughly 18 different time keeping systems in use to track employee work time, including PeopleSoft and Kronos. PeopleSoft is being upgraded to version 9.1 of the software in early Q3 FY13. Additionally, many Agencies use Kronos Time Keeping for specific applications including time-in/time-out, badge swipe, or other automated data collection functions or for more complex applications where employees and contractors are to track their time against specific activities in order to comply with Federal, State, and other statutory requirements.

The State inventoried all current systems in use and defined ways to improve the adoption and use as well as minimize duplication of these core functions throughout the State. This effort was initiated in Q3 FY12 to determine State Agency requirements associated with Time and Labor activities and identify enhancements to the two largest Time and Labor solutions available to State Agencies, while increasing adoption of these solutions. A business case is being finalized, including resource requirements, statewide benefits realization, and implementation strategies. Recommendations are to engage in a project that improves the use of PeopleSoft for more comprehensive time-tracking (time-in/time-out) in addition to providing additional functionality for Agencies using Kronos.

Learning Management

The State of Ohio owns license to and supports the PeopleSoft 9.0 Enterprise Learning Management (ELM) System. The current application impacts all learners/State employees who take training for travel and expense reimbursement, business intelligence training, and any other mandatory training required for all State employees. Additionally, two Agencies (Department of Rehabilitation and Correction and Office of Budget and Management) use ELM for agency-specific training for approximately 13,000 learners. In addition to the PeopleSoft ELM system, Agencies across the State use numerous other ELM-type systems.

OIT is committed to migrating remaining Agency Learning Management systems or functions to OAKS Enterprise Learning Management for the following:

- Employee training plan development, administration, and tracking.

- Development of web-based training and Agency developed tests or delivery of third-party training content developed for the State and where the State retains license to distribute these materials in concert with training delivery activities.
- Employee training enrollment, registry, and training delivery logistic functions (for example, scheduling or management of training locations, venue, training materials, classrooms, and participants).
- Tracking of employee certification, professional license compliance, continuing education credit and other requisite training requirements that must be planned, tracked, managed, and reported on by Agencies.

The business case has been finalized, including resource requirements, statewide benefits realization, and implementation strategies. A statewide adoption project was approved and began in October of 2012. Technical enhancements are underway and an Agency onboarding team will be formed to begin training and integrating Agencies beginning in late Q3 FY13/early Q4 FY13.

- **Phase 1** (Q3 FY13-Q1 FY14): Modify and test new training materials with two pilot Agencies, implement new business intelligence reporting and roll-out technical enhancements. Additionally, load available statewide, web-based compliance courses like privacy and security training, Equal Employment Opportunity orientations, and statewide ethics training.
- **Phase 2** (Q4 FY13-Q2 FY14]: Onboard approximately 50 Agencies, in groups, to track internal employee training and launch web-based training from ELM.

FIN System Upgrade Planning

OAKS FIN currently is operating on version 8.8 and would be upgraded to the latest stable version available at the start of the project (application version 9.1 is currently available and version 9.2 is scheduled for release in Q4 FY13). The State must consistently upgrade our financial application to remain current with key software changes and maintain application support. An upgrade project also provides a forum to implement process improvements to capitalize on new technology and remove previous customizations.

The PeopleSoft FIN upgrade was tentatively approved in the October 2012 OAKS Steering Committee meeting; however, decisions regarding the PeopleSoft Financials application version and timing of the upgrade are still open.

Ohio Marketplace

The goal of the Ohio Marketplace project is to select and implement an eCatalog solution for State Agencies to use when requisitioning goods and services. The eCatalog solution which will provide a comprehensive requisitioning and order delivery solution for goods and services ordered from various vendors will provide the requisitioner's search capabilities for goods and services from one site returning appropriate information and pricing for items available on existing DAS contracts. The requisitioner would select the quantity desired and the information is stored in a shopping cart until the requisitioner has completed the order. The eCatalog would provide a similar purchasing experience as one would have when buying from an eCatalog such as Amazon.com.

The creation of an Ohio Marketplace solution would also implement an eInvoice solution. The coding associated to the purchase order can be electronically transferred to the invoice thus eliminating the need for manual intervention by Ohio Shared Services.

The Ohio Marketplace will provide the following benefits:

- Automated and standardized processes/workflows that will allow the State of Ohio to leverage full purchasing power and realize cost savings
- Improved contract compliance
- Spend analysis and optimization
- Consistency in invoice processing; all purchases will have a purchase order
- More efficient invoice processing; fewer rejects due to coding issues
- Improved vendor relationships
- The ability of local governments to easily purchase off of State contracts

The project is slated to begin in early Q3 FY13.

Summary

The OIT Strategy is a four-part approach to improving the State of Ohio's use of information technology. The four components: improved central planning, infrastructure simplification, enterprise applications, and business intelligence are all highly inter-related.

Progress in any component strengthens the progress in all the other components. The power of this approach is that progress can be made independently in parallel paths while contributing to the overall strategy.

The initiatives defined herein all drive towards progress on achieving the overall strategy.

This document will be updated quarterly to provide information on the progress of these strategic initiatives.

If you have questions on any of the information contained in this document, please email state.cio@oit.ohio.gov.

Appendix: Hyperlink Paths

The following are the paths for the hyperlinks contained within this document:

- **IT Strategy**
<http://das.ohio.gov/Divisions/InformationTechnology/ITOptimization.aspx>
- **IT Transformation Plan**
<http://das.ohio.gov/Divisions/InformationTechnology/ITOptimization.aspx>
- **Exchange Email Services**
<http://das.ohio.gov/Divisions/InformationTechnology/ServiceSheets.aspx>
- **Enterprise Technical Architecture Resources**
<http://das.ohio.gov/Divisions/InformationTechnology/EnterpriseTechnicalArchitectureResources.aspx>
- **SharePoint Services**
<http://das.ohio.gov/Divisions/InformationTechnology/ServiceSheets.aspx>
- **Server Virtualization Services**
<http://das.ohio.gov/Divisions/InformationTechnology/ServiceSheets.aspx>