STATE OF NEW HAMPSHIRE
OFFICE OF INFORMATION TECHNOLOGY

PERFORMANCE AUDIT REPORT
JULY 2008

To The Fiscal Committee Of The General Court:

We have conducted an audit of the Office of Information Technology (OIT) to address the recommendation made to you by the Legislative Performance Audit and Oversight Committee. We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require we plan and perform the audit to provide a reasonable basis for our findings and conclusions. Accordingly, we have performed such procedures as we considered necessary in the circumstances.

The purpose of the audit was to determine whether centralizing the executive branch's information technology (IT) resources in the OIT has resulted in more efficient, effective, and economical IT services. The audit period includes State fiscal years 2006-2007.

This report is the result of our evaluation of the information noted above and is intended solely for the information of the OIT and the Fiscal Committee of the General Court. This restriction is not intended to limit the distribution of this report, which upon acceptance by the Fiscal Committee is a matter of public record.

Office Of Legislative Budget Assistant

July 2008

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ABBREVIATIONS

A&E	Approvals And Expenditures Tool
ASD	Agency Software Division
ASAP	Agency Support And Planning Group
CIO	Chief Information Officer
DAS	Department Of Administrative Services
DHHS	Department Of Health And Human Services
DITM	Division Of Information Technology Management
ERP	Enterprise Resources Planning
FTE	Full-Time Equivalent
IT	Information Technology
ITSG	Information Technology Security Group
LPAOC	Legislative Performance Audit And Oversight Committee
NASCIO	National Association Of State Chief Information Officers
OIT	Office Of Information Technology
PC	Personal Computer
P&P	Bureau Of Purchase And Property
SFY	State Fiscal Year
SWCAP	Statewide Cost Allocation Plan
TSS	Technical Support Services
VITA	Virginia Information Technologies Agency
WSD	Web Services Division

SUMMARY

Purpose and Scope

This audit addresses whether centralizing the executive branch's information technology (IT) resources in the Office of Information Technology (OIT) has resulted in more efficient, effective, and economical IT services. The audit period includes State fiscal years 2006-2007.

Background

Chapter 223, Laws of 2003, created the OIT as a new unit within the Office of the Governor and allowed the transfer of all executive branch IT employees, with the Fiscal Committee's approval. Between July 2003 and September 2004, 426 IT employees transferred from agencies to the newly formed OIT. The OIT is responsible for managing and maintaining mainframe computers, servers, personal computers, networks, internet access, email service, web pages, software, and agency applications.

Results In Brief

The OIT was inadequately planned and disappointed lawmakers by not attaining promised savings. The OIT was created with expectations of reducing State IT expenditures; but during its first year it became apparent the projected $11 million in general fund savings over the 2004-2005 biennium were not going to materialize. According to the current Chief Information Officer (CIO), the initial savings goal was not realistic. In fact, the joint Legislative Fiscal Committee was told there was never a plan defining how the OIT was going to achieve this savings.

Lack of sufficient planning affected the OIT in other ways. For example, 426 IT positions from 22 State agencies were brought together to form a new State office with minimal support staff for functions such as human resources and a business office. While continuing to operate the executive branch's information systems and manage IT projects, the newly formed OIT had to develop:

- a process for obtaining CIO approval for IT purchases,
- a method to allocate costs and charge agencies,
- a list of standardized products, and
- State IT policies.

Creation of the OIT was met with mixed reactions from State IT personnel and agency leaders. Seventy percent of both agency leaders and OIT personnel we surveyed indicated OIT services were good to excellent. Our surveys also found most IT services are viewed as the same or better than the services existing prior to the OIT's creation. Based on our surveys and interviews, we have compiled the following list of benefits from the State's consolidation of IT services:

- fewer single points of failure,
- greater oversight and control over IT expenditures,
- standardization of hardware, software, and technical support,
- increased security over the executive branch's information systems,
- increased IT support to small agencies, and
- improved collaboration among State IT personnel.

Some of these benefits have come at a cost, resulting in less efficient, effective, or economical IT services for agencies. OIT personnel and agency leaders identified the following negative consequences of consolidating IT services:

- less efficient IT purchasing process,
- increased agency costs for shared IT services,
- decreased support for some full-service agencies,
- agencies' loss of control over IT personnel and purchases, and
- dual allegiance of embedded OIT personnel.

The OIT has a number of good project management practices, but more could be done to provide a statewide perspective rather than an agency-based perspective. The OIT should review the entire IT procurement process for efficiencies. Further, there are a number of improvements the OIT should make to fulfill its statutory requirements. The OIT should re-examine data center consolidation and develop a plan as required by statute. The OIT does not formally monitor technical or industry trends to be better able to assist agencies in considering emerging technologies. The OIT only collects satisfaction metrics from users of its technical support services; however, State law requires user satisfaction data be collected for all OIT services. The OIT has not developed training programs for its technical personnel as required by statute. The OIT should seek legislative action on reporting requirements to provide clearer guidance on what information the Legislature wants. In addition, there are a number of observations from our 2006 Financial Audit of the OIT that still need to be addressed (see Appendix C).

RECOMMENDATION SUMMARY

Observation Number	Page	Legislative Action Required	Recommendation	Agency Response
1	27	Yes	The Legislature may wish to define OIT and agency responsibilities for setting priorities for IT projects. The OIT implement additional project management best practices.	Concur
2	29	No	The OIT analyze purchasing data to determine inefficiencies in the procurement process.	Concur
3	31	No	The OIT comply with RSA 4-D:2, X and develop a data center consideration plan.	Concur
4	33	Yes	The OIT obtain and disseminate information regarding new technologies and management techniques as required by RSA 4-D:2, II. The Legislature may wish to consider amending RSA 4-D:2, II.	Concur
5	34	No	The OIT collect user satisfaction metrics for IT services provided to agencies and report results to OIT stakeholders.	Concur
6	36	No	The OIT establish professional development programs.	Concur In Part
7	38	Yes	The OIT ask the Governor's Office and the Legislature to define the direction of the written reports they receive about OIT operations. The Legislature review and amend RSA 4-D regarding statutory reporting requirements.	Concur

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SCOPE, OBJECTIVES, AND METHODOLOGY

In July 2007, the Fiscal Committee adopted a recommendation by the joint Legislative Performance Audit and Oversight Committee (LPAOC) to conduct a performance audit of the Office of Information Technology (OIT). The LPAOC's primary concern was whether centralizing the executive branch's information technology[1] (IT) resources in the OIT has resulted in more efficient, effective, and economical IT services. An entrance conference was held with the OIT in October 2007. In January 2008, the LPAOC approved the scope statement for this audit to cover State fiscal years (SFYs) 2006-2007.

The OIT provides critical IT infrastructures for developing, managing, and delivering government services and information. Information technology is a means to an end, so the OIT needs to be accountable to State agencies for IT related services that support agencies' programs. Our audit addressed the following question – **Has centralizing IT resources under the OIT resulted in more efficient, effective, and economical IT services?** Two audit objectives guided our work in answering this question: 1) evaluate if the OIT is meeting its statutory responsibilities, and 2) investigate issues identified as weaknesses.

Our audit work included interviews with current and former OIT officials, other State officials knowledgeable about the OIT, and officials from other states. We surveyed State personnel who used the help desk, OIT personnel, and agency leaders to determine their satisfaction with various aspects of the OIT. We reviewed OIT documents, data, and reports; OIT policies and procedures; State laws; previous audits; documents the OIT provided to the Fiscal Committee; IT Council minutes; articles in the press; and OIT budget data. We examined best practices and reports and audits from other states. We compared executive branch IT expenditures before and after the OIT's formation. We evaluated OIT help desk satisfaction data and OIT policies and procedures related to identified weaknesses.

BACKGROUND

Prior Organization Of State IT Resources

Before the OIT was created, State IT resource management fluctuated between being centralized with the advent of mainframes, and decentralized with the proliferation of personal computers (PCs) and local area networks. From 1997 until 2003, control of State IT resources was largely decentralized, but overseen by the Department of Administrative Services' (DAS) Division of Information Technology Management (DITM). The DITM had four main roles:

- advising on policies and best practices,

[1] Information technology can be defined as the computers, ancillary equipment, software, and related procedures, services, and resources that are used by an organization to accomplish particular functions in order to meet the organization's goals and responsibilities.

- advising on and approving IT purchases,
- developing the Statewide IT plan, and
- managing technology-related contracts.

The DITM had nine positions to carry out its responsibilities. According to OIT personnel, while the DITM was in existence, State agencies exclusively managed their own IT resources and operations. The DITM was funded by general funds. However, some DITM expenditures were recovered through the federally approved Statewide Cost Allocation Plan (SWCAP), which charged DITM expenditures back to State agencies that received federal or other funds. The SWCAP allows State agencies to charge their federal grants with certain central service costs. The Department of Cultural Resources provided web page development and related support to State agencies prior to OIT's creation. This service was paid by the Department of Cultural Resources and was not reimbursed by State agencies.

Creation Of The OIT

Chapter 223, Laws of 2003, created the OIT as a new unit within the Office of the Governor and allowed the transfer of all executive branch IT employees, with the Fiscal Committee's approval. A primary purpose for centralizing the State's IT functions was to save money. The State's first Chief Information Officer (CIO) presented the idea that by centralizing the executive branch's IT resources, the State could save $11 million in general funds over the 2004-2005 biennium.

The OIT was created on July 1, 2003 to consolidate executive branch IT resources within the Office of the Governor. State elected leaders wished to capitalize on the improvements in IT management and services, as well as the cost savings the Governor's centralization initiative promised to produce. Chapter 223, Laws of 2003 created the OIT by amending RSA 4 and inserting RSA 4-D, which contains the OIT's duties and responsibilities and created the CIO position. According to RSA 4-D:1, II, the OIT is responsible for:

> managing and coordinating all technology resources in the executive branch of government, developing and implementing strategies to enhance state customer services, and creating statewide efficiencies through the use of information and other technologies.

This chapter law also amended information technology-related sections of other statutes.

Planning for and launching of the OIT was haphazard. Based on our interviews with OIT personnel, other knowledgeable State IT leaders, and a review of Fiscal Committee meeting minutes, a primary purpose for centralizing the State's IT functions was to save money. Seven months into the biennium, it became clear to the Fiscal Committee there

was no plan defining how the OIT would achieve this savings. According to current OIT officials, the goal was not realistic and therefore not met.

Prior OIT Review

According to an April 2005 review of the OIT commissioned by the Governor entitled *Strengthening State Government Information Technology Management and Service,* the OIT was launched before essential preparations were completed, was not given the correct resources to satisfy its customers and achieve its potential, and was never clearly empowered nor given adequate strategic guidance. The OIT's initial focus was cost reduction through resource consolidation, not customer service. However, the review found that despite a premature launch, resource constraints, and insufficient strategic direction, the OIT had laid a good foundation for future success during its first 18 months of operation.

In theory, centralizing IT resources allows a state to achieve economies of scale in purchasing and more easily standardize equipment and policies, resulting in efficiencies and ultimately savings. New Hampshire is not alone in centralizing IT. According to a 2005 Survey on IT consolidation by the National Association of State Chief Information Officers, "State CIOs have seized on the potential for galvanizing the state IT enterprise to produce better results and reduce costs by utilizing consolidation and shared service models for infrastructure optimization and to streamline IT functions." The Association survey revealed a "strong trend towards states consolidating key IT functions and utilizing the shared services model whenever applicable." According to the April 2005 review of the OIT:

> [t]he advent of reliable and affordable high-bandwidth communications once again made centralizing IT resources the most cost-effective manner in which to develop software applications for and manage the IT infrastructures of large, complex organizations.

OIT Organization

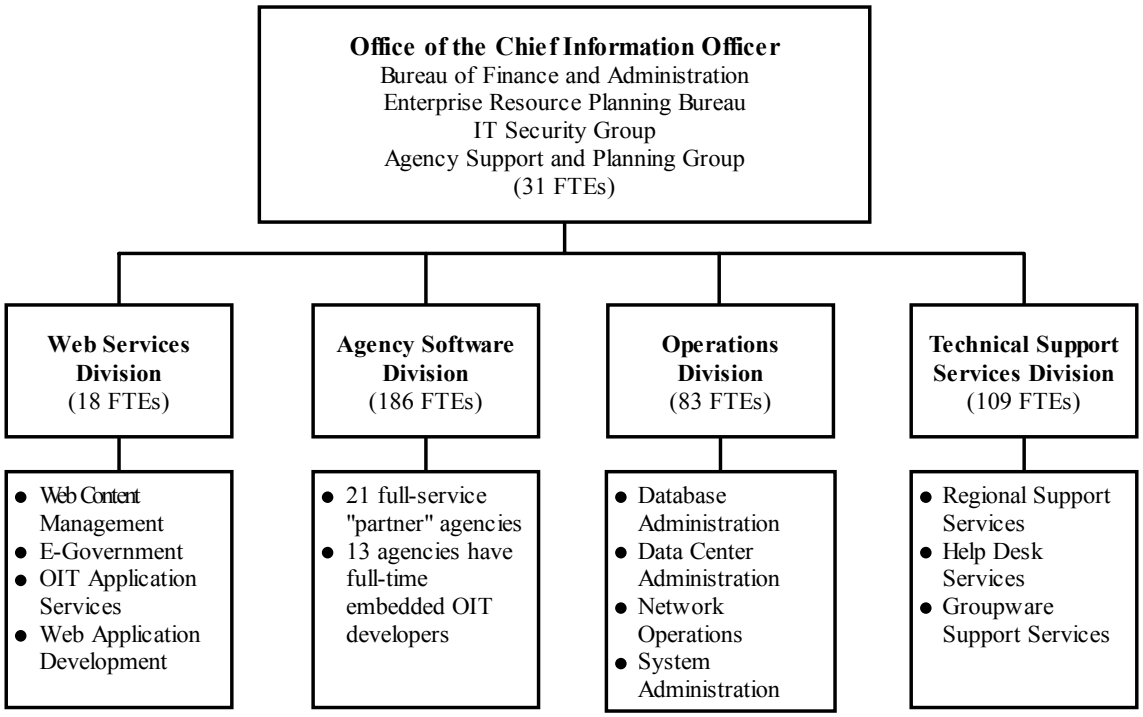
The OIT mission is to:

> support the strategic business objectives of State agencies; to create and sustain a secure and reliable information technology environment; and to ensure careful and responsible management of the State's information technology resources.

To accomplish its mission, the OIT is currently organized into an Office of the CIO and four divisions. As shown in Figure 1, the Office of the CIO and the divisions contain numerous subunits. None of the divisions or their subunits were created by statute; rather, the divisions were first approved in the SFYs 2006-2007 operating budget.

Figure 1

OIT Organization Chart
SFY 2008



Notes: Staff based on Full-Time Equivalent (FTE) positions in the OIT's 2008-2009 budget.
In SFY 2006, one federally funded position was approved bringing the total number of positions to 427.
As of May 2008, eight percent of OIT positions were vacant.
Source: LBA analysis of OIT information.

Office Of The CIO

The CIO manages the State's overall technology strategy (i.e., enterprise technology strategy), works to secure the State's IT resources, and provides direction and guidance on IT to State government. The CIO works with OIT division directors to implement security measures and develop both the agency and statewide IT plans. Creation of a statewide technology plan is statutorily required as one of the OIT's special duties.

The Bureau of Finance and Administration (formerly called the Logistics Bureau) supports human resources, statewide IT purchasing and contracts, financial reporting and analysis, financial management, and cost allocation for the OIT.

The Enterprise Resources Planning Bureau provides technical and coordination support for the statewide Enterprise Resources Planning (ERP) initiative. The Bureau partners with the DAS to ensure ERP efforts are in line with the State's IT goals.

The CIO created the Information Technology Security Group (ITSG) in April 2006. The ITSG oversees all aspects of IT security for the State's computer networks. Among its duties, the Group creates security standards and policies, develops security architectures, monitors security tools, manages incident response, oversees assigned security tasks, and works to increase security awareness among State employees.

The Agency Support and Planning Group (ASAP) was created by the CIO in the fall of 2006. It provides IT support and services to 39 small executive branch agencies that have not been supported by the OIT in the past. Only one of the 39 agencies had an IT position prior to the creation of the OIT. When the OIT was created, it was required to support all executive branch agencies, but was not given any resources to specifically support small agencies until SFY 2008. The ASAP facilitates communication between small State agencies and the OIT divisions.

Web Services Division

The Web Services Division (WSD) works with agencies to create an online presence and common identity for all web pages, promotes e-government, and provides support for e-commerce, to help users of government services easily locate and use State resources in an interactive way.

Agency Software Division

The Agency Software Division (ASD) supports agency-specific software and application development and programming for most large State agencies, provides business and technology consulting services, and facilitates communication between these agencies and the OIT. The ASD has 17 IT Leaders responsible for managing 19 of the State's full service agencies. Thirteen of the 19 agencies have approximately 177 full-time embedded ASD positions.

Operations Division

The Operations Division supports the State's IT infrastructure, servers, networks, data center facilities, operating systems, database software, and application software through four units. The Division ensures the State's IT infrastructure is ready to "go" and ready to "grow" to support the needs of executive branch agencies.

Technical Support Services Division

The Technical Support Services (TSS) Division assists partner agencies to meet their goals by providing support for common software applications and hardware maintenance for PCs and servers through three units. These services include a centralized help desk, direct technical support including installation and configuration, and internal monitoring and measurement programs through customer service and semi-annual surveys. The Department of Health and Human Services (DHHS) has its own outsourced help desk, but the technicians who physically fix problems at DHHS locations are OIT employees.

Staffing

Chapter 223, Laws of 2003, created the OIT as a new unit within the Office of the Governor and allowed the transfer of all executive branch IT employees, with the Fiscal Committee's approval. On the effective date of the OIT's creation, all of DITM's resources, including its nine positions, were transferred to the OIT. IT personnel from around the State were transferred into the OIT in phases. In six waves between July 2003 and September 2004, a net total of 426 IT positions were transferred to the OIT. In SFY 2006, the Fiscal Committee approved a request from the New Hampshire Employment Security and the OIT to add a federally funded position, which brought the total to 427. See Table 1 for the agencies that transferred personnel into the OIT. The OIT's governing statutes do not list State agencies that are either included or excluded from having IT resources centralized under the OIT. As a result, not all executive branch agencies transferred IT personnel to the OIT.

OIT Support Of Executive Branch Agencies

The OIT categorizes State agencies receiving services into three types: 21 full-service agencies, 39 small agencies, and eight self-service agencies (see Appendix B for the agency listing). Full-service agencies, also known as partner agencies, typically receive services from all five OIT units. Small agencies typically receive services from three OIT units. Self-service agencies receive only a limited number of services from the Office of the CIO and the WSD. According to the OIT, there are five non-classified agencies that do not receive any services from the OIT. As of May 2008, the OIT supported:

- 11,792 personal computers and laptops,
- 844 individual application Intel servers,
- two midframe computers,
- 56 high capacity Unix servers,
- two mainframe computers, and
- 640 software applications.

Table 1

State Agencies That Transferred Positions To The OIT

Agency	Number of Positions Transferred
Department of Health and Human Services	147
Department of Safety	44
Department of Transportation	43
Department of Administrative Services	37
Department of Employment Security	36
Department of Environmental Services	25
Department of Revenue Administration	20
State Liquor Commission	14
Department of Education	11
Department of Corrections	10
Department of Labor	6
Department of Resources and Economic Development	6
Department of Cultural Resources	5
Sweepstakes Commission	5
Fish and Game Department	3
Public Utilities Commission	3
Office of Energy and Planning	2
Department of Justice	2
Insurance Department	2
Department of State-Vital Records Division	2
Banking Department	2
Governor's Office	1
TOTAL	**426**

Source: LBA analysis of OIT data provided to the Fiscal Committee.

Revenues And Expenditures

The OIT is primarily funded by State agencies receiving services based on a comprehensive cost allocation plan. OIT expenditures are allocated to agencies based on direct costs and shared costs. The direct budget portion consists of line items budgeted at the request of the agency or salaries and benefits for positions assigned to the agency, such as embedded OIT personnel. The shared budget portion is based on shared services and shared OIT operating costs, which includes costs associated with the CIO's Office. The methodologies used to allocate shared costs use PC counts, server usage statistics, and office space. Approximately two-thirds of the OIT's budget represents direct charges and one-third represents shared charges.

Table 2 presents the OIT's revenues and expenditures for SFYs 2006 and 2007. Almost all of OIT's revenues are transfers from State agencies and are a mix of State, federal,

and other funding sources. Starting in SFY 2008, less than one percent of the OIT's budget was directly appropriated to the OIT from the State's General Fund. This support is used to pay for shared costs for smaller State agencies that previously did not have dedicated support from the OIT.

Table 2

OIT Revenues And Expenditures
SFYs 2006-2007

	2006	2007
Appropriations	**$ 66,265,496**	**$ 65,273,026**
Expenditures		
Agency Software Division	$ 20,668,058	$ 23,066,158
Operations Division	11,682,477	16,338,340
Technical Support Services Division	9,845,132	13,453,634
Office Of The Chief Information Officer	6,757,335	3,667,085
Web Services Division	1,261,747	1,337,370
Other	30,972	9,449
Total Expenditures	**$ 50,245,721**	**$ 57,872,036**
Differences	**$ 16,019,775**	**$ 7,400,990**

Source: LBA analysis of the OIT's Statements of Appropriation.

Determining savings resulting from the OIT is problematic. There is a difference between saving money while providing the same level of service and simply not spending, thereby deferring costs. In SFY 2006, the OIT expenditures were $50 million, which was $16 million less than its $66 million appropriation. In SFY 2007, the OIT expenditures were $58 million, which was approximately $7 million less than its $65 million appropriation. According to the OIT, these differences were the result of leaving vacant positions open; reduced expenditures on IT maintenance, equipment, consultants, and mainframe operations; and $1.5 million annual general fund budget reductions.

Logic Model

Measuring the performance of a government entity, such as the OIT, is difficult because many factors contribute to outcomes. Determining the absolute extent to which a government entity contributes to a particular outcome is not usually possible. Instead, the aim of performance measurement is to acquire insight and provide some evidence the OIT is actually having an impact. A key tool for determining attribution is a logic model, which illustrates intended relationships.

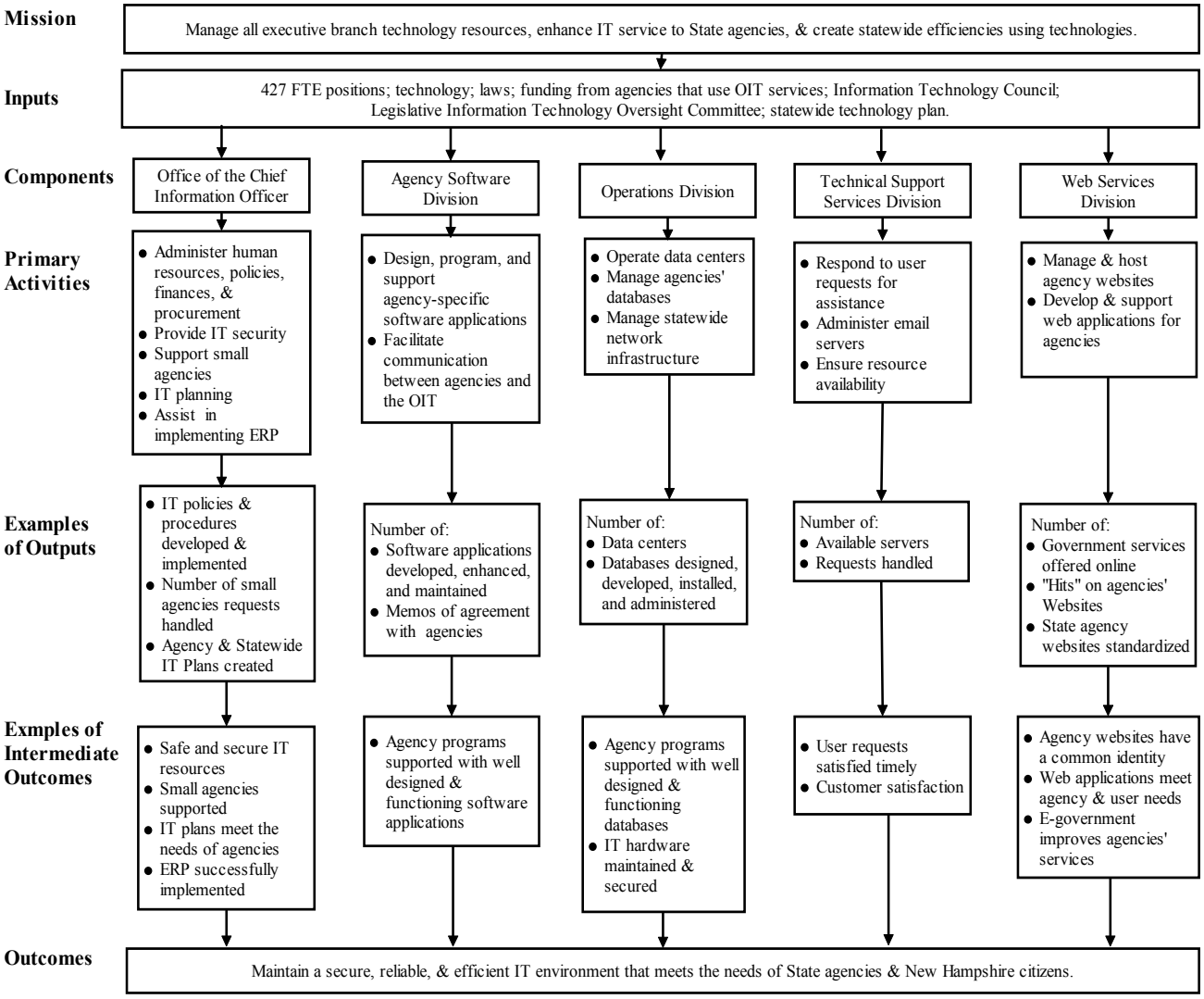
Logic models are presented as flow charts describing programs in a way that facilitates developing relevant measures by portraying intended causal relationships between activities, outputs, and outcomes. The flow chart illustrates how a program intends to

solve identified problems. Individual program activities, outputs, and outcomes are arranged in rows. Relationships between the various activities, outputs, and outcomes are arranged vertically on the page according to the sequential flow of program logic. The arrows linking the program elements signify the intended flow of the program.

The OIT's mission is at the top of the page as a reference point to show the rationale of the Office. Primary activities describe what the OIT does to produce outputs. The outcomes are what the OIT hopes to change. Therefore, OIT outcomes, or the intended impact of the OIT, should be linked to the mission. The purpose of the following logic model for the OIT, Figure 2, is to aid in understanding the OIT's functions.

Figure 2

OIT Logic Model



Source: LBA analysis of OIT information.

PERCEPTIONS OF THE OIT

Much of our analysis of the Office of Information Technology (OIT) is based on opinions solicited from those most affected by the creation of the OIT: State information technology (IT) professionals and agencies being serviced by the OIT. These two groups are most knowledgeable with reference to changes in IT services since the creation of the OIT in State fiscal year (SFY) 2004. In order to identify strengths and weaknesses of New Hampshire's consolidation of IT services, we interviewed 29 current and former OIT personnel, and six other professionals who were knowledgeable about the OIT. In addition to interviews, we surveyed both agency leaders and OIT personnel.

Our agency survey asked agency leaders and board administrators questions about the economical aspects of the OIT as well as the efficiency and effectiveness of IT services. The OIT categorizes agencies into four types: full-service, small agencies, self-service, and non-classified (see Appendix B). Upon consultation with the OIT, we omitted self-service and non-classified agencies from the survey because they do not receive a large range of IT services from the OIT. The full-service and small agency leaders were provided access to our web-based survey. There were 57 web-based surveys sent out via e-mail to agency commissioners, directors, or board administrators.[2] The agency survey yielded an 82 percent response rate with 47 completed surveys.[3]

Our survey of OIT personnel was also designed to determine if the creation of the OIT has resulted in more efficient and effective IT services. Both agency and OIT personnel surveys were designed with similar questions to allow comparison between responses from providers and receivers of OIT services. All OIT personnel whose occupations were directly related to IT were identified as web-based survey recipients. The two-part survey had questions for all IT staff in the first part, and questions only for OIT management in the second part. The OIT personnel survey yielded an 80 percent response rate with 303 completed surveys. Of those 303 responses, 20 were OIT officials who answered the second part of the survey.

Overall Findings

Survey responses indicate user satisfaction with the OIT is mixed. Overall, approximately 70 percent of State agencies and boards surveyed reported that OIT services are either excellent or good, 22 percent reported fair, and nine percent reported poor. When asked if nine types of IT services have improved, stayed the same, or declined since the OIT's creation, the majority of responses indicate services have either improved or stayed the same (Table 3). The exception to this is in programming/application development. The majority of full-service agencies reported service levels in this area have declined.

[2] Some boards' responses were condensed into one as the same individual oversees all of them.
[3] All but one of the 21 full-service agencies (the Department of Administrative Services) responded to our survey.

Table 3

Status Of IT Services Since The Creation Of The OIT

	Agency Leader Survey		OIT Personnel Survey	
	Improved Or Stayed The Same	**Declined**	**Improved Or Stayed The Same**	**Declined**
Database Administration	17 of 26	4 of 26	158 of 293	20 of 293
Email	37 of 42	1 of 42	225 of 294	16 of 294
Internet Access	41 of 45	0	192 of 292	45 of 292
Networking	26 of 32	1 of 32	188 of 294	43 of 294
Programming/Application Development	12 of 29	11 of 29	162 of 292	32 of 292
Project Management	15 of 30	11 of 30	145 of 290	49 of 290
Security	35 of 40	1 of 40	207 of 293	17 of 293
Technical Support	31 of 40	5 of 40	195 of 293	42 of 293
Web Page Support	29 of 36	4 of 36	150 of 293	19 of 293

Note: Response totals do not add up because some respondents answered "Do Not Know."
Source: Analysis of LBA survey data.

Our survey of agencies identified a notable division between small agencies' and the larger, full-service agencies' satisfaction with OIT services. In general, the small agencies that did not have IT personnel prior to the OIT's creation are satisfied with OIT services. OIT full-service agencies survey responses were split whether they were satisfied with OIT services.

Our overall analysis of survey responses provided by OIT personnel also identified a significant split in responses regarding the value of the OIT. Forty percent of OIT employees responding to the survey report they are embedded in the same agency they were employed with prior to the OIT's creation. These employees are more dubious of the value of the OIT. We found OIT employees not embedded in agencies to be more confident in the value of the OIT.

Benefits Of The OIT

Creating the OIT brought most Executive Branch IT resources together, with the potential for cost savings, expanded IT resources, and improved IT service. In some ways, consolidation has resulted in more efficient, effective, and economical IT services, due in part to standardization and better collaboration among personnel. Our surveys of OIT personnel and State agencies determined both parties agree the OIT is a valuable business partner. The leading strengths for the OIT are fewer single points of failure, better collaboration among OIT personnel, improved security for agencies' information systems, OIT employees embedded in agencies, increased support for smaller agencies, standardization of hardware, software and technical support, greater tracking of statewide expenditures, and control over IT expenditures. The OIT is a work in progress and greater efficiencies should be anticipated in the future.

Fewer Single Points Of Failure

Consolidating IT services has reduced single points of failure for State agencies. Our survey of OIT personnel asked if consolidation of IT functions has resulted in efficiencies for agencies. Fifteen responses specifically mention having cross-agency support, backup roles, wider and deeper knowledge of technical expertise across agency lines, and fewer single points of failure. State officials stated consolidation has led to the OIT's ability to have backup to keep critical operations going. Specifically, with the State's current funding situation OIT can cover (to some degree) unfilled IT positions to maintain key agency operations. According to the Chief Information Officer (CIO), if agencies were relying on their own independent IT groups the number of staff in single point of failure positions would be significant. Delays in filling these positions could possibly have an impact on agency operations. For example, if an agency's database administrator abruptly leaves State service, the OIT can cover that agency with one of the OIT's other 12 database administrators until that position is filled.

Better Collaboration Among OIT Personnel

Through interviews, 11 OIT managers and two other State officials knowledgeable about the OIT reported communication among OIT personnel and service quality have both increased since the creation of the OIT. Our survey responses from 47 agency commissioners, directors, and board administrators reflected the same. The OIT has a rich talent pool and centralization allows agencies greater access to IT experts. According to our survey of OIT employees, better collaboration was the most frequently cited example of an efficiency gained since creation of the OIT. According to an OIT official, there is a "knowledge base sharing among employees at OIT that would not have taken place without centralization."

Increased Control Over IT Expenditures

RSA 21-I:11, XI and XII requires agencies to obtain the CIO approval for IT purchases and request for proposals over $500.[4] The OIT has developed a comprehensive approval process and corresponding electronic Approvals and Expenditures (A&E) purchasing tool to facilitate this process. Four people at the OIT review each purchase request that will be paid using agencies' class 27 appropriations. There is a financial review by the Bureau of Finance and Administration to ensure the requesting agency has sufficient funds, technical review by two OIT directors to ensure the purchases are compatible with existing agency technologies, and the CIO's review. The A&E tool allows the OIT to monitor purchase requests as they move through the OIT approval process, prevents overspending, and helps the OIT meet budget reductions.

[4] The CIO must approve all agency IT expenditures over $500. When the Division of Information Technology Management (DITM) was in existence, the threshold for obtaining the DITM's approval for IT purchases was $5,000. This threshold was lowered to $250 when the OIT was given the DITM's responsibilities in 2003, but raised to $500 starting in SFY 2008.

Seven OIT officials and two other State officials knowledgeable about procurement stated the A&E tool is an improvement. Prior to its implementation in 2005, the approval process was paper based, which delayed purchasing. Further, the OIT did not spend its entire budget because there was no way to track how much the OIT was spending. However, not all agencies or OIT employees found the A&E tool to be an improvement. Based on our survey of agencies, when asked if they agreed IT procurement improved with the implementation of the A&E tool, 18 of 43 agencies disagreed or strongly disagreed, while 11 of 43 agencies agreed or strongly agreed with the statement. Our survey of OIT personnel revealed 98 of 194 respondents disagreed or strongly disagreed the A&E tool was an improvement, while 51 of 194 agreed or strongly agreed with the statement.

Tracking Statewide IT Expenditures

Since the creation of the OIT there is a clearer picture of the State's IT expenditures. Prior to the OIT, IT expenditures were spread throughout a number of object codes and classes within the State's accounting system, which did not allow for easy tracking or analysis. The OIT is primarily funded by the State agencies it supports through a line in each agency's budget: Class 27, Transfers to OIT. This allows for improved monitoring and reporting of IT spending. According to the CIO, the OIT's budget represents most, but not all, IT spending in the State. The OIT uses the A&E tool to track agencies' IT expenditures to meet budget reductions and prevent overspending.

Statewide Standardization Of Hardware And Software

To meet RSA 4-D:2, XII requirements, the OIT works with the Department of Administrative Services' Bureau of Purchase and Property (P&P) to develop a list of commonly used hardware and software products for agencies' purchase. The OIT determines the manufacturers and product lines that are on the IT Standard Product List and the P&P updates prices monthly. According to the CIO, standardizing common purchases has been successful. Our survey of OIT personnel depicted standardization, particularly of hardware and software, as an efficiency gained from consolidation. Standardization allows for the OIT to stock parts and service personal computers more quickly, and prevents agencies from having to research technology equipment on their own. Six OIT managers and a State IT leader said standardizing equipment is a benefit of OIT centralization. Based on our survey of agencies, 25 of 43 agencies found the IT Standard Products List advantageous when procuring IT products, while 6 of 43 agencies did not.

Use of standard products, software, and hardware should allow for skill standardization among technicians. According to four OIT officials and one other State official knowledgeable about the OIT, standardizing products and equipment has led to standardizing training and troubleshooting. Prior to the OIT, there was no IT standardization between agencies. Now, technicians can provide the same services to more than one agency.

Standardization Of Technical Support

Technical support for agencies is now consolidated within the OIT's Technical Support Services (TSS) Division.[5] Prior to the OIT, technical support was agency based. All technical support requests now go to a centralized help desk, which can resolve approximately 20 percent of issues over the phone. All requests are logged and tracked in a database and technicians are sent to the location as needed. Technicians are TSS employees embedded at large agencies. The TSS tracks and regularly reports on requests (a.k.a., tickets), and seeks feedback from users. The TSS reports high user satisfaction with TSS services.[6]

Our survey of agencies found 33 of 44 agencies were very satisfied or satisfied with the technical support provided by the OIT, while 3 of 44 agencies were dissatisfied. In addition, 16 of 40 agencies said technical support had improved under the OIT's control, while five said it declined. Both our survey of OIT personnel and our survey of agency heads listed standardization, better service, and availability of IT support as benefits or efficiencies since the creation of the OIT. While consolidation has allowed improved oversight of technical support, some State employees miss the ability to directly seek help from the IT staff embedded within their agencies. To these employees, obtaining technical assistance has become less efficient because they have to call the OIT's help desk and in some cases wait for the technician embedded in their agency to be sent by the help desk.

IT Support For Small Agencies

RSA 4-D:2, I requires the OIT to provide technical IT consultation to all executive branch agencies. Full-service agencies initially contributed resources and personnel to the OIT and therefore received the most services. While small agencies were supposed to receive all OIT services, they did not have the funds to pay the OIT. That changed starting with State fiscal year 2006 when small agencies had to pay for OIT related expenses. The Agency Support and Planning Group (ASAP) within the CIO's Office was created by fall 2006 to provide consistent IT support and services to executive branch agencies that were not previously fully supported by the OIT. The OIT's SFYs 2008-2009 budget contains approximately $450,000 in general funds for each year to support two positions, (a business analyst and a support technician) dedicated to small agencies, and pay the OIT shared cost component for 28 small agencies that are primarily funded by the General Fund. The 28 agencies are now only charged for their direct IT costs.

According to both OIT personnel and the Governor's Office, services for small agencies have improved since the creation of the OIT. Our survey of agencies found small

[5] The exception to the OIT's centralized help desk is the Department of Health and Human Services (DHHS). The DHHS has had its own outsourced help desk since the early 1990s. The help desk provides services to DHHS employees 24 hours a day, seven days a week. All DHHS requests for technical assistance are routed through this help desk; but the onsite technicians who service the DHHS are OIT employees.

[6] Our survey of a random sample of help desk users confirmed a high user satisfaction with TSS services.

agencies were generally satisfied with OIT services. Basically, small agencies had no dedicated IT support prior to the creation of the OIT. However, during our audit period, an OIT official and a State official knowledgeable about the OIT said small agencies still receive limited services.

Increased Security

Ten OIT managers we interviewed said security has improved as a result of actions taken by the OIT. Of the 303 OIT employees we surveyed, 140 thought security had improved. In addition, our survey of 47 agencies found 37 were very satisfied or satisfied with the security provided by the OIT, while 2 agencies were dissatisfied. Of the 47 agencies, 20 responded security had improved under the OIT's control, while one said it declined.

In 2006, after a security breach, the OIT had an outside security assessment conducted, which identified 463 specific weaknesses. The Information Technology Security Group (ITSG) was created within the CIO's Office, in part, as a result of the security breach and the subsequent assessment. Prior to the ITSG, there was no designated organizational security group and no full-time security resources or policies. According to the head of the ITSG, of the 463 weaknesses, 395 were fixed according to the consultant's or OIT's preferred methods, 22 appear to be "false positives," and 46 were considered acceptable risks by the OIT. The ITSG continuously monitors the OIT networks for security concerns.

Keeping OIT Employees Embedded

Having OIT personnel embedded in agencies is generally considered to be beneficial according to agency and OIT personnel surveys. Most Agency Software Division (ASD) personnel, some Technical Support Services (TSS) Division, and Operations Division personnel are embedded in the OIT's full-service agencies'. Based on our survey results, 63 percent of OIT personnel report that they are embedded. As shown in Table 4, surveys of OIT employees and full-service agencies leaders found that both groups felt it is beneficial to have certain OIT personnel embedded in agencies. Seven OIT officials and one other State IT official believe that embedded staff are a benefit of having centralized IT services. Embedded staff have a better understanding of the host agency's business, which can improve OIT services.

Table 4

Survey Respondents Who Found It Beneficial To Have Certain OIT Positions Embedded In Agencies

	IT Leaders	Technical Support Staff	Programmers/ Developers	Database Administrators
OIT Personnel Survey	216 of 301	221 of 301	199 of 301	176 of 301
Full-Service Agency Survey	14 of 19	15 of 19	12 of 16	10 of 16

Source: LBA surveys of OIT employees and State agencies.

Drawbacks Of The OIT

As with any major change in the structure of State government, there can be positive and negative consequences to the agencies involved. Through interviews with OIT officials and other officials knowledgeable about the OIT, as well as our surveys of OIT personnel and of State agencies, our audit has identified six negative results from the consolidation of IT services. In some ways, consolidation has resulted in inefficiencies, increased costs, and loss of control over resources.

IT Procurement Process Seen As Inefficient

The State's IT procurement process is viewed as overly cumbersome by some agency leaders and OIT personnel. Survey comments from both OIT personnel and agency leaders identified the process as having too many layers of review, not meeting agency needs, and as constantly evolving. The procurement process involves three entities:

- agencies, where the procurement request originates;
- the CIO, statutorily mandated to approve any purchase over $500; and
- the Department of Administrative Services' P&P, the organization with authority for purchasing goods and services for executive branch agencies.

Each government entity plays a role in IT purchasing and has its own perspective on the procurement process. Both OIT and P&P personnel recognize the process as inefficient and identify other entities as a cause of the inefficiencies.

Of the 194 OIT personnel responding to our survey with an opinion, 98 either disagreed or strongly disagreed that IT procurement for agencies has improved since the implementation of the OIT's A&E purchasing tool. OIT personnel identified the process for the A&E tool, while effective, as not efficient because of timeliness issues. They indicated this is a direct reflection on the quality of information received by agencies. Interviews with OIT personnel revealed the P&P bid process adds additional time.

Further, the CIO stated the multi-form paper-based process at P&P is not timely or efficient, and the CIO would like the process to be fully automated.

The P&P purchasing agent stated although the process is running more smoothly, it is not faster. The P&P often receives purchasing requests requiring additional information from agencies. The purchasing agent also identified a lack of familiarity with the procurement process at the agency level. A lot of the agency's time within the purchasing process is spent waiting for the OIT.

Many agencies are currently unhappy with the OIT regarding IT procurement procedures. Of the 42 respondents to the agency survey, 17 either disagreed or strongly disagreed that hardware or software procurement has improved because of the consolidation of services under the OIT. In addition, 18 of the 42 agencies surveyed disagreed or strongly disagreed that IT procurement has improved since the implementation of the A&E tool. Agencies are also unhappy with the P&P bidding process, 16 of 32 agencies responded they disagreed or strongly disagreed, the process for putting a technology related purchase out to open bid is timely or efficient. Survey comments from agency leaders described a process in which:

- they do not get the items they need,
- there are significant process delays,
- unreasonable layers of approval exist,
- no actual cost reduction occurs, and
- there is pricing that is not congruent with market prices.

In addition, survey comments from OIT personnel and agency leaders revealed that efforts to reduce costs have not factored in associated rising hidden costs, including personnel costs dedicated to the purchasing process and time delays in agencies.

Increased Agency Costs

According to five OIT officials and five officials knowledgeable about the OIT, IT costs for agencies have increased since the creation of the OIT. Thirty-two agency leaders who responded to our survey (66 percent) indicated the OIT did not reduce their agency's IT expenditures. The cost of the CIO, division directors, the security group, other indirect financial and support staff, and administrative support systems are allocated as "shared costs" to agencies. These costs add to agencies' total IT costs. Agencies were not allocated or budgeted additional funds to pay for the additional costs and often, small boards and commissions had not planned on an increase in IT expenditures. Finally, three IT Leaders said the agencies they work in pay more for the same or a diminished level of service than received prior to the OIT.

Decreased Support For Full-Service Agencies

According to 14 OIT officials and the CIO, full-service agencies have been negatively affected by the consolidation of IT services into the OIT. Full-service agencies receive

services from all four OIT divisions and the CIO's office, and have embedded staff, including IT Leaders. IT Leaders function as liaisons between the agencies they work in and the OIT. OIT officials and the CIO cite three negative effects:

- IT Leaders now need to focus on the "care and feeding" of the agencies they support and on OIT responsibilities. IT Leaders can have many duties; they manage embedded OIT personnel, IT contracts, IT projects, agency IT budgets, and agency IT plans. In addition, they are responsible for maintaining agency hardware and software, performing administrative duties, and attending agency management meetings. Three OIT personnel report one drawback to the IT Leader position: they are a single source of failure because everything flows through them and there is a lot of responsibility in one person.
- Large agencies such as the DHHS and the Department of Transportation lost resources both to centralized the OIT administrative functions and to small agencies that previously had no IT support. These agencies transferred developers and technicians to the OIT; some of the developers and technicians continue to do those functions at the agencies they worked for prior to the OIT, but others became the core of the OIT's leadership and the Bureau of Finance and Administration.
- According to two OIT officials, agencies believe they do not have as much direct control over their IT related decisions and priorities as they used to. However, eight OIT officials said this is just perception, not reality. OIT lets the agencies control their own decisions and set their own priorities.

Loss Of Agency Control Over IT Personnel

Twelve OIT and other State officials indicated that some agencies want their ASD programming personnel back under their control instead of centralized in the OIT. Seven OIT employees who provided comments to our survey also indicated that embedded personnel should be sent back to agency control. They cite two main reasons: 1) agency application development is very agency-specific, and 2) many embedded staff identify more with their agency than with the OIT. According to an OIT official, some agencies have resented OIT from day one because it grabbed resources from them. This has resulted in "turf battles" between agencies and the OIT. In fact, another OIT official told us that agencies create IT positions to keep control of IT and keep agency IT functions out of OIT. OIT personnel stated certain agencies have their own IT personnel who are not OIT employees.

According to the CIO, prior to the creation of the OIT, agencies that did not receive general funds could hire IT personnel whenever needed. Now, most technical staff in the Operations and TSS Divisions are funded by a mix of general funds and non-general funds. As a result, agencies that do not receive general funds are impacted when positions are frozen or there are other limits on the use of general funds.

Loss Of Agency Control Over IT Purchasing

Prior to the OIT, agencies would use the P&P process to purchase hardware and software. That changed when the Legislature required the newly created CIO position to approve IT purchases over a certain dollar amount. As part of the CIO approval process, the OIT has developed a list of approved IT products, which has resulted in agencies losing some flexibility over their IT purchasing decisions. Some agency and OIT personnel claim the loss is more than in decision-making; the agencies suffered a loss in procurement expertise and resources when the OIT was created. Our survey of OIT personnel revealed the procurement and purchasing process as the number one inefficiency due to the creation of OIT.

Dual Allegiance Of Embedded Personnel

Most of the ASD personnel, and some of the TSS and the Operations Division personnel are embedded in the OIT's full-service agencies. Keeping certain personnel embedded in the same agency they worked for prior to the OIT was a benefit proposed during the creation of the OIT. While many OIT personnel and agency heads feel embedded employees are beneficial, this arrangement has created some problems. Certain embedded staff have problems defining their roles. They still see themselves as agency personnel instead of OIT personnel, and are sometimes treated as if they were agency personnel. According to six comments from OIT employees who responded to our survey, embedded OIT personnel can feel more loyalty to their agency than to the OIT. The dual allegiance of OIT personnel can inhibit the OIT from becoming a well-functioning and cohesive unit of State government.

Perceptions Of Consolidation Similar In Other States

Many of the benefits and drawbacks identified from our surveys and interviews are not unique to New Hampshire. Research by the National Association of State Chief Information Officers (NASCIO) found other states face structural challenges similar to New Hampshire's when trying to consolidate IT resources. A 2005 NASCIO survey of IT consolidation efforts in 34 states and the District of Columbia discovered a strong trend towards consolidating key IT functions whenever applicable. The survey also found 28 out of 35 respondents reported workforce resistance to change as their major obstacle in consolidating. Table 5 presents issues relevant to both decentralized and consolidated IT resources. Many of the NASCIO's consolidation issues are similar to issues the OIT is experiencing.

A survey conducted by the Virginia Information Technologies Agency (VITA) found the same obstacles as New Hampshire in IT consolidation. Many Virginia state agencies reported there was no change in services, increased cost for services, no long-term benefits to the effort, and some agencies are not supportive of the integration and transformation effort. Based on survey responses VITA determined more time needs to be spent managing the relationship with customer agencies and transformation will be difficult without full support and cooperation of customer agencies. Moreover, VITA

personnel reported similar responses to those in our OIT personnel and agency leader surveys.

Table 5

Characteristics Of Decentralized And Consolidated IT Services Within State Governments

Issues	Decentralized IT Services	Fully Consolidated IT Services
Cost Considerations	• Highest cost • Low economies of scale • Fragmented planning, budgeting, and investment • Decentralized procurement; Limited buying leverage	• Lowest cost • Cost equalization • Centralized procurement • Standardization lowers cost of operation, maintenance, and support
Challenges	• Highly differentiated and difficult to coordinate • Variable standards and policies • Variable staff skills • Duplication of effort • Higher costs across government	• Slow process to implement • Continuous process • Detached from business units-limits understanding of business needs • Viewed as unresponsive to agency needs
Level of Flexibility	• High departmental flexibility • Agencies have most control over planning, policy, budget, and operations • Most responsive to agency needs	• Lower end user flexibility (usually highly standardized) • Often mandated • Inflexible • Limited agency influence
Concerns	• Fastest response to externalities • Disparity between the haves and the have nots	• Does not change quickly • Funding model issues

Source: Based on the 2006 NASCIO report, *IT Consolidation and Services: States Seeking Economies of Scale.*

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OBSERVATIONS

We have identified seven weaknesses in the Office of Information Technology's (OIT) operations that reduce the likelihood of it providing efficient, effective, and economical information technology (IT) services to executive branch agencies. The OIT lacks a fully integrated project management approach to balance the State's and individual agencies' priorities and needs. Agencies and OIT personnel criticize the procurement process, which should be evaluated by the OIT. The OIT has not fulfilled four statutory requirements to: develop a data center consolidation plan, monitor trends, measure user satisfaction, and provide training to its personnel. Lastly, the OIT should seek clarification from the Legislature about its reporting requirements.

Observation No. 1

Strengthen Project Management

OIT oversight of IT projects is limited, as projects are primarily planned, managed, and implemented at the agency level. This approach prevents a statewide perspective on IT projects that could potentially result in greater efficiency. Without increased coordinated statewide project management oversight, opportunities for cost savings are missed, as there is no assurance the State identifies projects with similar objectives across agencies. In addition, the OIT has no formal process for identifying and tracking riskier IT projects in order to promote successful outcomes.

A 2005 National Association of State Chief Information Officers (NASCIO) survey of 34 states and the District of Columbia found 26 states were incorporating a statewide project management office structure to implement centralized oversight of project management. According to NASCIO, "[i]t appears that states recognize the need to at least govern portfolios and common project management practices centrally while at the same time distributing some [project management office] activity and functions to the agencies." The OIT has attempted to centralize its oversight of IT projects with the creation of a position within the Agency Software Division in July 2003 and later with a unit (known as the Project Integration Bureau) within the Chief Information Officer's (CIO) Office. These efforts did not last, leaving no formal structure for centralized oversight of IT projects. In addition, there are a number of best practice strategies for IT project management that have not been formally established by the OIT or State agencies. We found the following deficiencies with regard to IT project management best practice strategies:

- Agencies typically do not have strategic business plans to use in IT project planning.
- The OIT does not have a formal process for identifying IT projects with a high risk of failure.
- The OIT does not formally assess IT projects to identify and eliminate duplicative work and encourage applications development for use across multiple agencies.
- OIT personnel involved with project management need more training.

According to the CIO, one barrier to creating a centralized position or office responsible for project management is the associated increase in shared costs allocated to all agencies the OIT serves. While incorporating a centralized project management function reinforces a state perspective on prioritizing IT projects, it could also result in agencies losing control over when IT projects are initiated and how they are implemented.

A number of statutes give the OIT broad authority to manage State IT resources; however, there is no direct guidance on managing and overseeing IT projects, specifically when or if the OIT can override agency priorities with a statewide priority. With a statewide perspective of IT projects, the OIT can better identify opportunities to share resources between IT projects with similar objectives. Properly managed, centralized oversight of all IT projects can decrease the potential to exceed allocated budget and projected time frameworks by identifying poorly planned and performing projects.

OIT management is aware of the importance of managing and collaborating with agencies while working on IT projects. We found the OIT has established some key elements for project management:

- Development of agency and Statewide IT plans that list IT projects for the coming biennium.
- Establishment of a system development methodology which provides standards for all IT projects to follow when being planned, developed, tested, and accepted by agencies.
- The OIT allows flexibility in following the system development methodology for smaller IT projects, especially when the resources allocated would be excessive for the scope of the project.
- Creation of the project concept document that: 1) identifies a business sponsor (usually an agency person that has ultimate authority over the project), 2) identifies a project manager (usually an OIT person who is responsible for implementing and reporting on IT projects), 3) controls project funding, 4) resolves issues and scope changes, 5) approves major deliverables, and 6) provides high-level direction.
- The OIT requires IT Leaders to submit quarterly reports on IT projects to the CIO's Office.

Recommendations:

The Legislature may wish to define the OIT and agency responsibilities for setting priorities for IT projects and require regular reporting on projects' progress to remain informed of IT projects at risk for delays, cost overruns, or failure. The OIT should implement additional project management best practices and formalize its management and oversight of IT projects.

OIT Response:

We concur.

OIT has focused on partnering with agencies on the management and implementation of their projects. The OIT System Development Methodology includes project management components but our model can be improved and expanded upon to increase IT project success.

A significant issue, however, is that project management is perceived by the agencies as an additional bureaucratic layer with little cost benefit to the overall success of the project. Projects are a success when the project team has a clear scope of work with identified roles and responsibilities and the timeline, costs and resource allocation are defined and tracked. A cultural change must occur to ensure that both business stakeholders and IT staff accept structured project management practices. This approach is critical to ensure projects stay within scope and on time and on budget.

Step	*Action*	*Expected Date of Implementation*
1.	*Work with the IT Advisory Council and the Legislative Oversight Committee on legislative changes required to set IT priorities and reporting requirements*	*January 2009*
2.	*Identify a training program for staff with project management responsibilities*	*January 2009*

Observation No. 2

Evaluate Entire IT Procurement Process

State agencies and OIT personnel view the procurement process for IT as inefficient. There are two government entities with separate and distinct statutory responsibilities over the State's IT procurement process. The CIO is required to approve all IT purchases over $500. The Department of Administrative Services, Bureau of Purchase and Property (P&P) is required to purchase all IT goods and services for the State's executive branch agencies.

OIT personnel and the P&P purchasing agent who work on IT procurement have acknowledged that the procurement process is not timely. Agency survey responses also identify the procurement process as slow and cumbersome. The OIT, P&P, and agencies all identify each other as the source of inefficiencies in the process. Because the IT procurement process is bifurcated, neither the OIT nor P&P are responsible for examining the entire procurement process. However, the OIT has data available to measure the time it takes for an IT purchase request to go through the various stages of the entire procurement process. The OIT developed the Approval and Expenditures (A&E) application to track and review IT purchase requests.

The OIT has not analyzed A&E data to determine where inefficiencies in the State's process may lie. Without this overview, each government entity involved in the State's IT procurement process becomes isolated and focuses on its own individual part of the process. A fully integrated State IT procurement process cannot be achieved without first identifying where inefficiencies in the process are located.

Recommendation:

We recommend the OIT analyze the purchasing data it collects to identify inefficiencies in the State's IT procurement process.

OIT Response:

We concur.

The procurement of IT goods and services is a joint responsibility of OIT and the Division of Plant and Property. OIT and Plant and Property must work together on any improvements in the IT procurement process. With the implementation of NH FIRST during the current biennium, it is not likely that any new processes will be undertaken, except as it relates to ensuring the successful roll-out of NH FIRST.

The detailed technical review of proposed IT procurements is a critical step that has been added to the process by OIT. It reduces errors in product selection and improves compatibility with existing infrastructure and support systems. Unfortunately, the perception from the agency point of view is often that this detailed review is additional bureaucracy. While it is rare that OIT denies an order, it is common for OIT to correct an order based on these reviews. This takes time, but it results in orders being submitted correctly the first time (rather than corrected after the vendor receives the order) and the customer receives supported product that meets their needs.

OIT has analyzed data in the Approvals and Expenditures (A&E) tool that has started to yield valuable insight into the IT approval process. The requests in the A&E tool have been evaluated to identify the length of time a request takes to process from agency submittal to submission to DAS for the purchase. What has not been evaluated is a secondary set of data that may or may not provide insight into the various stages of creating purchasing documents and managing the bid process.

Although A&E will be replaced by NH FIRST, the reports that are produced as a result of studying the A&E approvals and the purchasing document creation processes will provide baseline information for the evaluation of NH FIRST information technology purchasing.

Step	*Action*	*Expected Date of Implementation*
1.	*Work with DAS in the implementation of NH FIRST so that inefficiencies are mitigated whenever possible (within the scope of the project).*	*Winter 2009*
2.	*Complete an analysis of A&E data related to purchasing document preparation and the bid process to determine if the data will yield insight into IT purchasing timeframes.*	*April 2009*

Observation No. 3

Develop Data Center Consideration Plan

RSA 4-D:2, X requires the OIT to develop a data center consideration plan to assign strategic data centers throughout the State for data processing operations and service responsibilities for all executive branch agencies. Best practice from the NASCIO says consolidating a state's IT infrastructure can lead to infrastructure optimization, more secure physical assets, and lower operating costs. The April 2005 review of the OIT entitled *Strengthening State Government Information Technology Management and Service* recommended consolidating agency data centers as much and as soon as possible in order to reduce overall State IT costs.

In June 2005, the IT Council created the Data Center Consolidation Sub-Committee to study data center consolidation in the State. After discussing the possibility of data center consolidation with various State agencies, the Sub-Committee concluded agencies indicated a need to maintain the current status of multiple data centers and offered their infrastructure for housing other agency hardware. Agencies determined consolidating would not be cost effective and would limit their ability to provide the same levels of service as they currently provide. Agency leaders who responded to our survey had a number of concerns about relocating their data centers. These concerns include the possibility of a single point of failure (19 of 48 respondents), the upfront cost to consolidate (23 of 48 respondents), and security requirements (21 of 48 respondents).

According to the CIO, the State's lack of strategic data centers throughout the state and reluctance to consolidate are missed opportunities for the OIT. Three OIT officials and two other professionals knowledgeable about the OIT said the State can save money and space by consolidating data centers. Responses to a 2007 NASCIO survey of state CIOs regarding their data center consolidation initiatives reveal a strong trend towards states consolidating their computing assets into raised floor, secured, centralized data center facilities. Fifteen of 29 states responding to the survey have a data center consolidation initiative either completed or in progress.

Recommendation:

The OIT should comply with RSA 4-D:2, X and develop a data center consideration plan that could result in more efficient, effective, and economical data center operations.

OIT Response:

We concur.

OIT is aware that cost savings and reliability improvements can be achieved through data center consolidation.

This premise is supported by a 2007 NASCIO – Enterprise Data Center Consolidation survey where 29 states responded. 76% were either planning, in progress or completed and another 17% had proposals to consolidate. The primary benefits identified were cost savings and management efficiencies resulting in better service.

In 2005, in conjunction with the IT Council, OIT undertook a data center consolidation study with the final report being presented to the Information Technology Council on 8/16/05. That study report stated in its executive summary that "The committee established the criteria for evaluating the potential of data center consolidation. Following that, OIT polled the participating agencies to determine the appropriateness of consolidation for those centers. Not surprisingly, the two departments that currently participate in consolidating data centers, the Department of Health and Human Services and the Department of Administrative Services, indicated a willingness to maintain that status. Without exception, the remaining agencies indicated a need to maintain the current status of their data centers and offered their infrastructure for consideration for housing other agency hardware."

OIT must work with the Legislative IT Oversight Committee to obtain support for making data center consolidation happen. As was reported in the data center consolidation report, agencies are reluctant to participate. OIT must also analyze our network infrastructure to be sure that the capacity required to carry the agency traffic to and from the data center exists or can be procured at a reasonable price.

Step	*Action*	*Expected Date of Implementation*
1.	*Update facility survey*	*September 2008*
2.	*Perform a Network evaluation for capacity for agency support if servers are moved to a data center*	*November 2008*
3.	*Seek funding for a server virtualization prototype project*	*November 2008*
4.	*Engage Legislative IT Oversight Committee for support for a strategy*	*January 2009*

Observation No. 4

Research New Technologies To Drive Efficiencies

The OIT has not fully implemented RSA 4-D:2, II, which mandates monitoring technological trends and informing all State employees and officials about state-of-the-art information systems and management techniques. According to the CIO, efforts in this area are limited by lack of resources. Maintaining current operations is the CIO's most important priority; operational issues and ongoing projects consume available staff resources. While some IT projects have a research component, this component is usually limited by the scope of the individual project and does not address statewide needs.

The OIT lessens its ability to embrace new technologies and become more efficient if there is no concerted effort to identify and evaluate these technologies. According to the OIT's website, one of the reported benefits of centralizing the State's IT resources is establishing a program to:

> evaluate new technology to determine how it might positively impact state government and help drive efficiencies. [The OIT] will embrace new technology that helps the state reach its business goals and contributes to [the OIT's] cost savings. The result will be an optimized IT environment fully capable, and ably staffed to meet the demands of doing business with or for the state.

Exposure to proven and emerging concepts, approaches, and technologies is critical to helping the State stay technologically current. One way for OIT personnel to learn about new and emerging trends is through participation in nationwide organizations. These organizations provide many resources including research papers, training sessions, and educational conferences that can help inform the OIT personnel about IT trends occurring around the country. The CIO is concerned recent budget cuts will not allow OIT personnel to take full advantage of these kinds of opportunities. Another way for the OIT to stay current is to ensure OIT personnel are trained in state-of-the-art technologies and related management techniques (see Observation No. 6).

Recommendations:

The OIT should obtain and disseminate information regarding new technologies and management techniques, as required by RSA 4-D:2, II, in order to provide well-informed advice and services to agencies. It also should seek to amend RSA 4-D:2, II by deleting the requirement to inform "all state employees," as there is little value in implementing this requirement for State employees who do not work with information systems and management techniques.

OIT Response:

We concur.

OIT's priority is focused on maintaining operations and project efforts. Although faced with resource constraints exacerbated by hiring restrictions, OIT has conducted research in new technologies, driven primarily by the procurement of solutions to meet evolving state agency business requirements. The procurement process frequently includes a review of available options and consideration of existing solutions to leverage investments and potentially reduce costs. OIT does concur that a statewide approach is not always employed and that no resources are dedicated to research on new technologies and emerging trends.

OIT has membership in the nationwide National Association of State Chief Information Officers (NASCIO) and the Multi-State Information Sharing and Analysis Center (MS-ISAC). NASCIO provides information on technology products and services through national conferences, web casts, research briefs and publications. The MS-ISAC provides a variety of security-related resources and collaboration with other states. Sources of information are available via the Internet to assist OIT in new technology education; however, subscriptions to technology research providers such as Gartner have been unfunded due to budget constraints. OIT managers are members of several organizations that provide information on technologies and trends; however, funding has limited attendance and restricted educational opportunities.

Step	*Action*	*Expected Date of Implementation*
1.	*Request FY10-11 funding for dedicated resources to facilitate a structured approach*	*July 2009*
2.	*Request FY10-11 funding for organizational membership, training and travel*	*July 2009*
3.	*Request FY10-11 funding for a subscription with a technology research firm*	*July 2009*
4.	*Initiate actions to amend RSA 21-R:4 II to exclude "all state employees"*	*July 2009*

Observation No. 5

Additional Metrics Need To Be Implemented

The OIT has not fully implemented statutorily required agency satisfaction metrics. RSA 4-D:6 requires the CIO to develop a measurement and communication system to track agencies' satisfaction with IT services. The OIT has developed and collected agency satisfaction metrics from users of the Help Desk. The Technical Support Services (TSS) Division uses two electronic surveys to measure customer satisfaction with the help desk and technical support provided by the OIT. One survey is sent to the user immediately after the OIT employee completes action on their help desk request. The second survey is

sent out every six months to all employees in all agencies supported by the OIT. The OIT does not have a system in place to obtain user satisfaction with non-help desk services such as:

- application development and programming,
- security,
- IT project management, and
- web page support.

The OIT is required to ensure means exist for agencies to get the IT solutions they need. The OIT is mandated to set benchmarks and continually measure its performance.

RSA 4-D:2, XV makes the OIT responsible for developing an IT "satisfaction measurement program" to ensure resources and strategic plans are meeting the needs of each agency. The template the OIT uses for memorandums of agreement with partner agencies contains performance measures and statistical reporting requirements that should be prepared regularly. Besides the TSS user surveys, there is no indication the other data mentioned in the memorandums are collected and shared with the partner agency. The Director of the Operations Division was unaware two measures, found in the template, should be produced by the Operations Division. Further, a quarterly satisfaction survey required in the memorandums is not conducted. It should be sent to the partner agency "to help determine the health of a project. This survey will rate the OIT and the Partner Agency's performance and cooperation in the project."

The OIT compromises its own ability to assess agency satisfaction with its services, as well as the ability of the Governor and the Legislature, through its failure to develop required metrics. The NASCIO, and best practices recommend using performance measurements (i.e., metrics) showing user satisfaction with IT services. Metrics should be tied to an agency's objectives and goals. Metrics will enable the measurement of progress and increase the chances of successful outcomes.

Recommendations:

The OIT should collect user satisfaction metrics for IT services provided to agencies and set benchmarks as required by statute. Results should be provided to OIT stakeholders such as agencies, the Information Technology Council, the joint Legislative Information Technology Oversight Committee, the Governor, and be available on the OIT's website for public inspection. In addition, OIT should fulfill the terms under its memorandums of agreement with partner agencies.

OIT Response:

We concur.

The Help Desk centric approach to satisfaction metrics now in place in OIT does represent more than just the work of the Technical Support Services Division, as Help

Desk tickets are the method requesting a number of services from the other OIT divisions. However, OIT does agree that there is room to improve the program to ensure all Divisions receive adequate feedback from the user community.

The information gathered under the existing program is available to the agencies served by OIT. OIT concurs that the information should be available to a wider audience.

Step	*Action*	*Expected Date of Implementation*
1.	*OIT will improve methods of distribution of satisfaction metric information to the wider audience as recommended by the LBA*	*December 2008*
2.	*OIT will expand its approach in gathering satisfaction metrics for the services not adequately covered by the Help Desk centric satisfaction metrics program.*	*January 2009*

Observation No. 6

Establish Professional Development Programs

OIT technicians[7] and managers are not provided training and education programs as mandated by RSA 4-D:2, VII. The OIT has not established requirements for either the type or the amount of training technicians and managers should receive, resulting in training that is not consistent or uniform. While the *NH Information Technology Plan 2005-2009* identifies the need for the OIT to train State employees on IT related topics, it is silent on the training needs of OIT personnel. According to our survey of OIT employees, 112 out of 300 respondents indicated the OIT did not provide them with adequate training for their jobs, and 135 out of 299 indicated the OIT did not provide adequate training to keep them current in their field of expertise. According to an OIT official, training requirements are up to the employee, supervisor, and manager. The OIT provides a required sexual harassment prevention training and it recommends, but does not require, a new employee orientation.

According to the OIT's website, one of the goals of centralizing IT services is to allow staff members to begin to focus on their strengths and transition from being generalists to specialists. Developing its own technical IT staff into experts in the areas they support will help the OIT become a "world-class organization." Furthermore, a 2003 OIT presentation to the Fiscal Committee stated that creating in-house specialists could reduce the cost of support.

According to memorandums of agreement between the OIT and partner agencies, the OIT is supposed to provide IT training on a best effort basis to partner agencies, as resources permit. Three OIT managers said there are few monetary resources available

[7] State law does not define which OIT positions are "technicians." We interpret the term OIT "technicians" to mean all non-managerial IT-related positions.

for training. Training for embedded OIT personnel is billed directly to the host agency, whereas training costs for all other OIT personnel is distributed to all agencies through the OIT's shared costs. The OIT seeks the host agencies' approval prior to expending resources on training of embedded employees. Agencies with embedded OIT employees may be reluctant to allow them to attend training because of the added cost and the potential negative impact on agencies' daily operations.

IT employees need to be kept up to date with their technical skills or they may limit the State's ability to efficiently, effectively, and economically manage IT resources. Increased training is one way for OIT personnel to keep up with emerging trends, and assist with the OIT's compliance to RSA 4-D:2 II, which makes the OIT responsible for informing State employees and officials about state-of-the-art information systems and management techniques (see Observation No. 4). Further, training may support IT employee retention. Turnover among experienced staff can negatively affect the OIT's ability to provide efficient and effective IT services. The marginal costs of providing or paying for training to keep an experienced OIT employee in State service may cost less than hiring and training a new employee.

Recommendations:

The OIT should establish professional development programs to ensure its technicians and managers remain current and improve their skill sets. These programs should take into consideration current and future needs of agencies the OIT supports. The CIO should seek advice from the IT Council on the best options for establishing and paying for professional development programs in order to fulfill statutory requirements and meet agencies' needs. Such programs should be made part of agencies' and Statewide IT plans, and included in the OIT's budget.

OIT Response:

We concur in part.

OIT agrees with the LBA that a well trained staff is critical to the continued operation of OIT. However, the creation of a professional development program must address retention and promotion as well as training. Under current the Division of Personnel (DOP) rules and the provisions of the Collective Bargaining Agreement there is little room for innovation at the agency level. OIT believes this must be addressed for the entire executive branch. Supporting this position is the fact DOP has established a Workforce Development Committee to address these issues for the entire executive branch.

Any program of this nature must be considered an investment in the future. At this time under current fiscal circumstances it is very difficult to obtain resources for investment programs as the focus is on maintaining current operations.

Step	*Action*	*Expected Date of Implementation*
1.	*OIT will work with DOP's Workforce Development Committee to develop approaches to facilitate professional development.*	*Ongoing*
2.	*OIT will seek increased training funds to ensure staff can maintain and enhance their skill levels to meet agency needs.*	*July 2009*

Observation No. 7

Reassess OIT's Reporting Requirements

The OIT did not submit formal reports to the Governor or the Legislature during our audit period (State fiscal years 2006-2007). Three different statutes require the OIT report on its activities to the Governor or Legislative committees:

- Monitor and report to the Governor and the Legislature on the effectiveness of the use of IT resources and on statewide progress in implementing technology plans (RSA 4-D:2, VIII).
- Submit bimonthly reports to the joint Legislative Information Technology Oversight Committee. The CIO should report on the activities of his office, including the implementation of the statewide IT plan, the organizational structure of IT employees among state agencies, and financial budget tracking related to IT (RSA 4-D:7, III).
- Submit reports to the Fiscal Committee relative to cost savings resulting from the reorganization for IT employees and functions. These reports shall be submitted every 60 days until the reorganization has been completed and the project cost savings realized (RSA 4-D:3, II).

According to the CIO, current reporting by the OIT is very informal. The CIO responds to specific questions from the Governor and the Legislature and appears at joint Legislative Information Technology Oversight Committee meetings. The OIT provided cost savings reports during its first year of operation, but no longer provides them, reportedly due to recently required budget cuts. Instead, the CIO reports to the Fiscal Committee every 60 days on the OIT's efforts to achieve budget reductions required by the 2006-2007 and 2008-2009 biennium budgets.

We found no formal process for reporting the OIT's progress toward meeting the goals included in the *NH Statewide Information Technology Plan 2005-2009*. Quarterly information on IT projects' progress was collected from IT Leaders for the first time in December 2007, but has not been formally reported outside of the OIT. The Plan was first presented to the Governor in October 2005, but there have been no updates on project status since then. The lack of formal updates from the OIT prevents the Governor

and the Legislature from monitoring the effectiveness of IT resource use and statewide progress implementing technology plans.

Recommendations:

The OIT should ask the Governor's Office and the Legislature for direction whether they wish to continue receiving written reports regarding OIT operations and progress towards statutory goals. In addition, the Legislature may wish to review and amend RSA 4-D relative to statutory reporting requirements for the OIT, including determining what information the Governor and the Legislature need to:

- **maintain proper oversight of the OIT,**
- **monitor progress being made on IT projects identified in the Statewide IT Plan, and**
- **ensure the Fiscal Committee remains aware of cost savings from the reorganization of IT employees and functions.**

OIT Response:

We concur.

SB 94, which establishes the Department of Information Technology to replace the Office of Information Technology effective September 5, 2008, removes the reporting requirements of RSA 4-D:3 and is an important step towards clarifying OIT (DoIT) reporting requirements.

Step	*Action*	*Expected Date of Implementation*
1.	*Review reporting requirements and strategies with the Governor's Office*	*December 2008*
2.	*Review reporting requirements and strategies with the IT oversight committee*	*January 2009*

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OTHER ISSUES AND CONCERNS

In this section, we present issues we consider noteworthy, but not developed into formal observations. The Legislature and the Office of Information Technology (OIT) may wish to consider whether these issues and concerns deserve further study or action.

Control Over Embedded Programmers

Of all the information technology (IT) positions transferred to the OIT, agencies would most like to have computer programmers back under their control. Agency and OIT personnel disagree over the appropriate placement of Agency Software Division (ASD) personnel in the State's IT environment. ASD personnel are managed by the OIT, and 183 of 186 of them are physically embedded in agencies. Most ASD personnel are computer programmers (i.e., application developers) working in the same agencies they did prior to the creation of the OIT. The OIT has kept agency personnel embedded within agencies because of programmers' familiarity with agencies' business needs, and the specialized nature of developing agency specific applications. Leaving personnel embedded at the agency level also has drawbacks as some ASD staff identify more strongly with the agency they work for instead of the OIT, potentially promoting an "us" versus "them," adversarial relationship. Much of this relationship stems from the agencies' perception of a loss of control because programmers now work under OIT leadership.

We interviewed IT officials from four states that have organized their computer programmers differently. Virginia's agencies have their own programmers, but Virginia's central IT agency provides guidance and robust oversight of software development during strategic planning. New York's agencies also employ their own programmers, except for a small, centralized group that is shared among small agencies. New York seeks to standardize software development efforts via approval of funding. The organization of software development in Michigan and Maine both have similar structures to New Hampshire; programmers are employed by the central IT agency and embedded in agencies. The varied organizational structures of applications development across these states represents the different approaches other states have taken for this function.

Interviews of OIT and agency staff identify mixed opinions on the value of having ASD personnel under agency or OIT control. Results of our surveys indicate a majority of both OIT staff and leaders of full-service agencies would prefer each agency control its own programming staff. In fact, 159 of 297 OIT staff and 13 of 19 leaders of full-service agencies reported programmers would be best administered individually by agencies. However, leaders of small agencies report less support for individual agency control of programmers. According to our survey, 7 of 21 leaders of small agencies reported programmers would be best administered individually by agencies.

We found no conclusive evidence to suggest there is any added value for either changing the current organizational structure by returning ASD staff to agency control, or for retaining ASD staff with the OIT. The issue of who controls the programmers seems to be partially linked to control of IT priorities and has led to the dispute over the appropriate placement of ASD personnel. Agencies seek increased control over applications to meet their agency's mission and the OIT works with agencies to standardize and align application development with statewide priorities.

OIT Response:

The OIT agrees that consistent resources need to be dedicated to support agency unique business applications. This allows staff to develop a full understanding of the business processes being supported. The question that arises is to whom should the resources report. OIT believes that having the resources report through OIT is the most appropriate. This structure allows for career development paths for the staff. It facilitates the implementation of standard management best practices for IT projects. It allows staff to develop understanding of business needs but keeps them aligned with a management approach that focuses on IT service delivery as the core competency.

Funding Structure May Limit Efficiencies

Consolidating IT services controlled by one agency should result in more effective and economical IT services, based on economies of scale and sharing of IT knowledge and resources across State agencies. The OIT was basically organized with the idea that consolidating IT services can save money, similar to the private sector. However, the financial structure of New Hampshire's state government, with the use of federal funding and desire to control State costs, is a significant impediment to fully realizing efficiencies through consolidating IT services.

There can be a conflict between providing the most efficient (and possibly most economical) IT services and ensuring maximum federal reimbursement. Many State agencies and programs are funded by both federal and State funds. The State wants to ensure all costs eligible for federal reimbursement are properly tracked, and the federal government does not want its funds used to support State functions. The need to segregate funding sources creates challenges for sharing IT resources. In theory, the OIT would want the flexibility to move IT personnel to wherever they are required, and to share IT resources across agencies and programs. Certain IT resources and personnel are fully reimbursed by federal funds; therefore, these assets cannot be freely used by other agencies, thereby limiting the OIT's ability to realize greater efficiencies.

OIT Response:

The OIT believes it should continue to evaluate its funding structure and attempt to find the balance that allows agencies to draw down their fair share of grant, highway, and federal revenues, supports statewide IT initiatives, and provides OIT the flexibility to respond to unplanned emergency and mission-critical needs of agencies.

OIT agrees that the current method used to fund information technology (IT) may limit efficiencies. OIT has to balance the requirement that budgeted federal revenue is received with being flexible enough to support federal and general funded agencies as they strive toward meeting their missions. Statewide initiatives such as data center consolidation are complicated because, although they are likely to achieve long-term savings and provide better backup and recovery services, agencies with federal funding that do not agree with the statewide initiative are not likely to make soliciting federal support a priority. General funds to support statewide IT initiatives have not been included in prior budgets, but could be considered for the next biennium's budget.

OIT's cost allocation method of funding its services has provided some flexibility in providing IT services. Currently many IT staff primarily support one agency or one operation. However, the funding mechanism for those staff provides the ability for the CIO or a Director to deploy these employees to another agency or operation for emergency or mission-critical needs. The agency receiving the IT services must agree to reimburse OIT for the services and the deployment of the resource cannot result in an increase in general-fund spending. This flexibility to respond to agency needs is one of the benefits of OIT's cost allocation method of funding.

Recent hiring freezes might put this flexibility at risk. Currently most technical support employees are shared resources that are funded by 21 agencies. These agencies range from New Hampshire Employment Security, which is 100% federal funded, to the Department of Corrections, which is 100% general funded. It is estimated that each position is funded 37% with general funds. With hiring freezes, should NHES lose its on-site technician, it is subject to the waiver process because this position is part of the shared pool of technical resources. The argument has been made to fund the NHES position(s) with federal funds. That solves the problem for this one agency, but breaks the model that allows the flexibility to deploy technicians to other agencies for emergencies and mission-critical activities.

Consider Adding A Deputy Position

The OIT is a large customer service operation providing 61 State agencies and boards with their primary IT needs. The OIT has 426 positions and one Chief Information Officer (CIO) overseeing the entire office. We identified 12 agencies with fewer personnel than the OIT but with both a Commissioner and a deputy position. Table 6 lists State entities with a Commissioner and a deputy position as well as the number of positions within the agency.

Our audit has identified areas of weakness that could be improved if the OIT is restructured to allow for a deputy position. The OIT should consider the benefits from reducing the CIO's span of control if a deputy position were implemented. OIT personnel have specifically stated there is a lack of focus on process improvement because people are stretched too thinly. Further, the OIT should consider the issue of a single point of

failure. If the CIO were unable to perform his duties, there would be minimal interruption in the OIT's functions with a deputy immediately assuming the CIO's responsibilities.

Table 6

State Entities With Deputy Positions And Fewer Positions Than The OIT, SFY 2007

State Entity	Total Number Of Authorized Positions
Department of Employment Security	354
Department of Administrative Services	336
Department of Education	310
State Liquor Commission	307
Department of Revenue Administration	205
Adjutant General's Department	131
Department of Labor	82
Insurance Department	80
Public Utilities Commission	75
Banking Department	47
Pari-Mutuel Commission	40
Treasury Department	23

Source: LBA analysis of the Division of Personnel's SFY 2007 Annual Report.

OIT Response:

The OIT believes that the creation of a Deputy Commissioner/Deputy CIO is critical to its successful operation. The Executive Branch recognizes the importance of Continuity of Operations and has, through the Office of Homeland Security and Emergency Management, has just kicked off a Continuity of Operations Planning initiative encompassing all departments. OIT's number one challenge in this area is the lack of a Deputy to stand in when the CIO is not available.

A Deputy is also critical for the effective response to perceived or real security incidents. There must be a quasi independent leader that has sufficient authority and knowledge to manage the situation and direct appropriate response.

OIT will pursue the creation of a Deputy Commissioner/Deputy CIO in the SFY 2010/2011 budget process.

Clarify Satisfaction Measurement Requirements

It is not clear if two different OIT satisfaction measurement statutes require separate measurement systems. According to RSA 4-D:2, XV, the OIT shall be responsible for "developing an information technology satisfaction measurement program to ensure

information technology resources and strategic plans are meeting the needs of each agency." By the end of December 2003, RSA 4-D:6 required the CIO to develop:

> agency satisfaction metrics, a measurement and communication system to track the satisfaction of delivery of the information technology solutions. The office of information technology will use surveys, web tools, and special processes to ensure that vehicles exist for agency heads to get the quality of information solutions they require to operate their agencies. Benchmarks shall be set and continually measured to meet or exceed expectations.

The CIO has interpreted these statutes to be duplicative. No current OIT personnel were involved in creating the statutory language. Therefore, the OIT should seek legislative guidance on the intent of these statutory requirements.

OIT Response:

The CIO has interpreted these statutes, also in SB 94 21-R:4 XIV and 21-R:8 to be duplicative. OIT concurs that this duplication needs to be corrected.

Information Technology Not Defined In Statute

IT is not defined in State law. While the Division of Information Technology Management was in existence, RSA 21-I:66, II defined IT as the "equipment and software used in electronic data processing and in voice and data communication." However, this RSA was repealed by Chapter 223:17 Laws of 2003 when OIT was created and no new definition was established for the OIT. Not having a definition can lead to confusion regarding the use and management of the State's technology resources. For example, under the old definition voice communication was part of IT. Currently, the OIT manages the State's IT while the Department of Administrative Services manages the State's telecommunications through its Telecommunications Section in the Bureau of General Services. According to the CIO, there is new equipment and technology that can combine data networks and telephony networks resulting in cost savings. However, the OIT is currently excluded from any telephony authority, resulting in lost opportunities for cost savings. In addition, without an IT definition the State cannot determine what qualifies as an IT expenditure.

OIT Response:

We concur that a definition of Information Technology (IT) was not established with the creation of OIT under RSA 4-D. Nor was this addressed in SB94, which repeals RSA 4-D when it becomes effective on September 5, 2008.

OIT intends to work in collaboration with the Legislature and with legal input to develop and adopt a definition of IT. At that time, platforms such as Voice over Internet Protocol (VoIP), which combine data and telephony networks will be addressed.

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CONCLUSION

While New Hampshire's goal in creating the Office of Information Technology (OIT) was immediate costs savings, it is more likely such savings will be realized over time as the benefits of standardization efforts are realized. A number of OIT officials commented while the implementation of the OIT was problematic, it was the right thing to do and should result in more efficient, effective, and economical information technology (IT) services in the future. New Hampshire is not alone; according to the National Association of State Chief Information Officers, states are consolidating IT services to provide better results and to reduce costs. The OIT's oversight of IT purchases, operations, and project management increases the likelihood agencies will prudently use State funds.

This major structural change in State government results in the loss of control and flexibility by larger agencies over their IT services. We found State agencies and OIT personnel have varying opinions on the OIT and their seemingly contradictory opinions may be equally justifiable given their perspectives. Agencies that transferred IT personnel to the OIT lost direct control over their programs' IT resources. In addition, these agencies may be paying more for IT services because of OIT's shared administrative costs. OIT leaders acknowledged that some full-service agencies have lost resources due to consolidation. Conversely, other agencies that previously had little or no IT support are benefiting from a centralized IT office.

The OIT operates and identifies itself as a service organization for agencies. The OIT has also increased centralized control and oversight of IT services to achieve greater standardizations. The OIT's operating authority does not clearly give it control over aligning statewide priorities. This dichotomy of having to meet State needs as an oversight agency and prioritizing agency needs within a cost savings framework for the State results in conflict. The OIT must meet the challenge of finding a balance between meeting agency needs and administering sufficient controls to ensure appropriate IT decisions are made not just for the agency, but for the State.

We found the OIT has not fulfilled a number of its statutory requirements, thereby diminishing its ability to provide effective services to State agencies. The OIT does not have:

- state-of-the-art solutions identified by monitoring technical trends,
- user-satisfaction metrics for all of the services it provides to agencies,
- training programs established for OIT technical personnel,
- clear guidance on Legislative reporting needs, and
- a data center consideration plan assigning data centers throughout the State to process operations for executive branch agencies.

The OIT is aware of the importance of managing and collaborating with agencies while working on IT projects. However, OIT oversight is limited, which prevents a Statewide perspective on IT projects that could potentially result in greater efficiency. We have

recommended defining agency and OIT responsibilities and implementing best practices formalizing oversight of IT projects.

The Legislature imposed greater controls over IT spending by requiring the CIO's approval of agencies' IT purchases, which has resulted in more bureaucratic "red tape" for agencies. While this can be less efficient for agencies, it may result in more effective outcomes. We have recommended a review of the whole procurement process to determine if it is unnecessarily time consuming. By addressing these weaknesses, the OIT could improve the services it provides to State agencies and the oversight the Legislature requires.

APPENDIX A
THE OIT RESPONSE TO AUDIT

STATE OF NEW HAMPSHIRE
OFFICE OF INFORMATION TECHNOLOGY
Office of the Governor
27 Hazen Dr., Concord, NH 03301
603-271-2843 1-800-852-3345 x2843
Fax: 603-271-1516 TDD Access: 1-800-735-2964

Richard C. Bailey, Jr.
Chief Information Officer

July 16, 2008

The Honorable Marjorie K. Smith, Chair
Fiscal Committee of the General Court
Legislative Budget Assistant's Office
State House, Room 102
Concord, NH 03301

Re: The Office of Information Technology Performance Audit Report, July 2008

Dear Chairman Smith:

Thank you for the opportunity to comment on the *Office of Information Technology Performance Audit Report, July 2008* (Audit Report), written by the Legislative Budget Assistant's Audit Division (LBA). First, I would like to start by thanking the Audit Division of the Office of the Legislative Budget Assistant for the time and effort they put into this audit and to the report. LBA management and audit staff, led by Jay Henry, Senior Audit Manager, have been very accessible throughout the process and have treated the Office of Information Technology (OIT) staff with courtesy and respect. A thank you must also be extended to agency and OIT staff members who responded to surveys, met with the LBA, and provided written explanations and responses.

The purpose of the audit, as outlined by the Legislative Performance Audit and Oversight Committee, was to "determine whether centralizing the executive branch's information technology (IT) resources in the OIT has resulted in more efficient, effective and economical IT services". The emphasis of the audit was focused on evaluating whether OIT was fulfilling its statutory responsibilities and on identifying agency and employee perceptions of the OIT and investigating perceived weaknesses.

OIT agrees with the LBA's conclusion that, "While New Hampshire's goal in creating the Office of Information Technology (OIT) was immediate cost savings, it is more likely such savings will be realized over time as the benefits of standardization efforts are realized."

OIT concurred or concurred in part with each of the final audit observations. With continued cooperative relationship with the State agencies, the Governor, and the Legislature, OIT can achieve the improvements recommended by the LBA. OIT was very pleased that the LBA team recognized the need for improved project management. These improvements require a cultural change that will require the support and participation of the agencies. Although this change in mind set will be a challenge, the benefits to the State will be enormous.

The Honorable Marjorie K. Smith, Chair
Fiscal Committee of the General Court
Page 2
July 17, 2008

Many of the observations refer to RSA 4-D. Although RSA 4-D was repealed with the passage of Senate Bill 94, many of the statutory requirements remain. OIT understands that these statutory requirements need to be reviewed and steps taken to ensure compliance.

If you have any questions regarding our response to the Audit Report and its observations, please contact me at 223-5703, or by emailing me at richard.c.baileyjr@oit.nh.gov.

Sincerely,

Richard C. Bailey, Jr.

RCB/pb

APPENDIX B
EXECUTIVE BRANCH AGENCIES SERVED BY THE OIT

Table 7

OIT Service Categories
SFY 2008

State Agency	Full-Service	Small Agency	Self-Service	Non-Classified
Adjutant General's Department			X	
Alcohol Board				X
Banking Department	X			
Board of Accountancy		X		
Board of Acupuncture		X		
Board of Barbering, Cosmetology, and Esthetics		X		
Board of Chiropractic Examiners		X		
Board of Dental Examiners		X		
Board of Electrology				X
Board of Licensed Dietitians				X
Board of Manufactured Housing		X		
Board of Medicine		X		
Board of Mental Health Practice		X		
Board of Nursing		X		
Board of Optometry		X		
Board of Tax and Land Appeals		X		
Boxing and Wrestling Commission		X		
Christa McAuliffe Planetarium			X	
Commission For Human Rights		X		
Commission for Status of Women		X		
Department of Administrative Services[1]	X			
Department of Agriculture		X		
Department of Corrections	X			
Department of Cultural Resources	X			
Department of Education	X			
Department of Employment Security	X			
Department of Environmental Services	X			
Department of Health and Human Services	X			
Department of Justice	X			
Department of Labor	X			
Department of Resources and Economic Development	X			
Department of Revenue Administration	X			
Department of Safety	X			
Department of State-Vital Records Division	X			

Department of Transportation	X			
Developmental Disabilities Council		X		
Executive Council		X		
Fish and Game Department	X			
Funeral Board		X		
Governor's Commission on Disability		X		
Governor's Office		X		
Guardian Ad Litem		X		
Highway Safety		X		
Insurance Department	X			
Joint Board		X		
Judicial Branch			X	
Judicial Council		X		
Marital Mediators Board		X		
Massage Board		X		
Naturopathic Board				X
Nursing Assistants Fund		X		
Nursing Home Assistant Board		X		
Office of Energy and Planning	X			
Office of Licensed Allied Health Professionals		X		
Ophthalmic Board				X
Pari-Mutuel Commission		X		
Pharmacy Board		X		
Plumbers Board		X		
Podiatry Board		X		
Police Standards and Training			X	
Postsecondary Education Commission		X		
Public Employees Labor Relations Board		X		
Public Utilities Commission	X			
Real Estate Appraisers Board		X		
Real Estate Commission		X		
Regional Community Technical Colleges			X	
Retirement System			X	
State Liquor Commission	X			
State Lottery Commission	X			
State Veterans Council		X		
Treasury Department			X	
Veterans Home			X	
Veterinary Examiners Board		X		
Total	**21**	**39**	**8**	**5**

Note: [1]While the Department of Administrative Services is considered a full-service agency, its IT personnel in Financial Data Management have remained DAS employees.
Source: OIT documentation of agencies it serves.

APPENDIX C
CURRENT STATUS OF PRIOR AUDIT FINDINGS

The following is a summary of the status of ten observations related to the New Hampshire Office of Information Technology contained in our:

State Of New Hampshire Office Of Information Technology Financial And Compliance Audit Report For The Nine Months Ended March 31, 2006.

Copies of prior audits can be obtained from the Office of the Legislative Budget Assistant Audit Division, 107 North Main Street, State House, Room 102, Concord, NH 03301-4906, or online at our website http://www.gencourt.state.nh.us/lba/index.html.

No.	Title	Status
2	Cost Allocation Process Should Be Adopted	● ○ ○
3	Service Contract Processes And Controls Should Be Improved And Formalized	● ● ○
4	Memorandums Of Agreement Should Support Work Performed From User Agencies	● ○ ○
5	Agency Specific Charges Should Be Approved	● ● ●
9	Continuity Of Operations Plan Should Be Implemented	○ ○ ○
10	Formal Risk Assessment Policies And Procedures Should Be Established	● ○ ○
11	Formal Fraud Risk Mitigation Efforts Should Be Developed And Implemented	● ○ ○
15	Comprehensive Policies And Procedures Should Be Prepared For All Significant Operational Areas	● ● ○
16	Accounting For Software Licenses And Leased Equipment Should Be Improved	● ○ ○
21	All Executive Branch Agencies Should Be Provided Service	● ● ●

Status Key

Fully Resolved	● ● ●
Substantially Resolved	● ● ○
Partially Resolved	● ○ ○
Unresolved	○ ○ ○

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