

## The State of New Jersey



# Statewide Information Technology Annual Report 2007

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## Table of Contents

Letter from the CTO.....	1
Governance.....	2
Shared and Consolidated Services.....	5
Improving Public's Access to Government.....	10
Future Challenges.....	12
Financial Report FY07 and FY08.....	15
Appendix.....	18
GEAR Report	
IT Assessment	

## A Message from the Chief Technology Officer

Over the past year, the IT community for the State of New Jersey took a hard look at itself and put in place the necessary measures to enact the reform called for in Executive Order #42.


We've established a governance structure that incorporates a series of checks and balances to ensure that our spending is in keeping with business goals and overall direction for the new IT community. This governance structure has allowed NJOIT to gain visibility of major technology projects and provide oversight as needed.

We are building a culture of shared and consolidated services that will help us achieve the operational efficiencies needed to grow and support the State, its citizens and businesses. Though the establishment of an enterprise architecture structure we are fostering an environment that encourages the sharing of resources and joint planning. An emphasis is being placed on creating multi-agency solutions and systems integration rather than customized application development. We are also expanding and enhancing a network with modern security policies and procedures.

We are focused on smarter IT contracting, licensing and procurements that will effectively leverage our volume purchasing power to create savings for the State. Enterprise wide standards and policies are being developed and implemented that will further agency interoperability.

Although we have been recognized by Brown University for our e-Government offerings, we are continually enhancing our "self-service" functions via the Web and are challenging ourselves to modernize and take full advantage of advance technologies.

This Annual Report highlights the steps we have undertaken in the past 12 months to enact change in the way the State's IT community does business. Admittedly, there are challenges. We must overcome a siloed business environment that was dominant among the agencies for so long. We have an aging workforce and are at risk of losing significant institutional knowledge of our older systems. But ultimately through reform, we will achieve cost savings for tax payers while improving service delivery.



Adel Ebeid

## Governance

In early 2006, the information technology (IT) services in the executive branch of government and particularly the New Jersey Office of Information Technology (NJOIT) came under heavy scrutiny by legislators. A number of high profile technology projects seemed to be at risk and the central IT organization, NJOIT, was criticized for its lack of oversight and inability to rein in technology spending.

By Spring 2006, NJOIT underwent a change in leadership and embarked on a Statewide IT Assessment (Appendix A) to garner a better understanding of the State's IT services and projects – planned as well as ongoing. The Assessment clearly illustrated that although the State was under investing in IT, some departments were successful in achieving individual goals. However, the Assessment noted that the State's progress in coordinating IT initiatives and controlling spending was negligible and lacked an enterprise perspective. A fact underscored in Governor Corzine's GEAR Commission Report (Appendix B) that was published later in the year. The Report also highlighted the need for modernizing the State's IT systems and for increased oversight of major IT projects.

Findings from the GEAR Report and IT Assessment were the impetus behind Executive Order #42 which was signed by Governor Corzine in November 2006. Through EO #42, NJOIT was given broader authority over the State's IT operations. And, the EO mandated that a new governance model be implemented in order to reform and consolidate IT services statewide. The EO was later formalized in March 2007 when S-45/A-12 was signed into Law P.L. 2007, .C56.

This new governance model factors in three key layers of accountability - the Technology Governing Board, the Interim Project Review Board, and the restructuring of the IT community into affinity groups. The Governing Board is responsible for setting the overall direction, standards and priorities for the IT community and for reviewing and approving the annual budget request of NJOIT. The Interim Project Review Board (PRB), which reports into the Governing Board, is charged with reviewing, approving and monitoring large-scale IT projects. Currently, the Interim PRB is tracking 24 initiatives totaling nearly \$700 million in development and implementation.



To successfully restructure IT in state government change must be promoted and welcomed. Similarly, innovation must be encouraged and supported. Through forward thinking and detailed planning, the IT community will reach its full potential and deliver services faster and better. As such, goals have been established to guide our actions and decisions over the next few years:

1. Create cost savings in IT by implementing efficiencies in our operations as well as securing and simplifying the State's technology infrastructure.
2. Expand e-Government or "self-service" applications to improve service to citizens and businesses.
3. Establish an enterprise architecture, supported by meaningful standards, across state government to maximize opportunities for data sharing and integration.
4. Gain full visibility of all major technology projects throughout the State and provide monitoring and oversight where appropriate.
5. Intelligent re-organization of the IT community to improve operations and achieve the goals listed above.



The EO also established the position of the Chief Technology Officer (CTO) and provided for the appointment of six Deputy Chief Technology Officers. Each Deputy CTO will manage the work of an Affinity Group, a natural community of interest that combines the efforts of several agencies where common processes and interests exist.

In August 2007, four of the six Deputy CTOs and their corresponding Affinity Groups were appointed. They are:

**Administrative Services**, headed by Richard Stewart formerly the CIO with the Treasurer's Office. His Affinity Group encompasses Department of Treasury, Department of Personnel, the Statehouse, and Department of State.

**Business and Community**, led by Michael Weaver formerly the CIO of the Department of Transportation. This group spans across the Department of Transportation, Department of Environmental Protection, Department of Community Affairs, Commerce and the Office of Economic Growth, Agriculture, and Board of Public Utilities.

**Health, Education and Social Services**, headed by Louis Marino formerly the Department of Human Services CIO. This group encompasses the Department of Human Services, Department of Children and Families, and the Department of Health and Senior Services.

**Public Safety**, led by Sally Poulshock who was the CIO at the Department of Community Affairs. Her group encompasses Law & Public Safety, Motor Vehicle Commission, Office of Homeland Security, Department of Corrections, Department of Military and Veterans Affairs, Juvenile Justice Commission, and the Parole Board.

Collectively, the Deputy CTO's will work together to align IT and business to optimize the services delivered by the executive branch at the least cost to our taxpayers. To assist in that effort, a moratorium was placed in December 2006 on all IT purchases exceeding \$2,500. Exceptions may be granted if approved by NJOIT.

Moving forward, this new governance model allows the State to continue to make technology improvements while, at the same time, exerting the appropriate fiscal controls needed to leverage resources, both human and capital.

## Shared and Consolidated Services

Now that NJOIT has greater oversight over IT spending in the State's executive branch we are promoting a culture where shared and consolidated services are the norm rather than the exception. As such, we have identified a number of administrative functions that through consolidation will ultimately yield increased accountability, efficiencies in service delivery and cost savings for taxpayers.

### Simplifying Email Systems

Currently, there are four distinct email systems and 61 versions or releases of these systems used throughout the executive branch. The use of such divergent email systems is negatively impacting the ease of statewide communications as evidenced during the State shutdown in July 2006.

As part of NJOIT's efforts to create a more uniform and consolidated IT infrastructure for the State, the agency has begun to identify ways to leverage current installed email. For instance, Microsoft Office Outlook is already in place at the Department of the Treasury and is one of the more widely used systems in the State. However, its current agency-by-agency implementation supports redundant agency-specific server environments and support staff. By uniformly consolidating email, such redundancies would be eliminated and a single method of email communications will emerge. Migrating all agencies to a single email platform should result in savings due to volume licensing discounts and reduced support staffing. In addition, a single email platform should aid in the retention and recovery of emails for e-Discovery purposes.

To accomplish this task, NJOIT was appropriated \$1.1 million by the Office of Management and Budget to allow for the expansion of the existing email infrastructure and its migration to the HUB data center. This expanded environment will accommodate 50,000 users thereby simplifying statewide communications, and will run as a central NJOIT service.



## Improving Cost Accounting and Employee Timekeeping

Through an interagency partnership, the State is gradually expanding the use of eCATS, a robust cost accounting and time reporting application. eCATS features a real-time, front-end Web functionality that captures State employee time and leave information. It electronically processes data into the State's payroll system more accurately and detailed than the State's dominant time management application, Time and Leave Reporting System (TALRS).

TALRS is a mainframe legacy system that lacks a cost accounting provision and is heavily dependent on keypunch and manual processing and recordkeeping. Many TALRS-reliant agencies maintain separate cost accounting systems that require additional processing in order to reconcile data against State payroll system. Given the TALRS file structure, administrative processing, system maintenance, and dependency on hard copy reporting statewide, there is little return on investment in terms of operational efficiency, business reporting, analysis and decision making.

The eCATS solution is a logical progression from TALRS. Older mainframe applications like TALRS traditionally become more costly to maintain and have an even lower return on investment because of its inability to adapt to new business requirements. The eCATS environment provides both flexibility and scalability to meet the ever-increasing demands for timely, reliable data. With eCATS the end result is enhanced data analysis and a single, standard approach to doing business that will benefit several areas including Federal and State rule compliance, automated reconciliation of cost data, and leave and benefit time.

In fiscal year 2007, NJOIT invested \$1.9 million to upgrade the eCATS infrastructure to accommodate executive branch agencies that did not use the application. However, under the current funding model many agencies lack sufficient funds to contribute to the costs of migrating from TALRS and expanding eCATS. As a result, the State is forced to continue supporting both systems.

This initiative will fund the migration of the remaining agencies to the baseline version of eCATS and allow for the elimination of TALRS. The costs include continuation of the current consulting services and the NJOIT support staff. Any unique enhancements to accommodate specific agency cost allocation needs would be funded by individual agencies.



## Consolidation of Print Facilities

Initial analysis indicates that, after an initial investment, the consolidation of NJOIT and agency print operations will result in significant savings for the State. This initiative addresses relocation of the Capitol Post Office, a number of major agency print operations (e.g., Labor and MVC) and NJOIT's print operations at the HUB data center. An added benefit would be the reallocation of this vacated space to server space at the HUB for the consolidation of agency servers.

### Consolidating State printing facilities will:

**Optimize Equipment Utilization** - In most cases, agency print equipment is underutilized and is operated only one shift per day; in a central environment this equipment can be operated over 2 or 3 shifts per day, thus maximizes its use.

**Centralize Printing Supplies** - This would eliminate duplication of supplies and minimize storage space requirements. Also, by centralizing supplies we will be better positioned to facilitate volume purchasing.

**Reduce Transportation and Handling Costs** - Under the current system some documents must be transported from one location to another for printing, stuffing, sorting, and mailing from either the State Capitol Post Office or United States Postal Service. Centralizing printing and fulfillment should yield savings from the reduction of vehicles and staff.

**Recover Office Space** - Several printing facilities are located in downtown Trenton in space that cost +/- \$25 per square foot. This space can be better utilized for offices. If 10,000 square feet of potential office space is reclaimed the annual recurring savings would be significant.

### Better utilization of existing staff.

The \$900,000 dedicated to this initiative will facilitate the relocation of print operations from the HUB to another site. And, since the HUB already has a sophisticated heating and cooling environment, the freed up space will be better utilized to consolidate agency data centers.



## Leveraging Buying Power

Prior to EO #42 the executive branch of state government did not effectively leverage its volume buying power for IT purchases. Now, under the auspices of EO #42, all IT expenditures exceeding \$2,500 must be submitted to the central organization for approval. In doing so, NJOIT will help ensure that the State is positioned to negotiate volume purchases and enterprise license agreements where appropriate.

Additionally, NJOIT has proactively investigated and secured agreements with several IT suppliers. In July 2007, New Jersey joined the Western States Contracting Alliance (WSCA), a nationally recognized purchasing cooperative, to leverage its personal computer and peripheral (e.g. printers, flash drives, cables) buying power. By joining WSCA, New Jersey will reap significant cost savings for taxpayers in state and local government. Furthermore, purchases made through WSCA will reduce the State's energy usage and expenses while benefiting the environment consistent with EO #11. This will be accomplished by using products that are ENERGY STAR® energy-efficient or other products allowed by the New Jersey Clean Energy Program.

Also, in August 2007, NJOIT negotiated a discount with Oracle Corporation a multi-national corporation that bills itself as the “world's largest enterprise software company”, that will enable agencies to save 55% on licensing cost over a 90 day period. Ordinarily, the State contract with Oracle allows for a 26% savings. This is just one example of several contact negotiations that took place in the past 12 months.

NJOIT is currently establishing additional IT procurement solutions for cross-agency acquisition of hardware, software and mobile technologies that will further reduce the costs of IT procurements statewide.



## Project Management Office

To further the establishment and adherence of standards, processes and methodologies throughout the State, NJOIT has instituted the Project Management Office (PMO). The PMO is coordinating with client agencies and internal NJOIT units to review IT projects and initiatives, implement efforts to reduce cost, coordinate resources, share data, integrate applications, and improve overall efficiency and management of IT in the State.

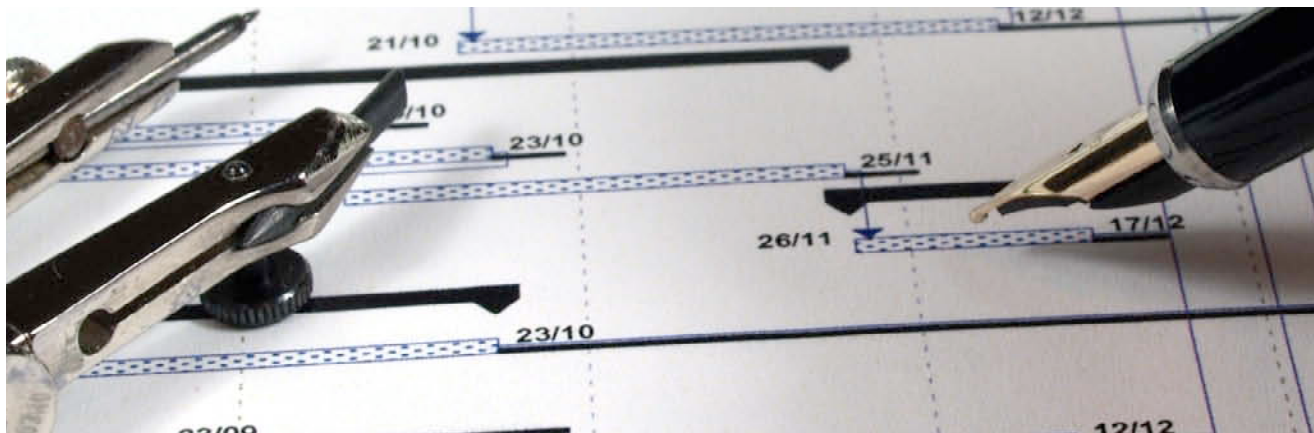
Through the strategic planning process, the PMO is extracting the IT vision for agencies including NJOIT. In doing so, the office will continually align a project's progress with these plans to ensure that the project agrees with the agency's vision. Additionally, the PMO reviews tactical plans to ensure that projects and initiatives are consistent with Enterprise Architecture and Standards.

The PMO's PlanView staff is working toward implementing Integrated Solution Management Process (ISMP) templates into PlanView, NJOIT's project management application. The ISMP is a detailed checklist that when employed ensures standardized, consistent and complete tracking for all tasks within a project. Reports generated from PlanView will be used to manage projects, keep agencies advised of status and provide summary reports to executive management.

Cost savings will soon be achieved with the implementation of the State Technology Asset Recording and Tracking (START) system. The PMO will use the system to help consolidate purchases, whenever possible, to reduce the cost of IT products to the State. By serving as the central point of contact for all purchase requests, the PMO will ensure that each IT purchase is in agreement with strategic and tactical plans and that all purchases are circulated within NJOIT for review, awareness, and approval.

To ensure consistent levels of project oversight, a Quality Assurance (QA) unit will be established in the PMO. Doing so will address the perception that major active and historic IT initiatives lacked consistent QA which may have resulted in cost overruns, lengthy project delays, and various application and technical problems.

As part of the PMO, the QA unit will be responsible for working with all third-party QA vendors, accessing current QA projects, and developing baseline QA requirements for all Project Review Board approved projects. Over time, the PMO's internal QA unit may perform many of the needed QA tasks.



## Improving Public's Access to Government

### Enterprise Architecture

This year, OIT implemented the State's first ever Enterprise Architecture (EA) program:

*A program to ensure alignment of technology investments with the core goals and strategic direction of the executive branch of New Jersey government.*

New Jersey's EA program methodology is one of progressive decomposition. Starting with the administration's business strategy, the EA program documents the desired future state of the business and then ensures that discreet technology investments are always in support of that vision.

This past year, the EA methodology was employed in support of the Governor's initiative to spur economic growth through the creation of the Action Council for the Economy (ACE). One facet of this initiative is to simplify interactions with the state bureaucracy by providing a unified view of government to the business community.

Employment of the EA process was sponsored by the Governor's Office of Economic Growth & ACE and commenced with OIT facilitating two\_day Business Architecture sessions with high-level executive branch staff from twenty-three state departments, commissions and authorities. This minimal investment in time yielded the Future State Business Architecture for the state's "Government-to-Business" domain-agreed to by all participating agencies and endorsed by the Governor's Office. The central theme of the business architecture is represented by five guiding principles:

#### Business Architecture - Guiding Principles

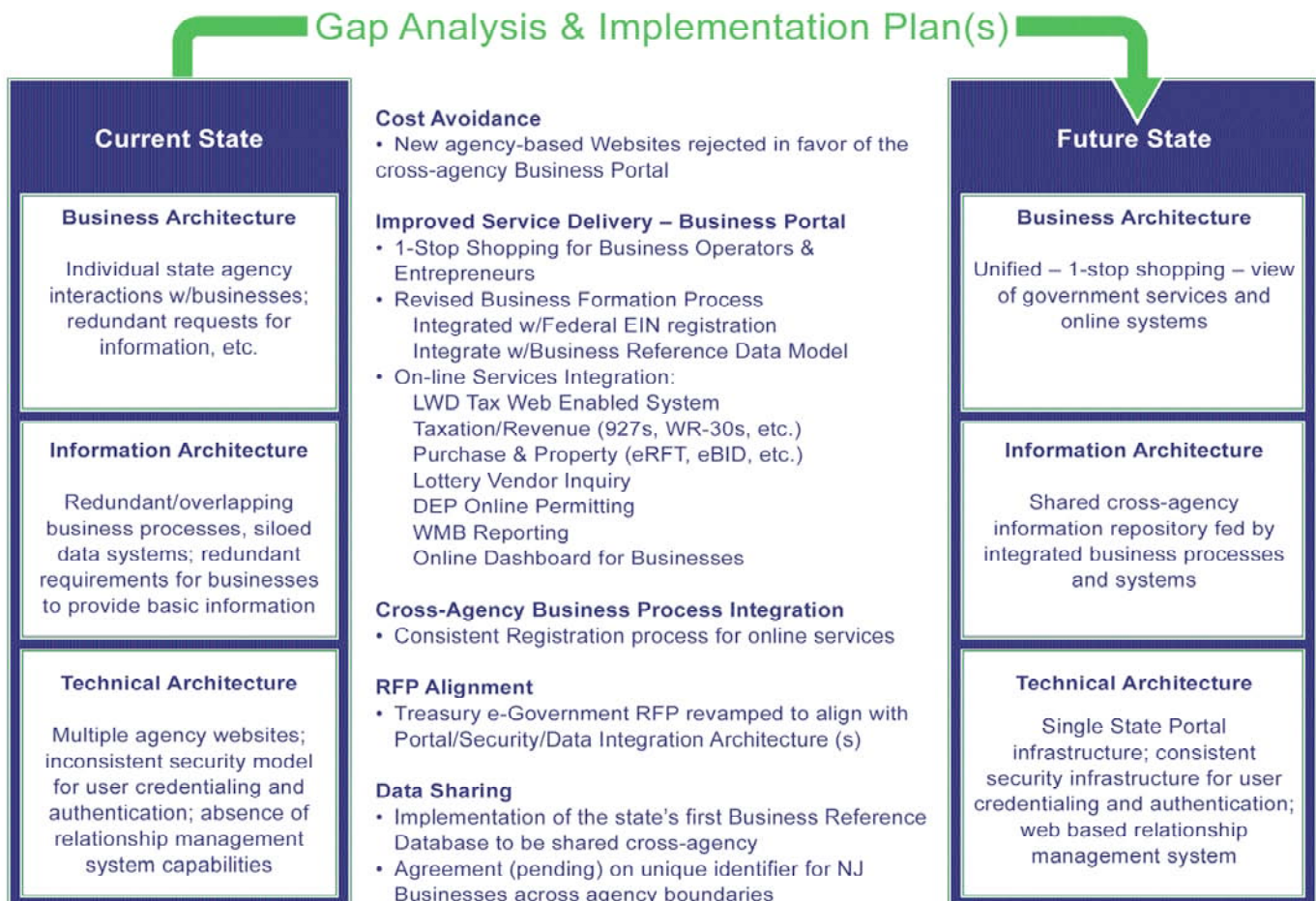
1. Improve business satisfaction by reducing the amount of time required to complete the most common transactions.
2. Develop an integrated package of services to provide "One Stop Service" for businesses.
3. Provide an opportunity for businesses to provide updates to information to any and all State agencies that require such information.
4. Provide a shared Information Exchange layer to facilitate inter- and intra- application integration.
5. Deliver a user-friendly management reporting system supporting cross-agency incentives.

The next step in the process was to perform a high level analysis of existing (and desired future state) business processes and information management assets. Again, all agencies collaborated, this time by sending business subject matter experts to three 1/2 day sessions conducted by OIT Information Architects, during which:

### Information Architecture - Deliverables

1. Common processes between agencies that interact with the business community were identified
2. Essential information assets needed to support these processes were defined
3. A living reference Information & Process Architecture was developed to help agencies speak the same language and facilitate workflow across departmental boundaries

Together, the Business Architecture and Information Architectures now serve as the blueprint for revamping existing computer systems and for planning future technology initiatives to be undertaken by agencies that regulate and/or provide services to the business community. The graphic below depicts the shift from the current state business, information & technology architectures to the future state.



## Future Challenges

At this juncture of the IT consolidation process we have the opportunity to examine and address long-standing situations from an Enterprise perspective. Many of these situations were not as apparent under the former self-governing structure.

## Resources

One of the drivers behind Executive Order #42 was to ensure that the State's IT infrastructure keeps up with modern technology. By improving the alignment of program needs into the planning and budgeting cycle, the State should be able to strategically invest in the most appropriate technologies to meet the long range needs of agencies.

Currently, many of the State's critical applications are aging and due to staff attrition are losing essential support. Prioritizing application rewrites or system replacements will help lessen the financial impact of upgrading all affected applications simultaneously.

Also, the State's IT infrastructure is heavily reliant on mainframes, a technology that in some sectors is rapidly giving way to distributed environments and Web interfaces. However, according to industry standards mainframes are more reliable than stand-alone servers because of its built-in redundancies. And, a mainframe's speed and management tools reduce the cost of running mission-critical applications. To optimize mainframe usage, NJOIT successfully implemented the Linux operating system on mainframes. In doing so, mainframes will soon run applications created with newer programming languages like Java.

Another point of concern is the reactive and sometimes protracted nature of the current state of IT procurement. Too frequently, equipment is only replaced when failure is imminent. This is not only expensive, but it also needlessly compromises the ability to deliver services and could result in a loss of critical information needed to run State operations.

To help ensure timely replenishment of agency IT equipment, procurement was moved under the Project Management Office (PMO) which has implemented the State IT Assessment Recording and Tracking (START) system. Through START, the PMO will track all IT assets to help determine when an asset is approaching end of life and is in need of replacement. In the future, this may lend itself to the development of a statewide redeployment center for assets.

## Succession Planning

Statewide IT is facing a pending shortage of experienced staff due to attrition and the inability to attract and maintain qualified workers. Nearly 40% of all highly-experienced senior staff will be eligible for retirement within the next two to three years and due to a fledging succession plan, the statewide IT community is at risk of losing institutional knowledge of current legacy systems.

The State's IT recruitment is jeopardized because existing titles and salaries do not attract professionals at the needed levels of experience. In addition, the open competitive application and testing process does not allow for matching technology-specific requirements and experience levels with a candidate's specific skill set and experience to the position being offered. Similarly, the State's testing process is not designed to fully test and validate technology skills (JAVA, Cisco, etc.) on a case by case basis.

Current IT staff – particularly those at NJOIT – is stretched to capacity. As such, adequately staffing projects with people possessing the necessary expertise can be problematic. Inevitably some projects are shortchanged and as a result, service delivery has been negatively impacted. At times, this lack of resources makes establishing, managing and meeting client expectations an arduous undertaking. In addition, the IT staffing shortage has resulted in an over-reliance of contractors to develop and maintain new systems. Consequently, this has resulted in elevated development and maintenance expenditures.

To address staffing gaps NJOIT is instituting corrective measures. As part of the IT consolidation model, NJOIT in collaboration with the Department of Personnel (DOP), is expanding a re-engineered “Hiring Pilot”. The Hiring Pilot shortens the hiring process; shifts the burden of the hiring from DOP to agencies; and improves the candidate pool.

Also, the State has hired a number of full-time employees that once served as consultants on mission critical systems. And, in adherence to new PMO standards and policies, knowledge transfer standards are being built into contractual agreements. This will facilitate knowledge sharing and a more cooperative work environment between State IT staff and contractors that will help ensure a smooth transition once contracts expires.

As part of the reorganization of NJOIT, funding for training was identified which allowed technical staff to receive much needed training in programming, system build out and maintenance, and cutting-edge software. However with the current travel restrictions in place, some training remains inaccessible. As a possible solution, NJOIT is investigating the feasibility of hosting on-site training for the Enterprise IT community.

Another challenge in this area is the current civil service rules and funding sources that may impede some of the realignment of agency IT staff into areas where additional support is needed within the enterprise. To address these issues, NJOIT has established a cross agency team to identify the specific difficulties and develop a suitable course of action.

## Security

NJOIT is leading the way in developing a comprehensive enterprise security program for executive branch agencies. However, the path towards developing an enterprise-wide security program is riddled with incongruities. By its very nature, security needs are ever evolving and new threats emerge daily. In addition, the agencies' security programs are diverse in its complexity and comprehensiveness.

As such, two factors must be taken into account in order to identify a baseline for risk and the establishment of suitable risk mitigation procedures and policies. First, there must be an understanding of where vulnerabilities lie in each system; and second, a threshold needs to be established to determine how much risk is acceptable and what costs can be incurred to appropriately address lapses in each agency's security structure.

Since the IT consolidation process is still in its nascent stage, and in some aspects agencies are still operating as silos, NJOIT has yet to capture a truly holistic view of system vulnerabilities throughout the State. While this certainly presents a challenge to risk mitigation, the State must continue to press forward and appoint resources to this effort. It's important to note that progress is being made and once an enterprise-wide system is in place the State will benefit from added savings and a process that is fully scalable and proactive.

## e-Discovery and Records Management

e-Discovery is the legal process that refers to obtaining any electronically stored information (ESI) that may be pertinent to litigation or regulatory action. ESI includes but is not limited to email, word processing and spreadsheet files, cell-phone records, Web sites, voicemails, instant messages and CAD/CAM files. The process impacts every agency and department in the State and encompasses many disciplines including records retention and management, information technology, security and law.

Since e-Discovery may have major implications on how the State conducts business, an informal interdepartmental working group consisting of program and technology representatives from NJOIT, the Office of the Attorney General - Division of Law, Department of Environmental Protection, Office of the Secretary of State, Department of Community Affairs, State Parole Board, and Department of Human Services are working together to develop a visioning statement, strategic plan and a work plan that identifies short, medium, and long term suggested action steps.

## NJOIT FY2008 Appropriations

(Includes anticipated receipts from non-state funds)

**Total \$159,954,000**

