

Discussion Points

1. In November 2011, a new Chief Technology Officer, who also serves as the State's new Chief Information Officer, was installed at the helm of the Office of Information Technology (OIT). The leadership change coincides with a **recalibration of the OIT's priorities**. On that subject the State Treasurer testified during the Department of the Treasury's budget hearing before the Senate Budget and Appropriations Committee on April 26, 2012 that the OIT would: a) renew its focus on managing the State's core information technology infrastructure on which all State software applications run; b) significantly reengineer "the way the State makes technology choices and develops enterprise innovation strategies ...;" and c) embark on a multiyear initiative to rebuild the State's core information technology infrastructure. The new Chief Information Officer added that the OIT would also begin to build the capability of developing new systems in-house. Hitherto the OIT had concentrated on the day-to-day operations of the State's information technology infrastructure.

Organized "in but not of" the Department of the Treasury, the OIT provides information technology services to State agencies. To that end, it oversees the mainframes, servers, networks, and databases that compose the State's information technology infrastructure; operates the Garden State Network, a statewide integrated communications network; and runs the State's major data centers, including the Office of Information Technology Availability and Recovery Site (OARS). In addition, it manages the State's Internet environment and offers application development and maintenance, geographical information systems, data management services, and telephone services for all State offices. State agencies, in turn, are responsible for the day-to-day management and operation of their agency-specific infrastructure components. The OIT has a recommended FY 2014 budget of \$131.4 million for 711 funded positions.

- **Questions:** Please expound on OIT's initiative to renew its focus on managing the State's core information technology infrastructure. Which deficiencies did the OIT identify in this area? Which measures does the new OIT leadership intend to implement, and over what period of time, to remedy the deficiencies? What progress has been attained to date in implementing the envisioned changes? Please specify any metrics the OIT uses to gauge success in executing the initiative.
- Please describe the OIT initiative to significantly reengineer "the way the State makes technology choices and develops enterprise innovation strategies." Which measures does the new OIT leadership intend to implement, and over what period of time, to remedy the deficiencies? What progress has been attained to date in implementing the envisioned changes? Please specify any metrics the OIT uses to gauge success in executing the initiative.
- Please outline the OIT's plans, including a timeline, for rebuilding the State's core information technology structure and building the OIT's capability to develop new systems in-house. Please project the cost of pursuing the initiatives and detail their financing plan. Will additional positions be required to be filled to fully implement the initiatives? If so, what are the job titles of the additional positions? Is the OIT confident that it will be able to hire the required programming talent in light of the limitations imposed by the State's compensation and civil service rules? Please specify any metrics the OIT uses to gauge success in executing the initiatives.

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Answers: The deficiencies in New Jersey's core technology infrastructure are primarily due to age. Much of New Jersey's computer capability comes from legacy systems that are operating years (often decades) past the lifespans recommended by their initial designers and manufacturers.

OIT has successfully maintained the stability of these systems, and they are in no danger of immediate, significant reliability issues.

OIT invested an estimated \$23 million in hardware, software and support contracts in fiscal years 2012 and 2013, much of which went to maintaining these legacy systems. Resources were expended almost exclusively for critical system maintenance and essential updates.

Deficiencies created by the use of outdated legacy systems include diversion of resources into maintenance and staffing for legacy equipment and away from procurement of modern systems and project development activities; inability to or difficulty in providing improved service delivery to the public; inefficiencies that make it impossible or costly to plan and innovate; and difficulties in maintaining the highest standards for cyber security.

The State plans to replace a few legacy systems over the next few years. Treasury issued a request for proposals designed to attract potential bidders for a new e-procurement system for State government. The State also is exploring options for replacing its internal budget and planning system as well as its employee time-keeping system.

Over the next three years, OIT will install a new, statewide electronic messaging system for the Executive Branch. It will replace more than 20 different systems now used by various State agencies. Many of the existing systems are obsolete. Some can't perform critical functions, and others will soon be impossible to maintain reliably.

State strategy for replacing other systems is to do so as resources become available and circumstances demand and/or emerging opportunities permit.

OIT has altered its solutions procurement practices over the last two years in accordance with the rapid evolution in service delivery by technology providers worldwide.

Fewer programs are required to be created in-house. An extensive library of commercial off-the-shelf software (COTS) that meet current accounting and regulatory requirements exists for government applications. In addition, the number of solutions that reside primarily on external servers and mainframes – using the so-called "Cloud" – is rising exponentially. Users access Cloud-based services via the Internet or dedicated communications lines.

OIT will methodically adopt mature, proven Cloud-based and COTS solutions when significant gains in meeting State government priorities for capability, security and cost can be achieved. In-house development will be used primarily when no cost-effective, industry-standard solutions exist, or proprietary software is needed for purposes of security, compatibility and/or reliability.

As this is written, OIT fully expects it can find and hire staff needed to handle new, Cloud-based and COTS computing systems. Over the short term, finding staff to replace retiring employees trained in using now-obsolete computing programs and systems may prove difficult. OIT will balance the need for hiring to maintain usage of legacy systems with the use of other resources at the agency's disposal.

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2. In the May 2012 edition of the “NJOIT Dispatch” newsletter, the OIT announced the **realignment of the OIT’s management structure**. Specifically, the office would be restructured into two “service towers”: 1) Technology Operations, and 2) Technology Governance and Strategic Planning. The Technology Operations “service tower” would be responsible for the day-to-day operations of the State’s information technology systems. The Technology Governance and Strategic Planning “service tower,” in turn, would pursue technology outreach; statewide information technology policy, planning, and standards development; the reformation of the project management office; enterprise security; and other innovation and directional responsibilities. The OIT has also newly established a Statewide CIO [Chief Information Officer] Collaborative Council that institutionalizes the flow of information between the OIT and the Executive branch agency information technology directors. The council meets quarterly and is intended to share best practices, determine areas for growth and improvement, and seek ways to leverage core competencies among partner agencies. It is not clear how these structural changes comport with the OIT’s preexisting governance structure that was codified by P.L.2007, c.56.

Under the OIT’s preexisting governance structure, a nine-member New Jersey Information Technology Governing Board heads the OIT and determines strategic direction, standards, and funding priorities. A Chief Technology Officer runs the office’s day-to-day operations and coordinates information technology operations across the Executive branch. To facilitate interoperability and the sharing as well as leveraging of technology, four Deputy Chief Technology Officers have responsibilities for information technology management, planning, and budgeting within four Affinity Groups, or communities of interest that intersect several State agencies (Administrative Services; Health, Education, and Social Services; Public Safety; and Business and Community Services). The Deputy Chief Technology Officers also serve as liaisons and customer service agents between the Executive branch agencies and the OIT. The agency information technology directors, in turn, obtain guidance from their Affinity Group’s Deputy Chief Technology Officer, but are accountable to their department heads. A Project Review Board—composed of representatives from OIT, the Office of Management and Budget in the Treasury, and the Purchase Bureau in Treasury’s Division of Purchase and Property—reviews and monitors all large scale information technology projects in the Executive branch. In reply to OIT Discussion Point #7 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that the preexisting governance model met agency demand.

- **Questions:** Please describe the OIT’s realigned management structure and distribution of responsibilities among the office’s organizational units. Are the new Statewide CIO Collaborative Council and the OIT’s new organization into the Technology Operations “service tower” and the Technology Governance and Strategic Planning “service tower” consistent with and permissible under the OIT’s governance structure that P.L.2007, c.56 codified? Please explain any deviation from P.L.2007, c.56. What were the shortcomings of the OIT’s old governance model that spurred the reorganization and how is the restructuring intended to alleviate the shortcomings? Has the implementation of the new governance model helped to rationalize and improve the management of the State’s information technology resources as envisioned? Has the OIT become aware of any deficiencies in the governance structure that might call for additional modifications?

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- Does the Technology Governance and Strategic Planning “service tower” entail a new organizational unit? Does the “service tower” duplicate, supplant or cannibalize the responsibilities of the New Jersey Information Technology Governing Board, given that both are to set statewide information technology policies, planning, and standards and to provide general direction? Please delineate the two bodies’ respective responsibilities and explain their interplay.
- Prior to the reorganization, the Deputy Chief Technology Officers served as the OIT’s liaisons and customer service agents in interfacing with client agency information technology directors. Please explain the shortcomings of that approach that the creation of the Statewide CIO Collaborative Council is intended to rectify. How does the council’s existence alter the flow of communications and the nature of cooperation between the OIT and its client agencies? To what extent has the restructuring changed the role of the Affinity Groups and the Deputy Chief Technology Officers, especially with regards to the cooperation and communication between the OIT and its client agencies? In general, given that State agency information technology directors are accountable to their department heads, does the OIT’s guidance trump agency instructions in the mind of the typical agency information technology director if instructions conflict? What means does the OIT have to ensure that its enterprise-wide views prevail over the relatively narrower department-centric perspectives in case of conflicting directives? Please list any accomplishments of the Statewide CIO Collaborative Council.

Answers: Before OIT’s realignment, day-to-day operations consumed the attention of the Chief Technology Officer, slowing strategic planning efforts and hampering interaction and communication with client agencies. The new division of responsibilities has allowed the CTO to devote more time to agency interaction and long-term planning, as the new Chief Operating Officer focuses on maintaining day-to-day system reliability and supervising OIT staff. The realignment proved invaluable during Super Storm Sandy, when the CTO was able to focus on the critical task of coordinating communications and strategies with multiple agencies and jurisdictions both in New Jersey and in neighboring states. This was vital in preparing OIT and State IT infrastructure for the unprecedented scope of the storm, and allowed the CTO to deal with multiple logistical emergencies that popped up before, during and after the disaster, as well as with non-technical mission needs. This crucial operational success would not have occurred if the CTO could not have relied on an empowered COO to lead and oversee internal operations.

The Collaboration Council has increased both the quality and the quantity of communication and interaction with IT staff at its client agencies. The Council serves as a forum where agency IT leaders and OIT personnel discuss what they need now and will require in the future to meet their missions and objectives. The Council has identified both agency-specific needs and system-wide opportunities to provide higher-level technology services and delivery for all. This has proven particularly valuable to commissions and boards that, in the past, were not provided sufficient avenues for input and interaction with OIT staff, and, therefore missed opportunities for improving efficiency and capability through enterprise-wide initiatives and sharing of knowledge. OIT staff benefit from the input they now receive from their colleagues as a result of the Council’s activities. The most recent initiative connected to the Council is a survey of all agency IT efforts to gauge the State’s efforts at combating cyber-security issues and protecting critical and sensitive data. This study should be completed in the current fiscal year.

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The New Jersey Information Technology Governance Board never developed into the entity envisioned when it was first conceived. Fortunately, no gaps in oversight have occurred because of the creation of the Collaboration Council and the management experience of the COO and CTO. It should be noted that two identical bills now in the Legislature would eliminate the board and transfer its oversight role to the Governor's office.

3. New Jersey State government incurred \$169 million in **information technology equipment, maintenance, and consultant services expenditures** in FY 2011 and was projected to spend \$132 million on these purposes in FY 2012 and \$138 million in FY 2013, according to the May 22, 2012 Department of the Treasury follow-up response to a question raised during the department's budget hearing before the Senate Budget and Appropriations Committee on April 26, 2012. The Treasury specified that these amounts included non-salary expenditures on hardware, software, maintenance, and consultant services. Addressing OIT Discussion Point #1 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT related that the equivalent totals were \$251 million in FY 2010 and \$292 million in FY 2009.

The Governor's FY 2014 Budget proposes to continue a language provision on page F-5 requiring that the OIT approve all departmental purchase requests for information technology and telecommunications equipment, maintenance, and consultant services. In its review, the OIT is to ascertain that purchase requests comply with statewide policies and standards as well as the department's approved Information Technology Strategic Plan. One of these policies is a **partial moratorium on the procurement of information technology equipment, maintenance, and consultant services** that has been in place since December 2006. Exempt from the moratorium are purchases: a) by the OIT; b) for ongoing projects whose disruption would increase future costs or trigger a significant loss of investment; c) for projects that are primarily paid for with federal or dedicated funds; d) for projects mandated by the federal government, State law or a court order; e) that avert that failing equipment or software will deteriorate or halt mission-critical business functions; and f) of emergency maintenance, repairs, and supplies under \$2,500. In addition, the Office of Management and Budget may review purchase requests between \$36,000 and \$99,999 and must approve those of at least \$100,000 (see Joint Office of Management and Budget and Office of Information Technology Circular Letter 12-13-OMB/OIT, Moratorium on Procurements of Information Technology (IT) Hardware, Software and Related Services). Replying to OIT Discussion Point #2 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT affirmed that it was unaware of the moratorium causing any specific problems.

- **Questions:** In general terms and by means of specific examples, please describe the effects on the performance of the State's information technology systems of the drop in State spending on non-salary information technology cost centers from \$292 million in FY 2009 to a projected \$138 million in FY 2013. What strategies has the OIT employed to deal with the spending reduction? What projects have been jeopardized, scaled back, discontinued or deferred? Is the OIT aware of cases in which the partial moratorium on the procurement of information technology equipment, maintenance, and consultant services has eroded the quality of services provided by State agencies? Please indicate in which areas OIT expects the continuation of the moratorium in fiscal year 2014 to adversely impact program performances and service delivery. If continued over several years, would the current annual investment level be sufficient to maintain the

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performance of information technology systems? If not, what average annual investment level does the OIT recommend?

- Please specify, by category, the actual amount of State government expenditures on information technology equipment, maintenance, and consultant services in FY 2012 and the projected amounts for FY 2013 and FY 2014. Please provide the value of each Executive department's request for information technology equipment, maintenance, and consultant services procurements in fiscal years 2011, 2012, and 2013 as well as the value of procurements approved by the OIT.

Answers: OIT is not aware of any circumstance where the centralized management controls have had a significant impact, and it does not anticipate significant impacts in the future. However, upgrades of outdated computer systems will continue to be needed. Details of state spending on IT are in the charts below:

Office of Information Technology - Project Management Office - External Purchase Unit Approved Purchases Summary By Department: 07/01/2010 - 6/30/2011

Department	Procurements Approved	Document Amount
Agriculture	18	\$696,885.12
Banking & Insurance	24	\$984,166.19
Board Of Public Utilities	7	\$112,579.74
Casino Control Commission	8	\$162,020.90
Children And Families	35	\$3,845,967.79
Civil Service Commission	19	\$615,191.40
Community Affairs	16	\$874,871.48
Corrections	77	\$2,063,827.99
Education	49	\$1,787,690.69
Environmental Protection	108	\$5,458,338.41
Health	204	\$10,882,100.24
Human Services	169	\$41,295,707.21
Labor	73	\$12,528,244.32
Law & Public Safety	338	\$22,974,117.60
Military & Veterans Affairs	21	\$709,843.55
Motor Vehicle Commission	98	\$14,622,546.65
N.J. State Parole Board	16	\$1,445,696.22
Office Of Homeland Security	46	\$829,035.71
Public Employment	2	\$11,909.28
State	21	\$8,014,216.89
Transportation	56	\$9,042,631.06
Treasury	120	\$9,694,289.50
Totals: 22 (All Fund Sources)	1525	\$148,651,877.94

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Approved Purchases Summary By Department: 07/01/2011 - 06/30/2012**

Department	Procurements Approved	Document Amount
Agriculture	11	\$373,596.78
Banking & Insurance	17	\$479,634.53
Board Of Public Utilities	13	\$966,264.47
Casino Control Commission	7	\$159,961.24
Children And Families	47	\$4,506,844.56
Civil Service Commission	17	\$645,229.26
Community Affairs	12	\$1,318,984.98
Corrections	96	\$5,920,699.43
Education	35	\$1,330,198.28
Environmental Protection	52	\$5,965,485.55
Health	126	\$9,267,974.63
Human Services	139	\$18,696,877.18
Labor	44	\$9,215,008.62
Law & Public Safety	317	\$18,709,231.91
Military & Veterans Affairs	26	\$730,809.37
Motor Vehicle Commission	98	\$18,013,231.00
N.J. State Parole Board	12	\$491,580.58
Office Of Homeland Security	39	\$2,749,685.71
State	15	\$993,150.28
Transportation	43	\$2,023,994.98
Treasury	142	\$24,120,348.20
Totals: 21 (All Fund Sources)	1308	\$126,678,791.54

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Office of Information Technology - Project Management Office - External Purchase Unit Approved Purchases Summary By Department: 07/01/2012 - 04/09/2013

Department	Procurements Approved	Document Amount
Agriculture	12	\$1,356,436.01
Banking & Insurance	17	\$542,811.56
Board Of Public Utilities	7	\$95,986.50
Casino Control Commission	3	\$9,883.35
Children And Families	46	\$4,839,559.14
Civil Service Commission	16	\$261,308.67
Community Affairs	13	\$344,693.10
Corrections	62	\$5,492,541.27
Education	50	\$1,858,659.86
Environmental Protection	66	\$2,070,861.07
Health	96	\$6,167,359.33
Human Services	80	\$11,116,990.64
Labor	53	\$5,580,246.03
Law & Public Safety	255	\$14,382,285.41
Military & Veterans Affairs	10	\$118,939.52
Motor Vehicle Commission	74	\$14,132,467.05
N.J. State Parole Board	12	\$1,055,729.74
Office Of Homeland Security	43	\$3,110,186.70
Public Employment	1	\$35,880.00
State	2	\$2,036,991.25
Transportation	25	\$3,297,877.88
Treasury	123	\$20,789,465.51
Totals: 22 (All Fund Sources)	1066	\$98,697,159.59

4. The Governor's FY 2014 Budget proposes to continue a language provision on page F-5 requiring that the OIT approve all departmental purchase requests for information technology and telecommunications equipment, maintenance, and consultant services. In its review, the OIT is to ascertain that purchase requests comply with statewide policies and standards as well as a department's approved Information Technology Strategic Plan.

Supported by the OIT's Project Management Office, the OIT's **Project Review Board** exercises the review and monitoring functions for information technology projects that typically exceed \$5 million in costs. The board has delegated that responsibility for projects whose value is less than \$5 million to the Project Management Office. Composed of representatives from the OIT, the Office of Management and Budget in the Treasury, and the Purchase Bureau in Treasury's Division of Purchase and Property, the board has the authority to continue, hold or stop a project but has no additional authority to hold an agency accountable. Replying to OIT Discussion Point #8 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that the Project Review Board met quarterly to review projects that exceeded \$5 million in costs, that it did not

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reject any projects in FY 2011, and that a listing of the projects monitored by the board was “not readily available.”

- **Questions:** Has the role or composition of the Project Review Board changed as part of the OIT’s recent reorganization? How many projects does the board currently monitor? How many new projects did the board begin monitoring in FY 2012 and FY 2013? How many projects did it reject in FY 2012 and FY 2013?

Answers: The realignment of OIT has put the focus on the importance of a project review process that relies on collaboration to establish the criteria by which projects will be monitored. The board now monitors 16 projects. It didn’t add any additional projects beyond the 16 in Fiscal Year 2012. It rejected no projects in either year. In Fiscal 2013, the board expects to play some role in oversight of all projects known to be underway or planned across all agencies.

5. In the May 2012 edition of the “NJOIT Dispatch” newsletter, the OIT announced a **reconfiguration of its Program Management Office (PMO)**. The OIT related that the PMO would develop a new methodology to evaluate information technology projects that would center on the potential use of a project across several Executive Branch agencies. The OIT noted further that hitherto the PMO’s primary focus was on contract evaluation and the System Architecture Review (SAR) process; which entails an evaluation of proposed information technology solutions for their cost-effectiveness, efficiency, risks, compatibility with, and potential use across the State’s existing information technology infrastructure. These functions would now “become components of [a] more ... holistic approach to project management.”

The PMO supports the Project Review Board in reviewing, approving, and monitoring information technology projects that exceed \$5 million in costs and conducts the reviews for projects falling under that threshold. In addition, the PMO coordinates multi-agency information technology initiatives and guides in-house staff on application development and implementation, engagement management, project management and control, risk assessment and mitigation, cost estimation, and integrated planning. The PMO, however, does not actively manage information technology projects. In response to OIT Discussion Point #9 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT indicated that in FY 2011 the PMO had 13 staff members, conducted 147 detailed project reviews, and reviewed and processed approximately 1,000 external procurements.

- **Questions:** Please describe the reconfiguration of the Program Management Office (PMO), set forth the reconfiguration’s overarching objective(s), and explain the ways in which the PMO’s organization and performance were suboptimal prior to the reconfiguration. How has the reconfiguration altered the PMO’s responsibilities and organization? Please outline the new methodology the PMO uses to evaluate information technology projects that is to center on the potential use of a project across several Executive Branch agencies. How is the methodology different from the review approach the PMO followed previously and superior to the System Architecture Review (SAR)? Does the PMO have a sufficient number of full-time equivalent positions to adequately implement the changes dictated by the reconfiguration? How many employees does the PMO have in FY 2013 and is it budgeted to have in FY 2014? What have been the accomplishments of the PMO in FY 2013?

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Answers: The Program Management Office's primary goal at present is to improve how OIT schedules, plans, and estimates costs for projects. OIT seeks to institute best practices in portfolio and project management, and to be more consistent and predictable in how it supports projects across all agencies.

In the past, OIT focused its project management almost exclusively on the immediate impact on OIT resources. This narrow approach didn't adequately account for or consider the expected lifecycle of a new project or system. For example, more attention was needed to ensure documentation over a project's life, so that the State could efficiently and effectively plan for monitoring, maintenance, upgrades and eventual replacement or elimination of a system. Repeatability of action – the ability to create a framework for completing projects that could be applied in multiple situations and thus enable continuous improvement and greater efficiency across the project portfolio – was not a priority. That made starting and planning each new project more challenging than warranted.

This reconfiguration has allowed for the expansion of the PMO to address more than just the architecture and resources at OIT. It is now focused on the end-to-end process/lifecycle. The new PMO is working with OIT Operations to establish improved documentation for statewide use when planning projects. Through the use of "Quality Gates," OIT is putting projects through periodic peer reviews to ensure compliance in architecture as well as leveragability across projects and agencies. (Quality gates are predetermined points in a project's life when developers extensively review documentation and make adjustments before moving on to the next critical phase.)

The SAR (System Architecture Review) process has been a sufficient stop-gap for attempting to leverage core technology and identifying some OIT resource needs. It was not, however, been able to address the full lifecycle (initiation through closeout) of projects. The new methodology that OIT has adopted provides for comprehensive practices that focus on the quality of a project as it progresses through its lifecycle. In Fiscal Year 2013, the PMO has established the framework for applying a full lifecycle process to projects. The process was designed with sufficient flexibility to accommodate the variety of agency needs. It mandates consistent and regular documentation.

The PMO has created a Project Management User Group (PMUG) to ensure that standard processes are understood and lines of communication with all stakeholders are open and used. The PMUG has adopted the first of several templates to facilitate the process. Recently, the PMO hired two PMP certified Project Managers and two business analysts. Additionally, in Fiscal Year 2013, the PMO will establish detailed verbiage for inclusion in the RFP template used for obtaining technological solutions. These guidelines will provide clearer expectations for vendor project management and customer relationship management.

6. In December 2010, the OIT contracted with several outside vendors for the provision of **quality assurance and project management services for information technology projects**. The Request For Proposal indicated that contractors would be engaged on an as-needed basis for projects ranging from feasibility studies to post-implementation reviews. Similarly, in addressing OIT Discussion Point #9 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT specified that State agencies may voluntarily avail themselves of the contracts but that the OIT

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would require their use in some cases. Budgetary constraints had delayed for several years the implementation of a quality assurance function and the adoption of a framework for facilitating the delivery of high-quality information technology services.

- **Questions:** Please comment on the use of the quality assurance and project management contracts for information technology projects. How many projects have been referred to the contractors since December 2010 and at what total cost? What types of projects have been referred to the contractors? Does the OIT require the use of the contracts for specific project categories? Please provide an assessment of the quality of the services provided by the contractors as well as their cost-effectiveness. Please describe the cooperation and division of labor between the contractors and the OIT's Program Management Office. Do the contracts represent an outsourcing of work previously performed by the Program Management Office?

Answers: The contract for quality assurance and project management has provided the framework to apply project management best practices to projects. This advancement is crucial to ensuring projects are completed on time and according to specifications. Eleven projects at a cost of \$6,162,963 have been referred to contractors since December 2010.

OIT does not now require the use of these contracts for specific project categories. However, these contracts have been used for large-scale projects that require coordination with multiple agencies and/or projects with a public-facing impact that will touch a significant portion of the state's population. OIT does use contractors to meet the requirements of its federally funded BTOP program.

The Agencies using these contracts are satisfied with the quality of the proposals and the selected contractors. Contractors and the PMO confer on projects regularly. Because the contractors are hired for specific tasks, the division of labor usually is spelled out clearly, but varies from contract to contract. In general, PMO's role is to consult with contractors as needed.

The contracts do not represent an outsourcing of work previously performed by the Program Management Office. The Program Management Office has never provided resources in line with a "full-service" practice that could handle every State IT project. Specialized knowledge is needed for certain projects, and it would be impossible for the State to maintain a staff with every skill set or specialized type of expertise needed.

7. In cooperation with Executive branch agency information technology directors, the OIT had developed the "**State of New Jersey Information Technology Strategic Plan for Fiscal Years 2008 through 2010.**" The plan articulates goals, objectives, and strategies in six information technology areas: governance, statewide efficiencies, enterprise architecture, e-government, security, and information technology workforce management. Addressing OIT Discussion Point #11 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that it planned to release an updated strategic plan in June 2011. It appears that the update was never released, as the previous Chief Technology Officer resigned effective in September 2011 and the new Chief Technology Officer testified during the Department of the Treasury's budget hearing before the Senate Budget and Appropriations Committee on April 26, 2012 that the OIT had taken the first step toward developing a new strategic plan.

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- **Questions:** Has the OIT adopted a successor to the “State of New Jersey Information Technology Strategic Plan for Fiscal Years 2008 through 2010?” If not, is that strategic plan still guiding information technology strategies and action plans today and when will a new strategic plan take effect? If there is a new strategic plan, please provide a copy thereof and outline the most important changes relative to the previous plan. Has the OIT ever published and implemented the update to the strategic plan that it had announced would be released in June 2011? If not, please describe the reasons(s) for delaying or abandoning the update. Has the change in OIT leadership contributed to any delay or abandonment of the announced June 2011 update?

Answers: When new leadership was introduced at OIT, they extensively reviewed the strategic plan for 2008 through 2010, and decided that the direction it provided remained relevant. The plan served as an excellent technical foundation for the work efforts required at OIT over the last two years.

Between 2010 and today, OIT has introduced a dynamic process that moved technology efforts forward, but also initiated processes designed to drive innovation and long-term planning. Initiatives include an electric power upgrade at the State’s primary data center, systems improvements that allowed Unclaimed Property to improve its validation process, the completion of initial deliverables for a project designed to reduce prisoner recidivism, and the creation of the cyber-fusion desk at the Regional Operations and Intelligence Center (ROIC) to improve security at all levels of government in New Jersey.

Starting in January of 2013, OIT began the process of creating a new strategic plan that incorporates technical elements from the current plan while also enhancing state technological development through creation of a new paradigm that includes re-engineering of business processes and extensive and critically important input from the client agencies that OIT serves.

Upon completion of this new plan, OIT and its partner agencies will identify and pursue improved service deliveries, adoption of innovative practices, and enhanced adherence to industry best practices. The plan will include lessons learned from other states and drive adoption of shared services throughout the Executive Branch.

This process will continue the transformation of OIT from an agency that simply focused on technology management to one that leads through innovation.

8. A goal under the “State of New Jersey Information Technology Strategic Plan for fiscal years 2008 through 2010” was to maximize the efficient delivery of agency information technology services through the cost-effective use of all State IT resources. Among the envisioned initiatives was the creation of a formal process by which the OIT and the Division of Local Government Services in the Department of Community Affairs meet periodically with all 21 of the county information technology officers as a group and communicate with them on an ongoing basis so as to identify areas where the State and its counties could join resources to achieve greater statewide efficiencies.

Elaborating on **the OIT’s cooperation with county and local governments** in reply to OIT Discussion Point #12 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that its Office of Geographic Information Systems worked with county and local

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governments on an ongoing basis, as the OIT maintained and distributed the base geographic information systems data that counties and municipalities use. In addition, in 2006, 2008, and 2011, the OIT held two-day New Jersey Digital Government Summits that allowed State, municipal, and county employees to liaise and learn about information technology experiences and opportunities. The OIT noted further that it collaborated with county and local governments to: a) lay the foundation for a statewide, interoperable public safety land mobile radio system; b) develop a new interoperable public safety wireless broadband network; and c) increase the use by county and local governments of the Garden State Network (a statewide integrated communications network) and existing State-owned fiber-based infrastructure. The following two discussion points address the related "State of New Jersey Broadband Network" project and the federal State Broadband Data and Development Program (Broadband Mapping Program) in greater detail.

Furthermore, in the May 2012 edition of the "NJOIT Dispatch" newsletter, the OIT added that it had newly started to conduct quarterly "open house" meetings with technology solutions providers to which representatives of county and local governments were invited. The OIT also related that it relied on the New Jersey League of Municipalities to alert local governments of upcoming technology-focused meetings and conferences.

- **Questions:** Has the OIT established a formal process by which the office and the Division of Local Government Services in the Department of Community Affairs meet periodically with the county information technology officers as a group to discuss possibilities for the joint use of resources to achieve greater statewide efficiencies? If so, please describe the arrangement and the frequency of any meetings. If not, please describe any informal processes that may exist to facilitate the communication.
- Please elaborate on the progress that has been achieved in the last two years concerning the cooperation and joint leveraging of resources among the State and its county and local governments in: a) laying the foundation for a statewide, interoperable public safety land mobile radio system; and b) expanding the use of the Garden State Network and existing State-owned fiber resources by county and local governments. Has the cooperation expanded beyond these spheres of activity (and beyond the development of a new statewide interoperable public safety wireless broadband network, which is addressed in the following discussion point)? If so, please describe any new initiatives.
- Is the OIT aware of any long-term or permanent damage that Hurricane Sandy inflicted on any county or local government information technology system or its usability? If so, please provide specific examples of any such losses and impairments and set forth the estimated dollar value of the damage. Are any federal funds available to assist in rebuilding any such systems or help county and local government recoup those losses?

Answers: Collaboration with county information technology officers occurs through the development of the annual NJ Digital Summit, where IT directors and officers from municipal, county, school, and state government as well as authorities and professional groups come to discuss the most pressing issues affecting IT in the State. Other forums, such as participation in the quarterly Statewide Public Safety Advisory Council, continue to engage local IT leaders.

In 2012 a Statewide P25, 700 MHz interoperable digitally trunked land mobile radio system was commissioned, which is now available to state, county, local and municipal subscribers. This

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system makes it much easier for first responders to communicate with each other across jurisdictional lines. Local governments may benefit as well from the shift from the Garden State Network to the State's new fiber-optic network (see question 17 below).

Formally, OIT is involved in assisting local governments with Sandy-related issues only through its assistance of State and Federal government officials in providing recovery-related service. OIT personnel and local officials also have had numerous opportunities to discuss lessons learned from Sandy and ways to improve emergency response. Except for its role in providing services to agencies dealing with Sandy's aftermath, OIT is not involved in damage assessments or applications for federal funds.

9. On May 11, 2012, the United States Department of Commerce notified the OIT of the partial suspension of the projects the department had funded through the National Telecommunications and Information Administration (NTIA) State Broadband Data and Development Program. This decision affects the **"The State of New Jersey Broadband Network"** project, for which the OIT had accepted a \$39.6 million matching fund award in September 2010. The partial suspension flows from the enactment of the Middle Class Tax Relief and Job Creation Act of 2012, which appropriated \$7 billion to the NTIA for overseeing the establishment and operation of an interoperable, nationwide public safety broadband network. The nationwide initiative replaces, and to the extent feasible incorporates, the NTIA's previous efforts at creating several regional interoperable public safety networks, of which "The State of New Jersey Broadband Network" is but one example. In support of the nationwide initiative the federal 2012 act also appropriated \$135 million for a new State and Local Implementation Grant Program.

The OIT was to use the \$39.6 million in federal moneys, as well as the State's \$11.6 million matching contribution, to deploy "The State of New Jersey Broadband Network," an interoperable 700 MHz public safety wireless broadband network in the Northern Jersey Urban Area Security Initiative region, which covers the counties of Bergen, Essex, Hudson, Middlesex, Morris, Passaic, and Union. If successful, the project would have enabled 167 local, county, and State law enforcement agencies and 224 fire departments to use the network. The network would have allowed paramedics to stream critical patient data to hospital personnel; give law enforcement officers field access to records management systems for criminal, fingerprint, and mug shot information; provide firefighters with access to building blueprints and infrastructure diagrams; and improve situational awareness at incident command posts through video applications. The initiative was intended to serve as a demonstration project for the national implementation of a similar network. Addressing OIT Discussion Point #4 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that the NTIA required "The State of New Jersey Broadband Network" to be substantially complete by August 2012 and fully complete by August 2013. The OIT intended to meet the matching fund requirement through an in-kind match in the form of the value of 77 tower sites that were supposed to house the network's radio access equipment.

- **Questions:** Please report on the status of "The State of New Jersey Broadband Network" project. How has the project been affected by the United States Department of Commerce: a) newly guiding the development of a nationwide interoperable public safety broadband network; and b) partially suspending funding for the projects the department had funded through the National Telecommunications and Information

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Administration State Broadband Data and Development Program? Has the United States Department of Commerce's development of a nationwide network redefined the geographical scope of the "The State of New Jersey Broadband Network" project? Has any work continued on the project since the partial suspension of federal funding? If so, by what date does the OIT expect the project's completion? If not, will the OIT resume the project, in its previous or modified shape, and, if so, by what date does the OIT expect the project's completion? Has the OIT applied and been approved for participation in the federal State and Local Implementation Grant Program? If so, please provide details on any grant award, including the specific purposes for which grant amounts have been awarded and the expected timeline of milestones toward project completion.

Answers: The National Telecommunications & Information Administration (NTIA) partially suspended the BTOP grant funds in 2012 to ensure that the grant-funded networks would be compatible with the future nationwide network constructed by the newly created First Responder Network Authority (FirstNet). FirstNet is federally funded and part of the NTIA.

Since that time, OIT, in close consultation with public safety communications stakeholders, has developed a new project approach that would identify and prepare tower sites across New Jersey for the future network as well as create a public safety network along the Route 21 Corridor as a pilot project. The Route 21 Corridor project is designed to use commercial carriers to provide a public safety-grade mobile broadband service. OIT presented this newly scoped project to FirstNet Board members on December 14, 2012, and expects FirstNet's approval and support within the next few months. In order to complete the project, OIT will use the recently published process to request an extension of the BTOP period of performance to the end of September 2015, which NTIA has assured OIT it will receive.

Applications for the State and Local Implementation Grant Program (SLIGP) were due March 19, 2013. OIT submitted an application on behalf of the State on March 18; it currently awaits NTIA review. The grant is not competitive. NTIA has already informed each state of the amount that it will receive. New Jersey's allocation is \$2.78 million, and NTIA has announced that it intends to make funds available by July 15, 2013. The SLIGP grant period will run three years with an option for NTIA-approved extension.

10. In FY 2010 and FY 2011, the OIT received a combined \$4.9 million in matching funds from the **federal State Broadband Data and Development Program (Broadband Mapping Program)**. The OIT was to use the award, as well as the State's \$1.2 million in-kind contribution thereto, for: a) the creation of a broadband program office that would coordinate statewide broadband activity, identify gaps in broadband usage, and develop recommendations for accelerating broadband adoption; b) the provision of training, consulting, online resources, and technology sustainability planning to small businesses and institutions of higher education so as to support broadband-based curriculum delivery and e-commerce development; and c) the collection, over five years, of broadband-related data and the identification and implementation of best practices. In reply to OIT Discussion Point #5 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT related that the broadband program office had not yet been created; that the provision of training, consulting, online resources, and technology sustainability planning to small businesses and institutions of higher education had not yet commenced; and that the initiative would eventually entail the creation of two new temporary positions at the OIT.

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- **Questions:** Please provide an update on the OIT's implementation of the award agreement with the federal State Broadband Data and Development Program (Broadband Mapping Program). Has the OIT created a broadband program office? If so, please list, by job title category, the number of full-time positions allocated to the office. Will the OIT shut the office down once federal funding will have been depleted? What activities has the broadband program office undertaken to date and what activities does it intend to still undertake? Please explain the efforts the broadband program office has deployed to date and intends to deploy in the future to help small businesses develop e-commerce operations and to assist institutions of higher education in broadband-based curriculum delivery. Please comment on the best practices the broadband program office has identified and implemented to date.

Answers: OIT has created a broadband program office, funded exclusively by time-limited federal grants, to manage both the Broadband Mapping Program project and the Public Safety broadband (BTOP) project, as well as any future public safety broadband projects. The office's focus after the completion of the three grant programs (the State Broadband Data and Development Program, Broadband Technology Opportunity Program, and the State and Local Implementation Grant Program) will be the ongoing deployment, operation, and improvement of the public safety wireless broadband network in New Jersey, if new or continued funding for that role can be obtained.

The office intends to issue an RFP in the fall for the development of the Route 21 pilot network and a separate RFP for improvements to the statewide tower sites. By September 2015, the office intends to have deployed both the pilot network as well as completed statewide site improvements.

With regard to the SBDDP (mapping) work, the office has developed and maintains a statewide commercial broadband map that can be accessed through the mapping project website at **ConnectingNJ.state.nj.us**. The data available on the mapping website is helping both small businesses and higher education institutions determine where broadband access is available for themselves and their customers.

In addition, the office is working to:

- Help small businesses develop e-commerce operations and assist institutions of higher education in broadband-based curriculum delivery;
- Perform research about and outreach to key, targeted small-business associations across the state;
- Identify constituent needs;
- Find existing State initiatives that are in synergy with the current objectives and scope of the grant;
- Compile a list of available resources for technical assistance;
- Identify partnering opportunities with agencies and higher education to determine ways for delivering broadband-based curriculum to small businesses; and
- Seek out underserved small business communities in the State.

11. The OIT has been pursuing a three-phased strategy to **consolidate the State's shared information technology infrastructure**. In the first phase, the office strives to physically collocate

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mission-critical information technology equipment to reduce the number of data centers and energy consumption, and to improve information technology disaster recoverability. Phase 2 involves the use of the procurement review process to optimize the information technology infrastructure through platform consolidation or virtualization. Phase 3 calls for service integration across affinity groups to improve service delivery and internal processes. To that end, the OIT intended to draft Service Level Agreement (SLA) templates that would be used within the Executive branch to specify the technical support services OIT would provide to client agencies.

Responding to Discussion Point #42 in the OLS FY 2009-2010 Department of the Treasury Budget Analysis, the OIT noted that Phase 1 progress in migrating equipment to a central location was slow due to a lack of available computer room floor space at OIT facilities. Nevertheless, two years later, in reply to OIT Discussion Point #10 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that it had relocated the Department of Health and Senior Services data center to an OIT data center and that it was about to complete the consolidation of the Department of Transportation data center into the OIT HUB data center. In addition, the OIT conveyed that it was in discussions to consolidate call center systems and information technology equipment from three to four smaller agencies. On the previously anticipated relocation of printing operations and related equipment from its HUB data center, however, the OIT could not report any progress and related that it was considering outsourcing its print business instead.

In its response to Discussion Point #42 in the OLS FY 2009-2010 Department of the Treasury Budget Analysis, the OIT also listed several successes in Phase 2 of the consolidation strategy. Two years later, in addressing OIT Discussion Point #10 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT conveyed that it continued to use the procurement review process to optimize the information technology infrastructure through platform consolidation and virtualization. As examples of virtualization, the OIT cited the continued expansion of the State government-wide storage area network and the use of the State government-wide hosting platform, which minimizes the proliferation of standalone servers. As an example of platform consolidation, the office cited the ongoing consolidation of e-mail services in the State government-wide e-mail infrastructure.

Concerning Phase 3 of the consolidation strategy, the OIT indicated in answering OIT Discussion Point #10 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis that it had abandoned SLAs in favor of performance indicators and that service integration across affinity groups was advancing with an emphasis on the areas of eligibility determination, fraud detection, and Health Information Technology.

- **Questions:** Please provide an update on the implementation of the three-phased consolidation strategy for the State's shared information technology infrastructure. Have the consolidation of the Department of Transportation data center into the OIT HUB data center and the discussed consolidation of the call center systems and information technology equipment from three to four smaller agencies been completed? If so, are the benefits of the consolidations as the OIT expected or have there been unanticipated complications? If not, by which date will the consolidations and relocations be completed? Have printing operations been relocated from the HUB data center or outsourced? If not, what are the OIT's plans regarding its printing operations? What other equipment does the OIT plan to migrate to central locations in the future as part of

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Phase 1 of the consolidation strategy? Has the OIT secured sufficient funding for the migration of additional equipment to central locations?

- **Please describe the progress the OIT has made in the last two years in implementing: a) Phase 2 of the consolidation strategy for the State's shared information technology infrastructure (the use of the procurement review process to optimize the information technology infrastructure through platform consolidation or virtualization); and b) Phase 3 of the consolidation strategy (service integration across affinity groups). Have performance indicators served as a satisfactory replacement of Service Level Agreements (SLAs)?**

Answers: Consolidation of the DOT data center was completed in 2011. Consolidation of the call center systems is ongoing – advancing every time OIT replaces or updates related, core equipment. For example, the Pensions call center was successfully consolidated with the center for Labor and Workforce Development.

OIT plans core infrastructure upgrades to enable expected future consolidation. Ongoing consolidation of voice infrastructure continues with projects that include One Stop centers for Labor and Workforce Development, as well as multiple Office of Public Defender locations.

A plan for the State's printing operations has not been finalized. Plans do call for some printing equipment to be disconnected from the Hub power supply system to alleviate a power constraint. The Hub power supply system is at capacity. Removing print equipment will enable installation of the Enterprise Messaging system, designed to consolidate Executive Branch electronic mail systems over the next three years. Other consolidation activity being pursued includes the implementation of server backup equipment at a downtown facility to support local agency backups to a centralized virtual tape library. In Fiscal Year 2012, the server backups for Labor and Workforce Development were consolidated into the enterprise environment. These initiatives will result in the reduction of local agency investments in server backup environments, which will save maintenance dollars and reduce personnel requirements.

The use of key performance indicators continues to evolve as OIT modifies the existing indicators to better align to core mission areas related to service delivery.

12. The Asbury Park Press reported in its September 6, 2011 article "Christie Pitches Computer Upgrade" that the Administration had developed a **five-year plan to invest \$60 million in upgrading the State's aging information technology systems**. The news outlet related further that the State Legislature had jeopardized the plan's implementation by not acting on the Governor's recommendation to include, as a first installment, \$5.5 million for this purpose in the FY 2012 Appropriations Act. As indicated in OIT Discussion Point #1, the State Treasurer testified half a year later during the Department of the Treasury's budget hearing before the Senate Budget and Appropriations Committee on April 26, 2012 that the State would embark on a multi-year initiative to rebuild the State's core information technology infrastructure. OIT Discussion Point #1 elicits information on the most recent initiative.

- **Questions:** Please comment on the status of the referenced initiative to expend \$60 million on upgrading the State's aging information technology systems. Please provide the project list and indicate whether the initiative's implementation has been started,

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deferred or abandoned. If still applicable, please set forth the initiative's timeline and financing plan. How does the initiative correlate and intersect with the Administration's multi-year plan to rebuild the State's core information technology infrastructure to which the State Treasurer alluded during the April 26, 2012 Senate Budget and Appropriations Committee budget hearing on the Department of the Treasury?

Answers: In Fiscal Year 2012 OIT used \$10.5 million in current resources for infrastructure updates and upgrades. The Fiscal Year 2013 allocation of \$13.8 million is intended to cover expenditures for core information technology infrastructure refresh and upgrades. The scheduled Fiscal Year 2013 investments include network (\$2.9 million), server (\$4 million), storage (\$6.5 million) and data center (\$400,000) components. OIT is reviewing needs for Fiscal Year 2014.

Future years will see investments required to support the ongoing demands of projects such as MATRX (MVC), eProcurement (Treasury), Sandy Transparency (Comptroller and Governor's Office of Recovery and Rebuilding), Consolidated Assistance Support System (DHS) and EDISON (The Office of Management and Budget's budget management system).

13. An enterprise data warehouse is a dynamic database environment dedicated to providing a single, comprehensive view of the enterprise and a reliable source of consistent information for financial and strategic decision-making for the enterprise as a whole. In response to Discussion Point #48 in the OLS FY 2009-2010 Department of the Treasury Budget Analysis, the OIT stated that fiscal constraints had dampened the development of the State's **enterprise data warehouse environment**. As a result, the OIT's focus would shift to maintaining the current production environment, reacting to emergency information requests, developing data warehousing projects, and introducing additional enhancements. The OIT also projected that the hardware platform hosting the data warehouse environment would need to be refreshed within the next two to three years. Two years later the OIT reported, in addressing OIT Discussion Point #13 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, that it had continued to develop the enterprise data warehousing environment incrementally and that about \$2.4 million from eight federal grants financed most of the progress from FY 2008 through FY 2012. The OIT also affirmed that the data warehouse met the needs of State government at the time. But the office pointed out that the hardware platform hosting the data warehouse environment would still need to be refreshed within the next two to three years. Once refreshed, substantially less storage would be needed and the data warehouse would allow for data to be stored and accessed ten to fifteen times faster.

- **Questions:** Please detail any steps the OIT has taken in the last two years to further develop the enterprise data warehouse environment. How does the OIT intend to finance any expansion of the data warehouse in FY 2013 and FY 2014? Please explain whether the hardware platform hosting the data warehouse is still in need of being refreshed. If it has already been refreshed, please indicate the timing and cost of that action and project the length of time that will lapse until the next such action will become necessary. If the hardware platform has not been refreshed, please share by which date the OIT expects such an action to be necessary, the initiative's anticipated cost, its expected benefits, and the likely impact of delaying the refreshing of the hardware platform. Does the data warehouse currently meet the needs of State government?

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Answers: OIT continues to receive some grant funding, and agencies fund a portion of the support costs. The environment currently is shared with other systems on generic database platforms that are due for refresh. OIT is conducting a review to determine a more cost-effective and appropriate data warehousing platform. This refresh cycle represents an opportunity to select a better functioning platform with a lower total cost of ownership.

As an aggregation of dozens of initiatives built in a consistent manner using common tools and methodologies and referencing reusable technologies and data, the data warehouse meets the needs of the constituent projects and sponsors. It also meets the enterprise goals of more efficient technology delivery and reusable data assets.

The data warehouse has become a partner in several efforts.

- For the corrections community, the warehouse is involved in developing multiple subject areas to analyze recidivism factors for released offenders.
- For the Emergency Medical Services (EMS) community, the data warehouse is developing additional data sources for EMS incidents, and making that data available for purpose-built analytics.
- For Treasury, the data warehouse is helping provide integrated data for several new projects, such as the replacement of the Purchasing system, the budget systems, the cash flow management system, the tax fraud system, and the building management system.
- Using data warehousing technology, the data warehouse staff was able to quickly deliver a de-confliction application in partnership with the Motor Vehicle Commission and the New Jersey State Police.
- The data warehouse is working with two different teams on developing better homeland security/law enforcement intelligence solutions – leveraging the enterprise data warehouse environment and resources.
- The data warehouse is migrating remaining mainframe data sets off outdated, archaic technology and into the enterprise data warehouse.

14. Replying to Discussion Point #48 in the OLS FY 2009-2010 Department of the Treasury Budget Analysis, the OIT stated that the quality of the data in the enterprise data warehouse environment was well within industry and government guidelines due to extensive cross-checking of data in the source systems before entering the data warehouse for public consumption. The office suggested, however, that the State could improve on its **data governance** in general. Specifically, the OIT would like to see the identification of data stewards within agencies who understand the definition of the data in particular areas and who can make decisions on appropriate data definitions, access, and use. The office also recommended the establishment of a data governance board to develop overall policies, resolve definition disputes that cross agency domains, and serve as the data steward for universal data at the enterprise level. In addressing OIT Discussion Point #14 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT noted two years later that it intended to release a data governance policy by the end of FY 2011, which would include the establishment of a Data Governance Council. Moreover, the OIT reported that as a part of a data governance pilot project, the Department of Transportation had already identified its data stewards and implemented a data stewardship policy.

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- **Questions:** Please relate whether the OIT has developed and released a data governance policy to promote improved data governance practices within State government. If so, please summarize the policy and comment on the extent of State agency compliance with the policy. If the policy has not been released, please describe the reasons for the delayed release and indicate the date by which the OIT anticipates the release. Has the envisioned Data Governance Council been established to develop overall policies, resolve definition disputes that cross agency domains, and serve as the data steward for universal data at the enterprise level? Have data stewards been designated in State agencies? What conclusions has the OIT drawn from the data governance pilot project it conducted with the Department of Transportation, and, if applicable, the implementation and operation of the new data governance policy?

Answers: The promotion and compliance of improved data governance practices within State government is done through the individual architecture reviews conducted on a project-by-project basis.

For example, a successful DOT project is now the model for compliance to data governance standards across all State government agencies and departments. DOT established data stewards and used them and its data governance policy to guide data management. OIT and DOT, through their data stewardship policies, have been able to align DOT completely with the New Jersey enterprise information architecture and benefit from the reuse of both data and technology components in doing so.

The process has proven that New Jersey gains significant efficiencies through data sharing and reuse. OIT will apply the lessons learned to all data governance and data delivery, multiplying the efficiencies already gained.

OIT continues to apply an emphasis on data governance and data reuse and will monitor compliance through a key performance indicator defined for Fiscal Year 2014.

15. According to the Office of the State Auditor's December 2008 audit report on **Statewide Data Privacy**, the OIT had significantly enhanced the privacy of confidential data. Nonetheless, the State Auditor concluded that personal data maintained at State agencies might still be at risk of unauthorized disclosure because of a lack of existing security policies and procedures. To remedy that shortcoming, the State Auditor recommended the promulgation of statewide data security policies on portable data storage devices and data encryption. In addition, the State Auditor advised the drafting of consistent and comprehensive agreements with third parties that require the safeguarding of the confidentiality of personal and confidential information. The OIT reported that it had implemented the recommendations (see the OIT responses to Discussion Point #49 in the OLS FY 2009-2010 Department of the Treasury Budget Analysis and OIT Discussion Point #15 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis). But in its FY 2011-2012 answer to OIT Discussion Point #15, the OIT did not reply affirmatively to the OLS' question whether, to the best of the OIT's knowledge, State agencies were following existing data security policies and procedures. The OIT only stated that State agencies were aware of them.

In its FY 2011-2012 response to OIT Discussion Point #15, the OIT also emphasized that threats to data security are constantly evolving, thereby necessitating continuous updates to the State's

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security standards, policies, procedures, practices, and technology. Providing examples of technological updates, the OIT cited its recent acquisition of database encryption technology for the State's Oracle database and its research of encryption options for the State's Microsoft SQL Server database shared hosting environment. The OIT also noted the implementation of its Vulnerability Management Program, which allows all State agencies to routinely scan their infrastructure devices for known vulnerabilities to better protect information.

- **Questions:** To the best of the OIT's knowledge, are State agencies following established data security policies and procedures? Please list all instances of noncompliance with the data security policies and procedures in the last two years of which the OIT has become cognizant. Please describe any significant developments in the area of statewide data security over the last two years. Has the OIT acquired encryption technology for the State's Microsoft SQL Server database shared hosting environment? Has the OIT been able to acquire the technology it felt is needed to secure data privacy in recent years or have the multiyear budgetary restrictions adversely affected the State's data security? How often is the scanning capability under the Vulnerability Management Program being updated to reflect new threats to data security?

Answers: State agencies are following established data security policies and procedures. OIT takes cyber security and information protection seriously and works diligently with the State's Office of Homeland Security and Preparedness (OHSP)—and the Federal Department of Homeland Security to ensure that all Executive Branch agencies are provided best practices and the most current information. OIT's commitment to supporting the State in proactive cyber-security efforts is evidenced by the new integration of the Cyber Fusion Desk in the Regional Operations and Intelligence Center (ROIC). The Cyber Fusion desk monitors and tracks cyber incidents throughout New Jersey, primarily those impacting the public sector.

OIT drives awareness of data security policies and procedures through multiple communication methods including electronic messaging, memos, workgroup forums, and conferences. OIT provides ongoing communications, notifications and follow-ups to State agencies' security contacts and IT directors whose staff ensures adherence to policies and procedures. In May 2012, State agencies participated in a Cyber-Security Symposium, during which they were briefed by industry leaders and the FBI on the most current issues related to securing and protecting technology. The importance and readiness of cyber awareness was further evidenced during by the 2012 National Level Exercise (NLE). Cyber terrorism was the focus of the exercise, which tested how the State is prepared to address a significant cyber event. State agencies participated along with OHSP, the State Police, the Office of Emergency Management and OIT.

Proactively, agencies are required to have all new IT projects or major upgrades pass the OIT System Architecture Review. In addition to providing agencies and OIT a chance to review the business and technical requirements, this review includes a vital assessment of security controls. The security assessment classifies the data; identifies security needs; and reviews authentication, authorization, password management, audit/transaction logging requirements, hardware placement within the State's multi-tier environment, and security prevention tools.

OIT has acquired encryption technology for the State's Microsoft SQL Server database shared hosting environment. OIT continues to explore alternatives and solutions to further protect state systems and prevent cyber-attacks. OIT is a member of the Multi-State Information Sharing and

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Analysis Center (MS-ISAC), and we receive and disseminate Cyber Security Advisories to keep state agencies apprised of any emerging developments.

State agencies are responsible for scanning their assigned systems. Agencies have scheduled scans monthly or as needed. Agencies at a minimum have been advised to scan quarterly. OIT, in conjunction with the Office of Homeland Security, has initiated a follow-up survey of agency IT staff that will measure cyber security practices.

16. In its September 2010 **audit report on the Office of Information Technology Data Center**, the State Auditor pointed to weaknesses in OIT's asset management system and recommended that the OIT accurately inventory and track the data center's hardware, software, applications, and the applications' platforms. Properly tracking IT assets improves their management and protects them from theft, misuse, and abuse. In response, the OIT conceded that its "outdated" Fixed Asset Inventory Reporting System (FAIRS) complicated asset accounting and management. The office indicated, however, that it was in the process of improving accountability for inventory assets and that it would evaluate the application software portion of the asset inventory in calendar year 2011. The OIT also mentioned that, as a part of its Change Management and Compliance initiative, it would work towards creating a cohesive inventory environment that addressed data center asset management, software compliance, change management, and financial management requirements. In reply to OIT Discussion Point #17 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT remarked that subsequent to the audit it standardized asset serial number entries to improve the accountability for inventory assets at its data center and that it carried out a fixed asset inventory once a year, as required by Office of Management and Budget Circular Letter 11-19-OMB, Asset Inventory Requirements (Equipment—Tangible and Intangible). Concerning the Change Control Management initiative, the OIT specified that it had used the Information Technology Infrastructure Library since the autumn of 2008 and that all configuration changes were now tracked.

The State Auditor also recommended the strengthening of controls over physical access at the three-component OIT Data Center: the HUB data center, which houses a mainframe computer and client servers, processes mission-critical applications for the State, and provides State printing processes; the River Road data center, which hosts a mainframe computer and a server farm for clients, processes mission-critical applications for the State, and includes control centers that function as the help desk for all State departments; and the OIT Availability and Recovery Site (OARS), which serves as the State's backup and recovery, business continuity, and disaster recovery site. In the report, the State Auditor remarked that 544 badge-holders had access to at least one of the three data centers and questioned whether all of them needed the access. The State Auditor also noted the absence of written policies and procedures on the issuance, removal, and monitoring of access badges; and the fact that access to the data centers was not logged and monitored. Accordingly, the State Auditor recommended that the OIT adopt policies and procedures on granting access to these sites, further revise the access levels so as to restrict access to personnel required to have it, and actively monitor the access security system. Responding to OIT Discussion Point #17 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT stated that it was drawing up policies and procedures on data center access that aim for the granting of role-based access only. Individual managers would determine which individuals would get access to the data centers.

Discussion Points (Cont'd)

- **Questions:** Beyond the standardization of asset serial number entries, please comment on the efforts the OIT has deployed since the audit to improve the accountability for inventory assets at its data center. Has the OIT completed the evaluation of the application software portion of the data center's asset inventory? If so, what were the findings? If not, by which date does the OIT expect the evaluation's completion? Is the fixed asset inventory up-to-date? Has the Change Management and Compliance initiative been fully implemented? If not, please describe the elements of the initiative that must still be completed.
- Please indicate whether the OIT has adopted policies and procedures on granting access to the three data center sites. If so, please summarize them and indicate whether the number of badge-holders who have access to the data centers has decreased since the new policies and procedures have taken effect. If the policies and procedures have not been adopted, please describe the reasons for the delay and indicate the date by which the OIT anticipates the implementation. Has the OIT taken any other steps since the audit to restrict access to the data center sites and to actively monitor their access security system?

Answers: Based on the standards of the Information Technology Infrastructure Library (ITIL), OIT has implemented Configuration Management practices that align asset inventory at the data centers to the Change Management function. While the Fixed Asset Inventory Reporting System (FAIRS) continues to be used as the method of tracking individual assets on an annual basis, the Configuration Management Data Base (CMDB) entries have grown significantly to capture how those assets relate to the delivery of services. OIT has facility policies and procedures, and access controls are governed by the principle of least privilege.

17. Prompted by OIT Discussion Point #3 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT provided a status report on two long-term projects: **the migration of the Garden State Network (a statewide integrated communications network) to a fiber-based infrastructure and the replacement of servers and storage technology.** Specifically, the OIT related that it had finished building a statewide dark fiber network with protected on-ring presence in each of the State's major data centers and core network locations. Next, the office planned to move the State's legacy frame relay and asynchronous transfer mode networks to the new dark fiber network and to eliminate the legacy Garden State Network's asynchronous transfer mode core infrastructure. A frame relay network is a standardized wide area network technology that specifies the physical and logical link layers of digital telecommunications channels, whereas an asynchronous transfer mode network is a telecommunications concept for carriage of a complete range of user traffic that is designed to unify telecommunication and computer networks. Moreover, the OIT stated that it had advanced the replacement of servers and storage technology. The next challenge would be to consolidate over 100 agency servers that support Executive branch agency websites and many agency web-based applications into no more than 20 up-to-date servers. The OIT also reported being in the middle of replacing the network used to connect servers with storage and the system used to back up the servers.

- **Questions:** Please report on the status of the migration of the Garden State Network to a fiber-based infrastructure. Has the migration been completed? If not, please indicate the project's current status and the project milestones that must still be reached,

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including a timeline. If the migration is incomplete: a) have the legacy frame relay and asynchronous transfer mode networks been migrated to the new dark fiber network; and b) has the legacy Garden State Network asynchronous transfer mode core infrastructure been eliminated? What is or was the project's total cost?

- Please comment on the status of the project to replace and consolidate agency servers and storage technology. Has the OIT succeeded in consolidating over 100 agency servers that support Executive branch agency websites and many agency web-based applications into no more than 20 up-to-date servers? If not, please indicate the project's current status and the project milestones that must still be reached, including a timeline. Has the OIT completed the replacement of the network used to connect servers with storage and the system used to back up the servers? If not, please indicate the project's current status and the project milestones that must still be reached, including a timeline.

Answers: The Garden State Network is being phased out. The replacement – the Next Generation Services Network (NGSN) – is nearing completion. The NGSN will consist of three rings of fiber-optic cable – one in the northern part of the state, one in the south and another in central New Jersey. The State has completed the two largest rings – the northern and southern. Start of construction on the central ring, which will serve many key facilities in Trenton, is tentatively scheduled for the third quarter of 2013. Planning for final migrations to the network by Calendar 2015 are underway.

OIT, using virtualization technology, now operates 523 virtual servers at its two production centers. Virtual servers act just like individual servers, even though several can be located on one physical piece of server equipment. Consolidation has so far put 149 virtual servers on the State's 20 Windows-based physical servers. The other virtual systems are located on physical servers running IBM (AIX) and Oracle (Solaris) operating systems. A thorough proof of concept was completed last year to determine the equipment required to refresh the Windows-based server virtualization environment. The refreshed equipment has been installed and work is underway to migrate some agency servers to the new virtualization environment. Additional physical servers to support further migrations to the virtualized environment are constrained, however, by physical limitations at the data centers, which are being addressed in collaboration with the Division of Property Management and Construction. OIT anticipates that the project will proceed after the implementation of additional emergency power at the primary production data center.

18. The OIT used to be responsible for administering telecommunications billings of State agencies only, whereas State agencies were actively managing their telecommunications services themselves. Complying with a recommendation by the Office of the State Comptroller in its July 7, 2010 audit report on OIT's Billing and Contracting for Telecommunications Services, however, the OIT has agreed to also start performing a control function. Accordingly, the OIT would newly identify inactive lines through periodic reviews of telephone usage reports and ask the agencies' telephone coordinators to justify the continued need for zero-usage lines. In the report, the State Comptroller had indicated that following a review of the State's monthly telephone usage reports the State Comptroller identified **18,625 unused land-based telephone lines and 1,394 unused wireless telephone lines**. The State Comptroller estimated that the subsequent termination of the lines would save the State \$3.2 million annually.

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In its audit response, the OIT stressed that as managers of their own telecommunications services, agencies must notify phone service operators of unneeded lines and that beginning in FY 2007 State agencies had received several notices asking them to terminate unused lines. The OIT would nonetheless begin to periodically review monthly telephone usage reports so as to identify dormant lines. Moreover, the OIT suggested that each agency's human resources offices become involved in the issuance of telephone disconnect notifications, as these offices are cognizant of personnel changes. In replying to OIT Discussion Point #18 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT then noted that it would commence reviewing telephone usage reports not less than every three months and that it would ask agencies about a phone line's continued use whenever a line would be inactive for three months. Furthermore, the OIT stated that it had sent notices to agency human resources offices requesting that outgoing staff hand in wireless devices and that their landline numbers are reported to the agency's phone coordinator for deactivation. Moreover, the OIT reported that it reminded agency telephone coordinators during quarterly meetings to review their lines and deactivate any unused ones.

- **Questions:** Has the OIT formalized its control function of reviewing monthly agency telephone usage reports so as to identify dormant telephone lines? If so, what is the frequency with which the OIT reviews the reports? Have any unused lines been terminated after the OIT alerted agencies to their existence? Does the OIT find that agencies have become more conscientious about deactivating unused lines following the notice the OIT had sent agency human resources offices asking for their assistance and the repeated mentioning of the need to review phone lines and deactivate unused ones to agency telephone coordinators at quarterly meetings? In all, does the OIT perceive a noticeable drop in unused telephone lines?

Answers: There are two types of phone usage that OIT monitors – landline and wireless.

For wireless lines, OIT created a new policy that includes guidance on disconnecting and terminating wireless telephone service. OIT released that policy in September 2012. (Circular Letter No. 13-05-OIT – Assignment and Use of State-Owned Cellular Wireless Devices.) 13-05-OIT delineates a clear process for closing a cellphone or Blackberry account. Part of the process is a requirement that the designated telecommunications coordinator at each agency file a report to OIT whenever a wireless device is no longer needed.

For landline phones, OIT has tightened its oversight by regularly scanning phone billing records for unused phone lines. OIT sends reports to agencies listing lines that have had little or no activity for extended periods. Notices of the reports ask agencies to explain why lines with little usage should be maintained. If agencies then indicate that a line is no longer needed, OIT suspends the line for 30 days and then shuts the connection permanently. OIT also has instructed agencies on how to monitor their own lines using the Pinnacle billing system and regularly reminds them of this capability. The Pinnacle system allows agencies to create their own "zero-usage" reports on phone lines. OIT has regularly shut down unused lines identified by the processes listed above. Agencies in general have responded appropriately to OIT requests to justify the continued expense of no-use or low use phone lines. Telephone billing records indicate that the number of unused lines has dropped.

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19. In its July 2010 audit report on OIT's Billing and Contracting for Telecommunications Services, the Office of the State Comptroller commented on the assignment to employees of **State-issued cellular wireless devices** (cell phones, blackberries, air cards, etc.). At the time of the audit, each State agency established its own internal policies although each individual assignment had to be based upon the need to have constant communication and a determination that the benefits of the assignment justify the costs (Office of Information Technology, Circular Letter No. 04-06-OIT, Assignment and Use of Cellular Wireless). Agencies were to document an assignment's justification and maintain "appropriate records" of all device issuances. The State Comptroller found, however, that agencies' recordkeeping varied vastly and that out of a random sample of 518 devices, 426 devices, or 82 percent, did not have any documentation justifying their assignment. To alleviate this shortcoming, the State Comptroller recommended the development of a uniform policy governing the issuance of wireless devices that requires agencies to assess and document the costs and the benefits of assigning a device.

Subsequently, the OIT issued updated wireless device management policies but it does not appear that the updated policies address the State Comptroller's concerns about a lack of control over the assignment of individual devices. Under the current policy, individual wireless device assignments continue to have to be based upon the need to have constant communication and a determination that the benefits of the assignment justify the costs. Moreover, agencies continue to remain responsible for establishing their own internal policies for the issuance and use of wireless devices, but the policies must now include minimum OIT requirements concerning periodic reviews of usage and termination reports, an annual inventory of wireless devices, the need for appropriate approvals before a device is issued, a mandate that the agency notify the OIT when a wireless device is no longer in use, and rules requiring the reimbursement by employees of costs resulting from a device's improper use. But agencies retain their prior exclusive jurisdiction over the review of individual cellular device assignment requests, while the OIT continues to perform no control function and to have no access to each assignment's supporting documentation (Office of Information Technology, Circular Letter No. 13-05-OIT, Assignment and Use of State Owned Cellular Wireless Devices).

The Office of the State Auditor then reported in its October 2012 audit report on the Division of Administration in the Department of the Treasury that the division had informed the OIT of every employee separation since January 2007. Nonetheless, 66 of the division's 750 active wireless devices were assigned to individuals who separated from the Department of the Treasury between August 2005 and March 2012. Treasury paid, on average, \$6,000 per year for these inactive devices over the concerned period. To prevent the recurrence of similar cost inefficiencies, the State Auditor recommended that the division follow up routinely with the OIT to ensure that the OIT actually deactivated all wireless devices on the division's deactivation request lists. The division replied that it would request quarterly deactivation reports from the OIT to compare them to the division's deactivation request lists.

In reply to OIT Discussion Point #19 in the OLS FY 2011-2012 Department of the Treasury Budget Analysis, the OIT reported that 17,390 cellular devices were issued in FY 2011, which marked an annualized increase of 21.7 percent over the 3,613 devices issued in FY 2003. The OIT anticipated the number of devices to continue to grow at an annual rate of five percent. Estimated FY 2011 expenditures for cellular wireless devices totaled \$7.4 million, according to the OIT.

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- **Questions:** Please indicate whether, to the best of the OIT's knowledge, State agencies are complying with the new statewide minimum requirements for the issuance of cellular wireless devices as set forth in Office of Information Technology, Circular Letter No. 13-05-OIT, Assignment and Use of State Owned Cellular Wireless Devices. Does the circular letter incorporate any policies that strive to correct the deficiencies the State Comptroller found in the documentation by agencies of the justifications for the issuance of individual devices? If so, please describe the policies. If not, has the OIT undertaken any steps outside of the circular letter to impel agencies to improve their recordkeeping? Is the OIT aware of agencies having improved their documentation of justifications for the issuance of individual devices since the release of the 2010 audit by the State Comptroller?
- Please state the OIT's reaction to the State Auditor's finding that 66 of the 750 wireless devices assigned to the Division of Administration in the Department of the Treasury were still active although the division had informed the OIT of all employee separations since January 2007. Are the deactivation omissions unique to the Division of Administration or does the OIT experience similar difficulties in deactivating wireless devices on other State agencies' deactivation request lists? What weaknesses in the administrative processes might account for the deactivation omissions? How could the deactivation process be improved?
- What was the actual number of State-issued cellular wireless devices in FY 2012? What is the projected number of State-issued cellular wireless devices in FY 2013 and FY 2014? Please provide a breakout of the number of cellular wireless devices issued in FY 2013 by State agency. What is the estimated budgetary outlay for supporting State-issued cellular wireless devices in FY 2012, 2013, and FY 2014?

Answers: Circular letter No. 13-05-OIT gives clear guidance on when agencies can provide employees with wireless devices. According to section V of this policy:

"The devices will be made available to State employees where the benefit of the technology substantially enhances their job performance, or they are required to maintain constant and/or immediate contact with their work locations, supervisors, subordinates, clients or other State offices and entities. . . . All requests for wireless devices must be based up on a cost-benefit justification, and should only be issued where the business need justifies the cost (monetary or service delivery impact)." The OIT policy also provides clear guidance on acceptable usage, including limits on personal phone calls and pay-per-use services such as 411 directory service, and bans on downloads of ringtones, games and other applications unneeded for business purposes.

Because OIT realistically cannot know which of the thousands of State job assignments truly require wireless devices, agencies have the responsibility of ensuring that cellphones, tablets and other wireless devices only go to employees who need them for work-related purposes and that performance is compliant with OIT's policies. OIT does follow up on any complaints it receives of improper usage of State-owned wireless devices.

OIT believes agencies have ample policy guidance from Circular 13-05-OIT in determining who should be supplied with a state-owned wireless device. OIT may issue new policies clarifying Zero Usage policy for determining whether a phone connection should be continued, on plans to completely ban the use of fee-for-use 411 directory service on state-issued equipment, and to

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improve the procedures for terminating a wireless connection when a worker severs ties with the State.

OIT regularly reminds each agency's designated Telephone Coordinator of the need to keep accurate records and conform with State phone policies.

OIT is aware of some agencies putting in stricter policies in place than in the past. The agency's primary role is to require minimum standards and to ensure that all agencies are fully aware of the policies.

After the State Auditor's report, it became clear that while agencies were notifying OIT when a worker separated from State employment, some were not informing OIT when a departing worker possessed a cellphone or wireless device. Circular Letter No. 13-05-OIT – Assignment and Use of State-Owned Cellular Wireless Devices – now requires every agency's telephone coordinator to fill out a Cellular Wireless Device Request Form whenever a worker leaves State employment or no longer needs a wireless device.

In April 2012, the count of wireless devices was 17,981, and in April 2013 it was 19,917. This increase of more than 10 percent reflects expanded use of wireless devices to boost effectiveness and productivity for workers in the field. More than half the increase in wireless devices came from just two agencies – Child and Family Services and Human Services.

OIT has no current estimate at the growth in the use of wireless devices. However, the average rate of growth over the last five years has been approximately 2 percent.

State provided cellphones in use, by agency:

Agriculture	117
Banking & Insurance	176
Chief Executive	94
Child & Family / DYFS	6,063
Community Affairs	518
Corrections	437
State Parole Board	480
Education	277
Environmental Protection	1,455
Health	1,116
Human Services	1,364
Labor	258
Civil Service Commission	47
L&PS - Homeland Security	195
L&PS - State Police	1,817
L&PS - All Other	1,633
Local Mandates	1
Military & Veterans Affairs	318
OIT	315

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OIT - Emergency Loaners	150
State	60
Transportation	1,206
Motor Vehicle Commission	660
Treasury	1,130
Shared	30
* Based on information provided from the cellphone database of OIT-managed devices	
TOTAL	19,917

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The primary expense for wireless devices comes in the form of contracts with telecommunications companies. Outlays for these contracts follow:

- **Fiscal Year 2012 – \$8.5 million**
- **Fiscal Year 2013 – \$3.4 million through February, with total spend estimated at approximately \$6 million.**
- **Fiscal Year 2014 estimated at \$6 million.**